ALIMENTARY TRACT

MAIN CATALOGUE

CASE 13
No clinical information is available.
The specimen consists of a portion of small bowel opened to show a swollen intussuscepted mass of bowel measuring some 16cm in length. There is marked haemorrhagic congestion of its wall with fibrinous exudate on the exposed surfaces.
Diagnosis: Small intestinal intussusception with infarction
What clinical symptoms would you expect in a patient with this pathology? This patient could be expected to have symptoms of acute intestinal obstruction i.e. colicky abdominal pain, probably with nausea and vomiting. There may be bloody diarrhoea.
How does this condition arise? Intussusception occurs when one part of small intestine becomes telescoped into the distal segment and is pulled along by peristalsis. Intestinal obstruction ensues and compression of vessels leads to infarction. In adults there is often an underlying lesion in the bowel that gets trapped and pulled along, in children, the underlying bowel is usually normal.

CASE 23
No clinical information is available.
The specimen includes distal rectum, anus and perianal skin. A flat ulcerated tumour 5cm in diameter with a raised rolled edge is present in the distal rectum. The surrounding mucosa appears relatively normal. The anal verge shows a ring of haemorrhoids.
Diagnosis: Carcinoma of the rectum
What clinical symptoms and signs would you expect in a patient with this pathology? The patient may have had no symptoms, or they may have complained of bright blood coating the stools (from bleeding from the ulcerated tumour) or a change in bowel habit. A mass is likely to have been felt on rectal examination.
What would one expect to see on histological examination of the lesion? One would expect to see the features of an adenocarcinoma (the most common malignant tumour at this site) i.e. cells with cytological features of malignancy (large pleomorphic, hyperchromatic nuclei with prominent nucleoli) which also show signs of glandular differentiation (they form glands +/- produce mucin) which invade the wall of the rectum.

CASE 39
No clinical information is available.
The specimen is small intestine. There are multiple slightly elevated oval patches of mucosa measuring up to 3cm in diameter.
Diagnosis: Typhoid
Comment: The swellings are in lymphoid tissue and their long axis is directed along the bowel, typical of typhoid fever (intestinal tuberculosis typically causes transverse ulcers). This is a life-threatening infectious systemic febrile illness now largely to confined to developing countries, which is spread by the faecal-oral route and caused by *Salmonella typhi*. The organism invades reticuloendothelial and lymphoid tissues. Peyer's patches and other areas of lymphoid tissue in the bowel become infected and ulcerated and may bleed.

CASE 60
No clinical information is available.
The specimen is of distal rectum, anus and perianal skin. A large sessile (broad based) polypoid mass some 10cm in maximum diameter projects from the mucosal surface in the distal rectum. It is composed of many elongated fronds (papillae or villi). There is no evidence of ulceration.
Diagnosis: Villous adenoma
What microscopic features would you expect to see in the lesion? Histological sections would be expected to show numerous finger-like projections of lamina propria covered by epithelium. The epithelial cells would show changes of dysplasia, characterised by nuclear enlargement and increased N:C ratios with cellular crowding and reduced mucus formation.

What condition is this lesion a predisposing factor for and why? Adenomas of the large bowel are dysplastic lesions that may progress (as the atypical cells acquire new mutations) if not removed to become invasive carcinomas. Villous adenomas confer a higher risk of malignancy than the more common tubular adenomas (which have a smoother lobulated surface without the villous projections.)
Comment: Several different types of polyps can arise in the large bowel. In the GIT, adenomatous polyps are dysplastic in nature. Other types of polyps include hyperplastic polyps, juvenile polyps and hamartomatous polyps. These need to be distinguished histologically but one can get some idea of the type from the macroscopic appearance. Polyps may be sessile (broad based) or pedunculated (on a stalk).

CASE 165
The patient was a woman aged 21 from whom the cyst was excised from the side of the neck in 1936.
The specimen consists of a unilocular cyst measuring 7 x 3 cm.
Diagnosis: Branchial cyst
Comment: Branchial cysts arise from remnants of the embryologic branchial arches and usually arise in the anterolateral aspect of the neck. Cysts are lined either by squamous or pseudostratified columnar epithelium. As well as cysts, sinuses and cartilaginous nodules may arise from branchial arch remnants.

CASE 402
No clinical information is available.
The specimen consists of the larynx and upper oesophagus. The oesophagus has been opened and its posterior wall reflected to display the ovoid opening of a large diverticulum in the posterior wall (left side of pot). This opening measures 2 x 1.5 cm and leads into a sac 6 x 4 cm.
Diagnosis: Oesophageal diverticulum
Comment: Diverticula of the oesophagus may develop proximally or distally. Food may accumulate in diverticula leading to regurgitation. There are a variety of types.

CASE 408
No clinical information is available.
The specimen is the stomach opened to show a large polypoid lesion 5cm in diameter on the greater curvature in the antrum. This polyp consists of several separate nodular masses that arise from a relatively broad stalk. More proximal to this there are several areas of polypoid expansion of gastric rugae.
Diagnosis: Multiple adenomatous polyps of the stomach
Comment: Adenomatous (dysplastic) polyps of the stomach are not common but predispose to gastric carcinoma. Dysplasia is more commonly seen in the normal flat gastric mucosa.

CASE 484
No clinical information is available.
The specimen is of large intestine with many scattered ovoid mucosal ulcers measuring up to 20mm in diameter. They have raised edges and some contain necrotic slough.
Diagnosis: Infective colitis
Comment: This is a case of typhoid. The ulcers arise following infection and inflammation in the lymphoid tissue of the bowel. Typhoid fever is a life-threatening infectious systemic febrile illness now largely to confined to developing countries which is spread by the faecal-oral route and caused by *Salmonella typhi*. The organism invades reticuloendothelial and lymphoid tissues. Peyer's patches and other areas of lymphoid tissue in the bowel become infected and ulcerated and may bleed.

CASE 2873
The patient was a man aged 43 with a history of recurrent pain in the upper abdomen for 18 months, relieved by eating. There was no vomiting. He was hypertensive (BP 220/140) and died of renal failure.
The specimen is the stomach opened to show a large localised patch 11cm in diameter of hypertrophied rugae. Each fold is studded by small papillary projections.
Diagnosis: Hypertrophic gastropathy (Menetrier's disease)

CASE 2979
The patient was a man aged 53 who died of carcinoma of the oesophagus that had perforated into the left bronchus to produce bronchopneumonia.
The specimen is of distal rectum and anus. A series of varicose internal veins encircle the anal margin. Some appear to be thrombosed. The veins of the rectum above the haemorrhoids are somewhat congested.
Diagnosis: Internal haemorrhoids
Comment: Haemorrhoids are varicosities (dilations) which develop in the inferior (external haemorrhoids) and/or superior (internal haemorrhoids) haemorrhoidal venous plexus. Increased intra-abdominal pressure such as with straining at stool or with pregnancy appears to predispose. The varicosities may become thrombosed and local trauma can lead to ulceration with pain and bleeding.

CASE 3040
The patient was a migrant from Denmark aged 31, who presented with increasing huskiness of the voice, dysphagia, malaise and fever.
The specimen comprises tongue, larynx, part of the pharynx, thyroid and upper oesophagus and trachea. The wall of the hypopharynx and upper oesophagus is infiltrated by pale ragged tumour over an area approximately 90 mm in length. Tumour has also invaded the right aryepiglottic fold, considerably distorting it and encroaching on the entrance to the larynx. Anteriorly, nodular masses of tumour protrude into the lumen of the trachea and there is a ragged neoplastic cavity measuring 2.5cm in diameter above the right lobe of the thyroid.
Diagnosis: Carcinoma of the hypopharynx
What would one expect to see on histological examination of the lesion? One would expect to see the features of a squamous cell carcinoma (the most common malignant tumour at this site) i.e. cells with cytological features of malignancy (large pleomorphic, hyperchromatic nuclei with prominent nucleoli) which also show signs of squamous differentiation (eosinophilic cytoplasm, keratin formation, intercellular bridges) which invade the wall of the pharynx.
What is the most significant risk factor for this condition? Cigarette smoking

CASE 3492
The patient was a male Swedish migrant aged 65 with a history of dysphagia for 4 months. He had been febrile for the 3 days before admission. Extensive bronchopneumonia was found in the lungs at autopsy.
The specimen is oesophagus and pharynx. In the lower oesophagus is an extensive ulcerating ragged tumour 10cm in length, almost completely encircling the oesophagus. A blue rod has been inserted into a perforation into the left main bronchus, which is adherent to the oesophageal tumour.
Diagnosis: Carcinoma of the oesophagus with erosion into left bronchus

CASE 3895
The patient was a woman aged 65 who had had diarrhoea with blood in the motions for 2 weeks. During the second week of the illness she complained of tiredness and weakness. On examination her temperature was 40^{o} C, pulse 100, her tongue was dry and there was general dehydration. Frequent dark motions continued and she lapsed into unconsciousness. Shiga dysentery bacilli were isolated from the faeces. She died after one month in hospital (1938).

The specimen consists of some 21cm of colon and demonstrates numerous ulcers in the mucosa. Their outlines are irregular and edges swollen. The intervening mucosa is patchily oedematous and congested. The serosa appears normal.
Diagnosis: Shigella dysentery

CASE 3897
The patient was a man aged 71 who died from congestive cardiac failure. This pathology was an incidental finding at post-mortem.
The specimen is small bowel with numerous diverticula. The pouches open in two rows into the mesenteric attachment, one on each side. There is no evidence of inflammation.
Diagnosis: Diverticulosis of the small bowel
Comment: Diverticula of the small bowel are uncommon, whereas diverticula of the large bowel are very common.

CASE 4415
The specimen is from a baby (sex not stated) aged nine weeks
The specimen is stomach and part of the duodenum. There is hypertrophy of the muscularis propria in the pylorus, ceasing abruptly at the pyloric opening but tapering upwards into the pyloric antrum. The stomach itself is perhaps dilated but the mucosa appears essentially normal.
Diagnosis: Congenital hypertrophic pyloric stenosis

CASE 4624
No clinical information is available.
The specimen is a portion of small intestine containing a pale homogenous fleshy tumour 4cm in length that fills the lumen and invades the muscularis propria. The bowel wall above the tumour shows some hypertrophy of the muscularis propria but the mucosa appears normal apart from a separate single 3mm polypoid thickening 3cm from the tumour.
Diagnosis: Lymphoma
Comment: The diagnosis of lymphoma cannot definitely be made on macroscopic examination here. However you should be able to tell that it is most likely to be a neoplastic process and probably malignant as it invades the muscle. It does not look like a typical adenocarcinoma macroscopically. The muscle proximally has probably become hypertrophied due to chronic bowel obstruction by the tumour. Malignancies of the small bowel are not common. Primary lymphomas are the second most common malignancy after adenocarcinoma. There are various types of non-Hodgkin's lymphomas that can involve the small bowel. These include MALT type lymphomas, Burkitt's lymphoma, follicular lymphomas and enteropathy associated T cell lymphoma which arises in a small proportion of patients with coeliac disease. Some gastrointestinal lymphomas cause localised masses, others infiltrate the wall more diffusely.

CASE 4651
No clinical information is available.
The specimen is a portion of small intestine displaying two ulcers. The larger measures 2cm and the smaller 1cm in diameter. Both have their long axis directed transversely across the bowel. The edges are irregular and slightly undermined and the floor is formed by ragged necrotic debris. There is some surrounding congestion, also seen from the serosal aspect. Fibrinous exudate is seen on the serosal aspect of the large ulcer.
Diagnosis: Infective ulceration
Comment: This is intestinal tuberculosis. The ulcers in intestinal tuberculosis typically run transversely in the mucosa.

CASE 4674
No clinical information is available.

The specimen is rectum, anus and perianal skin. A large fungating ulcerated tumour 6cm in diameter is present in the distal rectum. The edges are raised and irregular.
Diagnosis: Carcinoma of the rectum
What clinical symptoms and signs would you expect in a patient with this pathology? The patient may have had no symptoms, or they could have complained of bright blood coating the stools (from bleeding of the tumour) or a change in bowel habit. A mass is likely to have been felt on rectal examination.
What would one expect to see on histological examination of the lesion? One would expect to see the features of an adenocarcinoma (the most common malignant tumour at this site) i.e. cells with cytological features of malignancy (large pleomorphic, hyperchromatic nuclei with prominent nucleoli) which also show signs of glandular differentiation (they form glands +/- produce mucin) which invade the wall of the rectum.

CASE 4691
The only information available is that the appendix was removed 3 years previously and that this specimen was removed surgically.
The specimen is a portion of small bowel. The wall is swollen and intensely congested. The serosal surface appears dull: The gangrenous process extends into the adjacent mesentery.
Diagnosis: Infarction of the small bowel
What clinical symptoms and signs may be found in a patient with this pathology? Dead bowel will not function, thus it tends to act as a bowel obstruction as faeces are not moved on. Patients may have abdominal pain and distension, nausea and vomiting, guarding, increased borborygmi etc. The haemorrhagic bowel may bleed and patients can experience bloody diarrhoea.
What are the potential causes of this pathology? Infarction of the bowel can be caused either by arterial or venous compromise. Arterial occlusion may result from atherosclerosis plus thrombosis in the mesenteric arteries or embolism. Venous infarction can arise from volvulus, intussusception, twisting about adhesions, or strangulation in a hernia.
What are the potential complications of this pathology? Bacteria can gain access to the blood stream as the defences of the infarcted bowel wall are impaired leading to septicaemia, and necrotic bowel wall may perforate leading to acute peritonitis (and septicaemia).
Explain the potential relationship between the infarction and the previous abdominal surgery in this case. Fibrinous serosal inflammation develops following surgical trauma and heals by organisation and scarring leading to the formation of fine fibrous bands between loops of bowel. This may have happened in this case, with a portion of bowel undergoing torsion around a fibrous adhesion leading to strangulation with impairment of the venous drainage and ultimately arterial supply leading to infarction.

CASE 5186
The patient was a man aged 21. For several years he had had 3 regular bowel actions each day. For the last 3-4 months he noticed that there was sometimes blood in the motions, occasionally dark and at other times bright red. Rectal examination revealed multiple polyps and a sessile papillomatous mass 4cm in diameter on the anterior rectal wall. Biopsy of 5 polyps was performed via sigmoidoscopy. Four of these were simple polyps but the fifth was reported as showing several areas of malignant change. Barium enema showed numerous polyps throughout the whole of the colon including the appendix. Colectomy and ileostomy were therefore performed. Family history could not be ascertained but the patient believed his father died of cancer.
The specimen is of distal ileum, appendix and colon. The colonic mucosa is covered with small rounded mostly sessile polyps. Occasional larger stalked polyps are also present. Definite invasive carcinoma is not identified macroscopically in this portion of bowel.
Diagnosis: Adenomatous polyposis syndrome, probably FAP
What is the potential complication of this pathology? Adenomatous polyps of any sort have a risk of becoming malignant. With so many, there is a virtually 100% risk of such patients developing invasive tumours if not treated.

What would one expect to see on histological examination of one of the polyps? These polyps are dysplastic in nature and predominantly tubular in architecture (as opposed to villous), so one would expect to see disorganised glands lined by epithelium showing changes of dysplasia, characterised by nuclear enlargement and increased N:C ratios with cellular crowding and reduced mucus formation.
Comment: The polyps in this specimen macroscopically look dysplastic (although the diagnosis should be confirmed histologically). Other types of polyps look a bit different. As there are at least 100 polyps in this case, the diagnosis is an adenomatous polyposis syndrome. Familial adenomatous polyposis is the main one but Gardner's syndrome is a related disorder in which there are, in addition, various non-intestinal manifestations such as osteomas and epidermal cysts. As a dysplastic polyp turns malignant, the atypia and disorganisation of the cells increases and cells can be seen invading the basement membrane into lamina propria. These early changes are only seen histologically, but with progression an invasive tumour will become evident macroscopically.
There are also other familial polyposis syndromes where the polyps are not dysplastic, for example Peutz-Jegher's syndrome, where the polyps are hamartomatous in nature and which confer a much lesser risk of malignancy.

CASE 6187
The patient was a man aged 60 who had been an inmate of a mental hospital for 2 years with a diagnosis of multi-infarct dementia. He was admitted to the infirmary ward of the asylum in March 1951 with a history of massive melaena (about 600 ml). Rectal examination and proctoscopy showed no abnormalities. He was pale, shocked and febrile (38.3^{o} C). Examination of the faeces showed no ova or cysts and salmonella and dysentery bacilli were not detected. He was treated with sulphaguanidine and the fever abated after 5 days, but the bowel motions continued to be numerous, small and foul, and melaena continued. He was transfused. From the 6th to the 30th day his condition improved, but then fever returned and blood again appeared in the stools. He died after a further week. At post-mortem there was extensive ulceration of the entire large bowel extending from the ileocaecal valve to the rectum.
The specimen consists of two portions of large bowel. The mucosa shows very many irregular ulcers with overhanging edges and prominent slough in their bases. The intervening mucosa is swollen.
Diagnosis: Infective colitis
Histology showed flask-shaped undermined ulcers penetrating into the mucosa typical of amoebic colitis. Amoeba organisms were numerous.

CASE 6886
The patient was a woman aged 33 at her death. She had had diarrhoea for 14 years, initially with 6-7 fluid motions daily. Thereafter she improved slightly but continued to have 2-3 fluid motions/day with occasional blood in the stools. She developed anaemia and blood transfusions were given but she died 2 months later.
The specimen comprises portions of large intestine and small intestine (on right).
The left hand and posterior portions (colon) show many scattered irregular ulcers, which have a tendency to coalesce, leaving intervening ridges of swollen congested mucosa. The right hand portion is from the terminal ileum, the mucosa of which is also congested and atrophic and shows patches of superficial ulceration mainly along the line of the mesenteric attachment.
Diagnosis: Ulcerative colitis
What are the potential complications of this pathology? Complications include anaemia (as above), carcinoma of the bowel (especially if the disease has been present for 10 or more years) and in severe cases, dehydration or toxic megacolon with bowel rupture.

CASE 7112
This was an incidental finding in a woman aged 86 that died of bile peritonitis consequent upon rupture of the neck of the gall bladder.

The specimen consists of the terminal ileum, caecum and appendix. In the appendix near its opening is a 2.5cm diameter rounded polyp with a villous surface. There is some superficial erosion of the mucosal surface of the mass.
Diagnosis: Villous adenoma of the appendix

CASE 7172
The patient was an elderly woman who died while being admitted to hospital for investigation of anaemia. Post-mortem showed about 3500ml of viscid bloodstained fluid in the peritoneal cavity and a large myxomatous mass involving the coeliac nodes, omentum and the peritoneum. The primary tumour was thought to be in the region of the pancreas but its exact origin was not determined. The stomach and colon were reported to be free of tumour and the ovaries were said to be atrophic.
The specimen consists of a portion of small bowel. The serosal surface is studded with many mucinous tumour masses varying in size up to about 3cm in diameter. A few of them demonstrate some more solid areas.
Diagnosis: Peritoneal secondaries from a mucinous carcinoma (unknown primary)

CASE 7183
The patient was a man aged 63 with a long history of pulmonary tuberculosis. At post-mortem there was extreme emaciation, extensive fibro-caseous pulmonary tuberculosis with cavitation, tuberculous laryngitis and tuberculous enteritis.
The specimen consists of 15cm of the small intestine opened to show two large irregular ulcers. They extend around a good fraction of the circumference of the bowel in the characteristic transverse direction. The ulcer borders are irregular and swollen and there is shaggy exudate and necrosis in the bases. The serosa overlying the ulcers is congested and there is slight serosal fibrinous reaction. Involved lymphatics may be seen running beneath the serosa between the two ulcers.
Diagnosis: Tuberculous ulceration

CASE 7441
The patient was a woman aged 52 with a 4-week history of vomiting after meals and shortness of breath. She died in acute pulmonary oedema.
The specimen consists of an opened stomach. Folds of gastric mucosa radiate from a mucosa covered depression 2x1cm in dimension on the lesser curve. The mucosa otherwise appears essentially normal.
Diagnosis: Healed peptic ulcer
What causes the mucosa to radiate outwards from the lesion in such a way? This arises as a result of fibrous contraction of the underlying tissues during healing.

CASE 7659
The patient was a woman aged 22 who had had Idiopathic Thrombocytopenic Purpura for 9 years. The spleen was removed 3 years after the onset and steroid treatment produced some improvement, the platelet count usually varying from 60,000 to 140,000. She died of a sudden massive intracerebral haemorrhage and at post-mortem there were also haemorrhages into the lungs, heart, peritoneal cavity, skin and bowel.
The specimen is the stomach opened to show many superficial mucosal haemorrhages varying in size from 1mm to about 1.5cm in diameter.
Diagnosis: Purpuric haemorrhages in the stomach

CASE 7852
This surgical specimen is from a male patient.
The specimen consists of 12cm of colon to which is attached 7cm of small bowel. There is a papillary tumour 6cm in diameter in the colon, adherent through its base to the small bowel. A fistulous track marked by a probe passes from the base of the tumour into the small bowel. A small slice of tumour has been removed on the left side where tumour can be seen to have invaded through muscularis propria.
Diagnosis: Carcinoma of the colon with fistula to the small bowel

CASE 7983
The patient was a woman aged 52 with a 4-month history of sore throat with little response to antibiotics and sulphonamides. Recently the draining cervical lymph nodes had been enlarged, tender and inflamed, and then became fluctuant. Examination under anaesthesia showed an extensive tumour in the hypopharynx. The lateral cervical abscess was drained and radiotherapy begun. She died 6 weeks later of bronchopneumonia.
The specimen consists of the tongue, pharynx, larynx and upper oesophagus and trachea with attached structures. There is an irregular friable pale tumour of the hypopharynx, extending from the ary-epiglottic folds for some 6cm down into the upper oesophagus. The bulk of the tumour is on the anterior and lateral walls and there is a fistulous track (marked by a blue rod) into the trachea. Friable masses of tumour are present on the tracheal aspect above the opening of the fistula. The tracheal mucosa is somewhat congested.
Diagnosis: Carcinoma of the hypopharynx
What type of tumour is this likely to be? Squamous cell carcinoma.

CASE 8625
The patient was a woman aged 79 who died after two days in hospital. She had been vomiting for a week before admission. At post-mortem there was a fistula between the contracted fundus of the gall bladder and the first part of the duodenum. Its opening was roughly circular and 1.5cm in diameter. The second and third parts of the duodenum and the first 100cm of the upper jejunum were dilated and congested. A large spheroidal gallstone 5 x 3 x 3cm was impacted at the lower end of this segment of bowel.
The specimen is of small intestine. Through a window cut into the wall can be seen a large impacted calculus in the lumen. The bowel wall above is congested and there is patchy creamy fibrinous serosal exudate.
Diagnosis: Gallstone ileus

CASE 8721
Little information is available about this patient except that she developed abdominal pain and symptoms of small bowel obstruction after a Caesarean section. At operation it was found that a swab had been inadvertently left in the peritoneal cavity and that it had subsequently ulcerated into the small bowel where it caused intestinal obstruction.
The specimen consists of the resected portion of the small bowel. Towards the upper part is a ragged haemorrhagic perforation through which the swab apparently entered. The swab itself can be seen impacted in a distended portion of bowel. At the lower end of this region is a small incision made at the time of operation to ascertain the nature of the obstruction.
Diagnosis: Intestinal obstruction by a gauze swab

CASE 9109
The patient was an alcoholic man aged 67 with a vague history of abdominal pain half an hour after meals for the preceding two months. He was admitted after vomiting a cupful of dark blood, followed by the passage of a large melaena stool. He died after one day in hospital. At post-mortem the stomach and intestines were distended with blood.
The specimen consists of the stomach and duodenum opened to display a chronic ulcer 2.5 x 2 cm on the posterior wall of the first part of the duodenum. The ulcer is deeply excavated with overhanging but regular edges. The base is lined by necrotic slough. An artery in the base of the ulcer can be seen to have been eroded.
Diagnosis: Chronic duodenal ulcer with eroded artery
Which artery may be penetrated by chronic ulcers on the posterior wall of the first part of the duodenum? The gastroduodenal artery.

CASE 10313
The patient was a woman aged 52 who died of carcinoma of the pancreas with spread to regional lymph nodes, mediastinal and supraclavicular nodes, lungs and thyroid. A large collection of chylous fluid was present at the root of the mesentery, adjacent to the tumour.
The specimen consists of a portion of small bowel mounted to display its external surface. On the surface of the bowel under the peritoneum are several distended pale yellow beaded lymphatic vessels.
Diagnosis: Distended lymphatic vessels from lymphatic obstruction
Comment: Presumably this is the result of obstruction of lymphatic vessels at the root of the mesentery by tumour. Histology reportedly also showed dilation of submucosal lymphatic vessels. The yellowish colour of the lymphatics may at least partly be from its lipid content, following absorption from the GIT

CASE 10468
The patient was a man aged 68 who died after 10 days in hospital. There had been anorexia, loss of weight and weakness for 3 months. A mass could be felt in the epigastrium and occult blood was present in the faeces. The haemoglobin level was low. He developed bilateral pleural effusions and had several falls in the ward. Finally he lapsed into a coma and died. At post-mortem there was a small left fronto-parietal subdural haematoma and there was antemortem thrombus in the right pulmonary artery with two recent infarcts in the right lung.
The specimen is the stomach, terminal oesophagus and proximal duodenum. The stomach shows extensive and marked thickening of its wall by a pale infiltrate. Much of the thickening has occurred in the mucosa and submucosa, although small tongues of tumour can be seen infiltrating muscularis externa/propria. Tumour has spread extensively and directly to the external surface along the lesser curvature, where nodular masses of tumour are present beneath the serosa. There is some infiltration of the greater omentum also. A few small areas of mucosal ulceration are noted. The intramural extension of the tumour ends at the pylorus, but several lymph nodes around the first part of the duodenum are mildly enlarged, probably by metastatic tumour.
Diagnosis: Diffuse carcinoma of the stomach (linitis plastica)
Correlate the clinical and pathological features. The patient's anorexia and loss of weight would have been related to cytokines released by the malignancy. The mass felt in the epigastrium would have been the tumour in the stomach. Occult blood in the faeces would have been caused by chronic bleeding as a result of ulceration of the tumour. The chronic bleeding has lead to iron deficiency anaemia causing low haemoglobin and weakness. Pleural effusions may have been related to the pulmonary infarction (pleural metastases were not reported at post mortem). Pulmonary thrombo-embolism would have developed following the formation of deep venous thromboses for which the patient was at risk because of malignancy (some malignancies can cause hypercoagulability) and possibly poor mobility, being unwell in hospital. The cause of the falls is not clear: ? if the patient had some dementia, ? due to cerebral metastases. He probably hit his head on one of the falls, resulting in tearing of the veins bridging from the brain substance to the superior sagittal sinus into which they drain. The cause of the coma is not clear: ? from raised ICP

secondary to the subdural haematoma (although it is stated to be small), ? due to cerebral metastases ? related to terminal malignancy.

CASE 10718
No clinical information is available except that this was a surgical specimen from a male patient.
The specimen consists of 11cm of colon opened to display an ovoid tumour measuring 4 x 2 x 2cm attached to the mucosa. The tumour is composed of many broad fronds of varying size.
Diagnosis: Villous adenoma
Comment: Histology showed no evidence of invasion and the regional lymph nodes to be free of tumour.

CASE 11390
The patient was a woman aged 57 who had been asthmatic for 7 years. For 13 months before her death there had been dysphagia for both liquids and solids, temporarily relieved by atropine. X-ray showed dilatation of the lower oesophagus, but oesophagoscopy did not demonstrate any spasm or stricture. She died during an acute asthma attack.
The specimen consists of the lower 19cm of oesophagus and the cardiac end of the stomach. There is marked hypertrophy of the muscularis propria in the lower 5cm of the oesophagus with associated narrowing of the oesophageal lumen. Above this the lumen is distended and a broad shallow diverticulum 5cm in diameter projects to the right in this area. The mucosa appears normal.
Diagnosis: Achalasia of the oesophagus

CASE 11632
The patient was a man aged 57 with a 4-day history of colicky abdominal pain with vomiting. There was a mid-line scar with reducible incisional hernia. X-ray showed fluid levels and gas under the diaphragm. Attempts to make him fit for surgery failed and he died. At post-mortem there was general peritonitis, and a small knuckle of the upper ileum was incarcerated in the incisional hernia.
The specimen is a portion of small intestine. A 'knuckle' of bowel 4cm long shows congestion and fibrinous serosal exudate. The bowel on one side of this lesion is distended.
Diagnosis: Bowel infarction following herniation
Comment: Hernias, a protrusion of serosa-lined peritoneum through the wall of the peritoneal cavity arising from a weakness or defect in the wall, are common. The usual sites are the femoral and inguinal canals, umbilicus and surgical scars. Loops of bowel or omentum can become caught within the sac and pressure at the neck of the pouch can impair venous drainage. The resulting oedema leads to permanent trapping (incarceration) of the viscus and further compromise of the arterial supply and venous drainage (strangulation) leads to infarction. Perforation may subsequently occur with acute peritonitis and G-ve septicaemic shock.

CASE 12259
The patient was a man aged 69 who died of chronic pulmonary tuberculosis with cavitation. Incidental findings at post-mortem were two agonal intussusceptions in the upper jejunum.
The specimen is of intussuscepted small bowel. The intussusceptum is a mass 4cm long. The outer layer of bowel wall (the intussuscipiens) is congested.
Diagnosis: Intussusception

CASE 12360
The patient was man aged 65 who was admitted with constipation, abdominal swelling and colicky epigastric pain. On this clinical evidence of intestinal obstruction a laparotomy was performed, a sigmoid volvulus was reduced and a left iliac colostomy was formed. Postoperative progress was uneventful until the 4th day when he suddenly developed strangulation of the small bowel through the colostomy incision and died soon afterwards.

The specimen consists of a portion of colon. Towards one end is a circumferential carcinoma 5cm in length with elevated margins. The tumour narrows the bowel lumen. At the upper end of the specimen, 10cm above the main tumour, is a 2nd oval neoplastic ulcer measuring 2.5 x 1cm. No lymph nodes are seen in the mesocolon.
Diagnosis: Carcinoma of the colon x2

CASE 13154
The patient was a woman aged 87 who had chronic rheumatoid arthritis for many years. She had vomited blood on one occasion 5 years previously, but was not investigated. She had recently become very weak and pale and then passed a melaena stool. She was therefore admitted to hospital and that night had another massive melaena. The BP fell from 120/80 to 90/40 and atrial fibrillation was noted. She was transfused 1100ml of blood at once and a further 550ml later. On the 5th day ventricular extrasystoles occurred and she died quite suddenly.
The specimen consists of the stomach opened to show two peptic ulcers measuring 1-1.5cm in dimension on the lesser curvature. The larger ulcer is near the antral-body junction and has slightly swollen edges and necrotic slough in its floor. The smaller ulcer in the pyloric canal has overhanging edges.
Diagnosis: Chronic gastric ulcers x2
Apart from Helicobacter, what risk factor might this patient have had for developing a chronic gastric ulcer? She might have been on a NSAID for her rheumatoid arthritis.

CASE 13458
This patient was a woman aged 44. For 8 months there had been recurrent colicky central abdominal pain lasting 4-6 hours, followed by vomiting and occasionally by diarrhoea. Vaginal examination suggested a lesion in the pouch of Douglas and laparotomy was performed. At operation the terminal ileum was found to be red and swollen with a swollen mesentery. Biopsy showed chronic inflammatory infiltration. She was free of pain on a low residue diet for the next 4 weeks, but then had another attack, during which a tender mass could be felt in the right iliac fossa. The lesion was resected at a second operation.
The specimen consists of terminal ileum together with the caecum and some attached mesentery. The mesentery is congested and shows a tendency to "creep" over the surface of the bowel. The terminal 5cm of the ileum shows marked thickening and fibrosis of its wall with linear ulceration of the mucosa. The ileo-caecal valve is considerably narrowed by this inflammatory process. Nine cm proximal to the ileo-caecal valve is a second ulcer measuring 1.5cm in diameter with thickening of the underlying wall. The wall between this ulcer and that at the end of the ileum appears normal.
Diagnosis: Crohn's disease of the terminal ileum
What histological features would be expected on a section through the terminal ileum? Patchy loss of mucosa with associated acute inflammation, patchy chronic inflammation with lymphoid follicles, germinal centres and fibrosis in the underlying and surrounding wall (with relative sparing of the muscularis externa). Possibly a few non-necrotising granulomas amongst the inflammatory infiltrate.
What is the name given to the phenomena of the 2 separate lesions with normal bowel in between? Skip lesions.

CASE 13504
The patient was a woman aged 71 who had been diabetic for 16 years. Three and a half years before her last admission there was severe backache with persistent sciatica and x-ray showed a collapsed lumbar vertebra. On laminectomy this was found to be due to eosinophilic granuloma. Radiotherapy was given and led to a large persistent radio-necrotic ulcer over the affected vertebra. She was admitted to hospital, and while there she had a large melaena and died shortly afterwards.
The specimen is a portion of stomach with a 1.5cm diameter ulcer centrally. The ulcer has overhanging edges, and radiating folds of mucosa spread out from the lesion. The base of the ulcer is mostly smooth and fibrous. An ill-defined eroded area of artery is visible in the floor.
Diagnosis: Chronic gastric ulcer

CASE 13522
This man had severe chronic diarrhoea for 18 years with blood and mucus in the stools. Barium enema showed pseudopolyposis of the colon and colectomy was performed. The entire colon together with the anus and a fringe of peri-anal skin and the terminal 8cm of the ileum were removed.
The specimen consists of the resected bowel mounted in 4 pieces. The mucosa of the caecum, ascending and transverse colons is congested (seen as dark discolouration), velvety and slightly nodular and the mucosal folds have been lost. There is patchy ulceration, more prominent distally. Four scattered elongated sessile polyps approx. 2cm in length are noted.
Diagnosis: Ulcerative colitis
Histology showed superficial ulceration with swelling of intervening surviving mucosa. Neutrophils were relatively scanty. The submucosa was oedematous but showed little inflammation.
What is the pathogenesis of the pseudopolyps? These arise from isolated regions of floridly proliferating mucosa.

CASE 13935
The patient was a man aged 85. A year before his death he was involved in a car crash, suffering fractured ribs with lung damage. He recovered uneventfully. Some months later he began to have dysphagia, which became increasingly severe and was accompanied by vomiting. On his last admission he was dehydrated and wasted and died of bronchopneumonia on the 2nd day.
The specimen is the lower 18cm of the oesophagus. Three centimetres above the gastric cardia is a fibrous stricture with a residual lumen 1cm in diameter. Around and above this there is hypertrophy of the muscle coat. There is no evidence of malignancy.
Diagnosis: Oesophageal stricture
What are the potential causes of oesophageal stricture?
- Scarring related to inflammation e.g. in reflux oesophagitis, radiation or caustic injury
- Malignancy
- Systemic sclerosis (oesophageal scarring is likely to be more diffuse than in this case)

CASE 14236
The patient was a man aged 69 who presented with a 4-month history of recurrent diarrhoea and weight loss. He later had epigastric pain and a melaena requiring transfusion of 1700ml of blood. He was then admitted to the RAH. Haemoglobin level was low and there was pitting oedema of the ankles. After a further melaena he was again transfused with 2300ml of blood. The serum protein level was low. Barium study of the small bowel then showed the pattern of intestinal malabsorption. A consultant physician elicited a vague story of migratory joint pains and considered that the picture fitted Whipple's disease, but the poor state of the patient's health prevented intestinal biopsy. He deteriorated quickly and soon died.
The specimen consists of a short segment of small bowel. The mucosa is patchily congested (dark discolouration) and is profusely studded with tiny yellow flecks that project above the surface of the mucosa. A mass of associated lymph nodes from the mesentery are considerably enlarged and their cut surfaces show a rather uniform yellow-brown discolouration.
Diagnosis: Whipple disease
Comment: Whipple disease is a rare systemic infective condition. It predominantly affects intestine, CNS and joints but can affect many other tissues. Numerous distended, organism laden, foamy macrophages fill the lamina propria of the intestine and lymph nodes. The disease has a strong male predominance. Patients tend to present with malabsorption.
This is not a specimen that will appear in examinations!

CASE 15220
The patient was a woman aged 34. Fifteen years previously during her first pregnancy, diarrhoea began, with blood and mucus in the stools. A diagnosis of ulcerative colitis was made. The child was born prematurely and died soon afterwards. A second episode of diarrhoea occurred during her next pregnancy 6 years later, but ceased before the child was born. Two years later there was a 3rd episode at the end of pregnancy. She was transfused 6200ml of blood over a period of 11 weeks. At that time the Fallopian tubes were ligated. She was well for a further 4 years but then the disease recurred and a total colectomy with ileostomy was performed.
The specimen consists of the colon mounted in 3 portions. The appendix is visible at one end. The mucosa is patchily congested and is studded with long fine polypoid projections. Some of these have branching ends. The intervening mucosa is somewhat thickened and velvety but there is little evidence of ulceration.
Diagnosis: Ulcerative colitis with extensive pseudopolyposis
What is the pathogenesis of the pseudopolyps? These arise from isolated regions of floridly proliferating mucosa.

CASE 15630
The patient was a woman aged 71 who was admitted after passing 3 melaena stools and subsequently fainting. There had been some weight loss and epigastric pain for 2 years. She was transfused 3400ml of whole blood and the haemoglobin was raised to 150g/L, but she became dyspnoeic with elevation of the JVP and died of pulmonary oedema.
The specimen consists of the stomach opened to display a large innocent chronic peptic ulcer in the centre of the lesser curvature. The ulcer measures 4 x 3cm and has regular slightly overhanging edges. The floor is fibrous and penetrates the body of the pancreas. An eroded artery is visible in the upper part of the ulcer bed.
Diagnosis: Chronic gastric ulcer penetrating pancreas and a vessel

CASE 15689
The patient was a man aged 78 who was admitted late at night with a history of diarrhoea and vomiting for 24 hours. Both the stools and the vomit were bloodstained. He was dehydrated and the temperature was 38.7^{o} C. He collapsed and died 8 hours later. Salmonella organisms were grown from the bowel and the blood at post-mortem.
The specimen consists of 21cm of small bowel. Exudate adheres to the surface of the mucosa and there is some acute superficial ulceration in places.
Diagnosis: Salmonella enteritis

CASE 15720
This man aged 59 had several bouts of colicky central abdominal pain over a week. The most severe attack was on the day of admission and was accompanied by vomiting. There had been two similar episodes 6 months and 12 months previously. The BP was 210/120 and there was general abdominal tenderness and guarding. X-ray showed no fluid levels or free gas. A diagnosis of a perforated viscus was made and laparotomy performed. The surgeon found offensive brown fluid in the peritoneal cavity and a short gangrenous segment of ileum 60cm from the ileo-caecal valve. The involved small bowel was resected.
The specimen consists of a segment of opened ileum. The wall has been sectioned through several areas of 'buckling' of the wall characterised by serosal infolding with the overlying mucosa and submucosa being thickened. Local invasion through the muscle coat can be seen in several of these tumours. There is also some associated hypertrophy of the muscle coat. There is some congestion of the serosa with mild overlying fibrinous reaction, probably related to the perforation. A small gangrenous patch with a ragged perforation can be seen in the centre of the specimen through the top of the jar but no obvious tumour is visible in this area.
Diagnosis: Multiple carcinoid tumours of the ileum

Comment. This appearance is typical of carcinoid tumours of the small bowel and they are often multiple as here. Carcinoid tumours are low-grade malignant neoplasms arising from cells of the diffuse neuroendocrine system. Appendix, small bowel and lung are common sites of primaries. The cause of the bowel infarct is not obvious.

CASE 15751
No clinical information is available.
The specimen consists of an appendix 7cm in length with a swollen, congested tip and overlying fibrinous peritoneal reaction.
Diagnosis: Acute appendicitis

CASE 16139
The patient was a woman aged 72. Two months previously she was in hospital with a large bowel obstruction that was relieved by enemas. Sigmoidoscopy to 20cm showed no abnormality. After leaving hospital symptoms of urinary infection began, which investigation showed to be due to fungating carcinoma of the bladder from which she died.
The specimen consists of a portion of sigmoid colon. Many diverticula with a close relationship to the taeniae coli are seen externally and the mouths of several are visible internally. They contain inspissated faecal material. The bowel lumen appears narrow.
Diagnosis: Diverticulosis

CASE 16160
The patient was a man aged 70 who was admitted for the investigation of dyspepsia. Barium meal and gastroscopy suggested gastric carcinoma. He died unexpectedly while being prepared for laparotomy.
The specimen consists of the stomach opened to show a large chronic ulcer measuring 4 x 3cm on the lesser curvature just above the pylorus. The ulcer has regular overhanging edges and a relatively smooth floor that penetrates deeply into the body of the pancreas.
Diagnosis: Chronic gastric ulcer penetrating pancreas

CASE 16372
The patient was a man aged 71 with a history of progressive dysphagia for 5 months. Investigation showed a carcinoma at the gastric entrance which was considered inoperable. Several dilations were performed before his death 11 months later from bronchopneumonia. At post-mortem metastases were present in the coeliac lymph nodes and in the liver.
The specimen is of distal oesophagus and proximal stomach. At the cardio-oesophageal junction is a fungating ulcerating tumour measuring 7cm in length. There is a deep central ulcer. The lumen at the cardia has been reduced to a narrow rigid channel only 1cm across. An ill-defined posterior extension of the tumour is seen on the back of the specimen.
Diagnosis: Carcinoma of the cardio-oesophageal junction
Histology showed adenocarcinoma.

CASE 16427
The patient was a woman aged 70 who died of pulmonary embolism after a radical mastectomy for carcinoma. This specimen was an incidental finding at post-mortem.
The specimen is a section of colon. A row of diverticula protrude from between the taeniae coli. In the lower parts of the specimen the herniated sacs are small and about 5mm in diameter, but in the upper part of the specimen they are broad shallow pouches which extend from one band of longitudinal muscle to the adjacent band.
Diagnosis: Colonic diverticula

CASE 16489
The patient was a man aged 88 who presented with a 4-day history of diarrhoea and vomiting thought to be due to a strangulated umbilical hernia. The hernia was repaired but only omentum was found in the hernial sac. After the operation, diarrhoea and vomiting continued and plain x-ray suggested intestinal obstruction. He died on the 10th day from pulmonary embolism. This specimen was found at post-mortem.
The specimen is of colon (lower) and small intestine (upper). Within the colon is a fungating carcinoma 11cm in length. It extensively invades the wall and is adherent to and has invaded into the wall of the small bowel forming a fistulous opening measuring 3cm in diameter.
Diagnosis: Carcinoma of the colon forming fistula with a portion of small bowel

CASE 16643
The patient was a man aged 64 from Leigh Creek. He habitually drank 300-600ml of spirits daily, and was admitted to the RAH after a sudden haematemesis. Examination showed ascites, hepatomegaly, mild jaundice, low serum albumin and low haemoglobin. Barium meal showed oesophageal varices. He was transfused and improved, but 2 weeks later haematemesis recurred and there were repeated bleeds during the next week. A Sengstaken tube was passed and he improved again, but then became drowsy, comatose and died after 7 weeks in hospital. At post-mortem the liver weighed 1600g and showed typical cirrhosis.
The specimen shows the lower 14cm of the oesophagus and the proximal stomach. Varicose dilated veins are visible through the mucosa of the oesophagus and stomach. As is usual in the collapsed vessels of post-mortem specimens, the bleeding point is not evident.
Diagnosis: Oesophageal varices

CASE 16786
This is a surgical specimen from a male New Guinea native, presented by Dr. T. Murrell in 1963. Twelve hours after eating pork there was severe upper abdominal pain and diarrhoea, with two episodes of vomiting. *Ascaris lumbricoides* worms were present in both the faeces and the vomitus. He was treated conservatively at an outstation hospital and was discharged 4 days later. For the next 3 weeks there were severe recurrent attacks of upper abdominal colic after meals, together with anorexia, weakness, loss of weight and intermittent diarrhoea and constipation. This led to his admission to the Goroka Hospital with subacute small bowel obstruction and malabsorption. Barium meal showed flocculation and stagnation of barium and several narrow segments in the upper small bowel. At laparotomy a further 8 days later 120cm of necrosed and fibrotic jejunum were resected, beginning 60cm from the duodeno-jejunal angle. The post-operative course was uneventful and he was discharged well.
The specimen consists of some 20cm of the resected jejunum. The upper 15cm show marked mucosal nodularity with loss of the mucosal folds and scattered ulcers in which exudate can be seen. Many small cysts 1-4 mm in diameter are present in the wall. There are scattered haemorrhages and fibrinous exudation on the serosal surface.
Diagnosis: Enteritis necroticans
Histology showed intense superficial acute inflammation with ulceration, necrosis and haemorrhage with both acute and chronic inflammatory cells. Tongues of fibrous granulation tissue penetrated the muscle coat and there was fibrosis beneath the serosa also. The large empty cystic spaces apparently contained gas during life.
Comment: Enteritis necroticans or pigbel, is a potentially fatal necrotising disease of the jejunum caused by *Clostridium perfringens*. The disease has been intensively studied in New Guinea, where it was common in the protein-deprived population that feasted on pork. The organism resides in the intestine of pigs and meat may be contaminated during slaughter. Inadequate cooking allows its survival and its toxins are not detoxified in the intestinal tract of individuals experiencing protein starvation. Patients were usually children or young adults who presented with variable colicky abdominal pain and vomiting, bloody diarrhoea, constipation, abdominal distension or shock.
The presence of the intestinal roundworm, *Ascaris lumbricoides*, was probably incidental, these being extremely common in third world countries.

CASE 16839
The patient was a man aged 69 who died of myocardial infarction. The specimen was an incidental finding at post-mortem.
The specimen is a portion of colon demonstrating three pedunculated polyps of the colon. Each takes the form of a 6mm diameter button-like mass of mucosa capping an elongated flat stalk. The orifices of several colonic diverticula are also visible.
Diagnosis: Polypoid adenomas and diverticulosis of the colon

CASE 16897
This patient was a hypertensive man of 63. Some weeks previously anticoagulant treatment was begun because of double vision. He presented with a 3-day history of nausea and vomiting culminating in collapse. He was shocked and vomited blood during the examination. He was transfused and treated for a presumed bleeding peptic ulcer, but did not respond and died 3 days later. At post-mortem some 90cm of the jejunum commencing 60cm below the 3rd part of the duodenum were swollen, black and infarcted.
The specimen shows a portion of this infarct with adjacent non-infarcted small bowel. The wall of the infarcted gut is swollen and haemorrhagic. The adjacent mesentery is also infarcted.
Diagnosis: Infarction of the small bowel

CASE 16989
This specimen was presented by Dr. Tim Murrell. The patient was a New Guinea native girl aged 8 who ate the intestine of a freshly killed pig. Two days later there was an attack of severe upper abdominal pain with vomiting, and *Ascaris lumbricoides* worms were present in the vomitus. She then developed diarrhoea and 3 days later ileus. At operation the first 150cm of the jejunum showed patchy necrosis with two areas of incipient infarction. One hundred and twenty centimetres of the small bowel were resected and she made an uneventful recovery. Numerous roundworms were present in the resected segment.
The specimen consists of a portion of this resected bowel that demonstrates a congested thickened wall with focal serosal fibrinous exudate. Numerous adult Ascaris worms are present in the lumen of the bowel. The mucosa is difficult to see.
Diagnosis: *Ascaris lumbricoides* of the small bowel with enteritis necroticans
Histology showed extensive superficial necrosis of the mucosa with oedema and granulation tissue in the submucosa. The muscle layers were necrotic.
Comment: Enteritis necroticans or pigbel, is a potentially fatal necrotising disease of the jejunum caused by *Clostridium perfringens*. The disease has been intensively studied in New Guinea, where it was common in the protein-deprived population that feasted on pork. The organism resides in the intestine of pigs and meat may be contaminated during slaughter. Inadequate cooking allows its survival and its toxins are not detoxified in the intestinal tract of individuals experiencing protein starvation. Patients were usually children or young adults who presented with variable colicky abdominal pain and vomiting, bloody diarrhoea, constipation, abdominal distension or shock.
The presence of the intestinal roundworm, *Ascaris lumbricoides*, was probably incidental, these being extremely common in third world countries.

CASE 17006
The patient was a woman aged 68 who noticed a mass of enlarged lymph nodes in the right side of her neck 5 months previously. Biopsy showed reticulum cell sarcoma and radiotherapy and cyclophosphamide were given. Breathlessness and orthopnoea occurred a month before her last admission, when firm, fixed, rubbery, enlarged lymph nodes were palpable in the right supraclavicular fossa, the right axilla and the groins. The liver was enlarged but the spleen was not palpable. The dyspnoea was relieved by radiotherapy but she developed a deep vein thrombosis of the right leg, went into shock and died soon afterwards. At post-mortem there was bilateral femoral vein thromboses spreading up into the inferior vena cava almost to the level of the renal veins. There was lymphomatous infiltration in the liver and lungs but not in the spleen. Lymph nodes throughout the body were enlarged and there was lymphomatous infiltration of the stomach.
The specimen is a portion of the stomach. There is ill-defined expansion from tumour infiltration of many of the rugae. Smaller nodular mucosal infiltrates are present between the larger thickened rugae.
Diagnosis: Gastric lymphoma
Comment: Reticulum cell sarcoma is an old term for a tumour that would now be regarded as a type of non-Hodgkin's lymphoma.

CASE 17151
The patient was a woman aged 55. Her husband reported that she had been drinking alcohol during the day and was found lying on the kitchen floor that evening with an empty bottle of Lysol on the table. She was admitted to hospital unconscious and not responding to painful stimuli, with Lysol burns to the lips, tongue, and throat. A gastric tube was passed and milk and saline were given. Eight hours after admission she began to regain consciousness and pulled out the gastric tube. Next day there was severe shock and collapse, with haematemesis, and she died.
The specimen consists of the stomach opened to show linear black haemorrhagic raised irregular lines representing necrotic rugal folds.
Diagnosis: Lysol burns of the stomach
Histology showed coagulation necrosis of the entire thickness of the mucosa of the folds, down to muscularis mucosae. There was some early but not extensive acute inflammatory reaction in the submucosa.

CASE 17610
The patient was a man aged 72 who was admitted in a confused state and unable to give a sensible history. Apparently his appetite had been poor for many months. He was emaciated and there was tenderness in the epigastrium. The haemoglobin was 154g/L, the serum alkaline phosphatase was somewhat elevated and the ESR was 53 mm and 87 mm. He began to vomit blood stained mucus and the urinary output fell. There was a productive cough and signs of pneumonic consolidation at the left base. He died 4 weeks after admission without a definite diagnosis being established.
The specimen consists of the stomach, duodenum and portion of the diaphragm sectioned in the coronal plane and viewed from behind. Almost the entire gastric wall is diffusely infiltrated and thickened by pale firm tumour. In the pyloric region the wall of the viscus is almost 1.5cm thick. Infiltration largely ceases beyond the pylorus and proximally a narrow fringe of stomach is spared just below the cardia. There is heavy infiltration into the adipose tissue of the lesser and greater omenta and numerous nodular deposits are visible on the surface of the diaphragm.
Diagnosis: Diffuse carcinoma of the stomach (linitis plastica)
What type of carcinoma is this and what is its classic histological appearance? These are adenocarcinomas. Typically they comprise small round cells filled with mucin that pushes the nucleus to one side, the appearance resembling a signet ring.
Comment: At post-mortem metastases in the liver and spine were also found.

CASE 17652
The patient was a woman aged 80 who had a carcinoma of the middle third of the oesophagus present for some time. There was severe dysphagia necessitating the use of a Souttar's tube, but this subsequently had to be removed because of repeated blockage. Radiotherapy was given but obstruction progressed to almost complete blockage. She survived for 3 weeks and died of bronchopneumonia.
The specimen consists of 17cm of the oesophagus and part of the right lung. The oesophageal tumour is 9cm in length and has produced nodular thickening of the wall and irregular narrowing of the lumen. Its surface is necrotic. The oesophagus is adherent to the medial surface of the upper lobe of the right lung. The reverse of the specimen shows some pneumonic consolidation in the lingular segment of the upper lobe. Enlarged pigmented hilar lymph nodes are noted.
Diagnosis: Carcinoma of the oesophagus
What would one expect to see on histological examination of the lesion? One would expect to see the features of a squamous cell carcinoma (the most common malignant tumour at this site) i.e. cells with cytological features of malignancy (large pleomorphic, hyperchromatic nuclei with prominent nucleoli) which also show signs of squamous differentiation (eosinophilic cytoplasm, keratin formation, intercellular bridges) which invade the wall of the oesophagus. Foci of necrosis are likely to be present.
What has caused the pigmentation and enlargement of the hilar lymph nodes? Inhaled carbon (black) is phagocytosed by macrophages in the alveoli. The macrophages pass via lymphatics to be filtered in the nodes resulting in their enlargement and pigmentation.

CASE 17692
The patient was a woman aged 72 who developed upper abdominal pain, nausea and vomiting. The pain settled, but recurred 5 days later and was accompanied by severe shock. The abdomen was distended and bowel sounds were absent Plain x-ray showed distension of the small bowel. She died on the day of admission. At post-mortem there was 1 litre of brown faecal fluid in the peritoneal cavity and the small bowel was distended. A knuckle of ileum 15cm above the ileo-caecal valve was incarcerated in a small right inguinal hernia. Just proximal to the hernia there was a perforation.
The specimen is a portion of small bowel. A dusky appearing knuckle of bowel protrudes from one side. A glass rod has been inserted in the perforation.
Diagnosis: Richter's inguinal hernia
Explain the pathogenesis of the bowel infarction and perforation in this case. When a portion of bowel becomes trapped in a hernia it can become twisted. This impairs the venous outflow and ultimately the arterial inflow (strangulation) leading to ischaemia and ultimately infarction. The bowel appears haemorrhagic because the venous outflow is impaired leading to severe congestion and haemorrhage. Infarcted bowel is necrotic and can perforate.
Comment: A Richter's hernia is a strangulated hernia in which only a portion of the circumference of the bowel wall is involved.

CASE 18036
The patient was a man aged 55 with a history of healed pulmonary tuberculosis and myocardial infarction. He died of congestive cardiac failure. The specimen was an incidental finding at post mortem.
The specimen is of stomach. Folds of the wall radiate from a mucosa covered 'dimple' on the lesser curvature.
Diagnosis: Healed chronic gastric ulcer
Do folds of stomach wall radiate from an acute gastric ulcer? If not why not. No. The radiating folds are due to fibrous tissue formed in the wall of the stomach at the base of and around the ulcer. The fibrous tissue has a contractile effect. There is no scarring in acute gastric ulcers.

CASE 18082
The patient was a boy aged 17 who presented 10 months previously with a history of intermittent diarrhoea that recently had contained considerable blood. There were 4-5 motions per day though none at night. Sigmoidoscopy and barium enema showed what was reported as multiple polyposis. Four months later he presented again as an acute emergency with high fever, pain in the left iliac fossa and bloody diarrhoea. The symptoms subsided under treatment with antibacterial agents and morphia. Sigmoidoscopy then showed velvety friable mucosa typical of ulcerative colitis. Steroids were then given to allow him to complete his school examinations (Leaving Honours) and two months later the whole colon and the terminal 20cm of the ileum were resected.
The specimen consists of a portion of the resected colon measuring 17cm in length. The mucosa is congested and is studded by numerous blunt polyps varying in size from about 2mm to about 6mm in diameter. Several sectioned slightly enlarged reactive lymph nodes are seen in the mesocolon on the reverse of the specimen.
Diagnosis: Pseudopolyposis in ulcerative colitis

CASE 18121
This is a surgical specimen from an adult woman.
The specimen consists of an appendix measuring 5cm in length. There is an ovoid yellow tumour 2cm in length in the tip of the appendix.
Diagnosis: Carcinoid tumour of the appendix
Comment: Macroscopically the appearance is typical. Histology confirmed the diagnosis.

CASE 18184
The patient was a man aged 33 who drank heavily and had been treated for haematemesis at Woomera 2 years previously. Investigation then showed a peptic ulcer. A further massive haematemesis occurred 2 days before his last admission. He was transferred to the RAH from Minlaton but collapsed and died a few hours after admission.
The specimen consists of the greater portion of the stomach. There is a chronic peptic ulcer about the centre of the lesser curvature. The ulcer measures 2.5 x 2cm, has overhanging edges and its crater is filled with recent blood clot. The surrounding mucosa appears relatively normal.
Diagnosis: Bleeding chronic gastric ulcer

CASE 18379
This is a surgical specimen from a woman aged 42 who had colicky pain and passed blood per rectum.
The specimen consists of 10cm of small bowel with some attached mesentery. Projecting into the lumen is an ovoid mass 5 x 4 x 3cm partly covered with mucosa but the tip of the lesion is ulcerated. The apex of the mass has been incised to reveal yellow adipose tissue.
Diagnosis: Lipoma of the small bowel
Comment: The diagnosis was confirmed histologically.

CASE 18756
The patient was a woman aged 63 who died from a pinealoma arising in the region of the pituitary stalk. At post-mortem there was marked melanosis of the entire large bowel, from the caecum to the rectum.
The specimen consists of 12cm of the large bowel opened to display intense melanotic pigmentation of the mucosa. Fine pale reticular lines run through the pigmented areas, probably representing mucosal lymphatics. There are also uniformly scattered very small pale spots that are the solitary lymph follicles. Histology shows dense deposition of black pigment in the stromal mucosa between the glands and in the submucosa between the muscularis. Some of it is within macrophages but much is extracellular.
Diagnosis: Melanosis coli

What is this condition and how does it arise? In this condition, numerous macrophages filled with dark lipofuscin-like pigment are present in the lamina propria. This pigment probably derives from overuse of anthracene type laxatives.
What is its clinical significance? It doesn't have any clinical significance, apart from indicating that the person has been using a lot of laxatives and may have a history of constipation.

CASE 18776
The patient was a diabetic woman aged 73. She was admitted shocked with signs of a perforated viscus. At operation a large ulcer was found on the lesser curvature of the stomach, with a small perforation which was oversewn and covered with omentum. Because of its size the ulcer was thought to be malignant. She improved for a time after the operation but died suddenly on the 3rd day from bronchopneumonia.
The specimen consists of the stomach opened to show a very large chronic peptic ulcer on the lesser curvature. The ulcer measures 6cm in diameter, the base is irregular and is covered with exudate and slough. It penetrates into the body of the pancreas. The site of perforation is not readily seen. The edge of the ulcer is smooth, regular and overhanging. The reverse of the specimen shows the patch of omentum that was sutured over the perforation. There is some fibrinous peritoneal exudate on the serosal surface of the stomach.
Diagnosis: Oversewn chronic gastric ulcer with penetration of pancreas

CASE 18884
This is a surgical specimen removed from a man aged 43. He presented with a rather vague history of languor for 2 months, with tenderness in the right costal margin. A few days later the urine became dark and the motions pale and he developed a progressive jaundice. Five weeks later he was deeply jaundiced and a mass could be felt beneath the right costal margin. At laparotomy this proved to be a greatly dilated gall bladder. The common bile duct was also markedly dilated and a nodule was palpable at its lower end. The pyloric end of the stomach and the 1st and 2nd parts of the duodenum were resected together with the lower end of the bile duct and the head of the pancreas.
The specimen is the resected distal stomach, duodenum and head of the pancreas. The pyloric end of the stomach is essentially normal, as is the duodenum apart from a nodular tumour protruding into the lumen measuring 2 x 1 x 1cm at the ampulla of Vater. The mucosal aspect of the tumour shows some ulceration and congestion. The common bile duct in the head of the pancreas is markedly dilated. The reverse of the specimen shows secondary neoplastic deposition in a lymph node adjacent to the head of the pancreas.
Diagnosis: Carcinoma of the ampulla of Vater
Histology showed well-differentiated adenocarcinoma.
Explain why this patient developed pale stools, dark urine and jaundice. The tumour obstructed the common bile duct. The pigmented bile no longer got into the faeces and the bilirubin was thus not available to be converted by bacteria into urobilinogen and subsequently to stercobilin, which along with other bile pigments gives the faeces their colour, so they became pale. The conjugated bilirubin in the bile, being water soluble, dissolved into the blood stream causing yellow discolouration of the skin (jaundice) and was filtered into the kidneys causing the urine to become dark.

CASE 18942
The patient was a man aged 75 with a carcinoma of the prostate. At post-mortem there was bilateral suppurative pyelonephritis and bilateral suppurative basal pneumonia with incipient empyema. The specimen was an incidental finding and was filled with blood.
The specimen of oesophagus demonstrates a diverticulum towards its lower end 8cm above the cardiac orifice. The neck of the sac measures 2 x 1.5cm. The body of the diverticulum is spheroidal and measures 5 x 3 x 3cm. It projects downwards and laterally. There is no evident abnormality of the cardiac sphincter.
Diagnosis: Oesophageal diverticulum

CASE 19615

The patient was a man aged 80 who developed haematemesis and melaena. He was transported from Eastern York Peninsula to the RAH and arrived confused and pale. He was transfused but died 15 hours later. At post-mortem, a healed peptic ulcer in the first part of the duodenum was also found.
The specimen consists of the lower 7cm of the oesophagus and the cardiac portion of the stomach. There is an ulcer 1cm in diameter in the terminal oesophagus 2cm above the cardio-oesophageal junction. The ulcer is filled with blood clot.
Diagnosis: Chronic peptic ulcer of the lower oesophagus

CASE 19723
This is a surgical specimen from a middle-aged woman with a 6-month history of intermittent vomiting and dyspepsia. Partial gastrectomy was performed.
The specimen consists of the greater portion of the stomach. Towards one end there is a large elongated mass projecting into the lumen. The mass measures 8 x 5 x 4cm and exhibits a deep central ulcer 15cm in diameter. At the upper end of the mass the tumour has penetrated through the gastric mucosa and forms a blunt projection surrounded by a collar of mucous membrane.
Diagnosis: Tumour of the stomach.
Comment: This tumour macroscopically doesn't look like a typical carcinoma. Possible diagnoses include lymphoma and gastrointestinal stromal tumour. Histology reportedly showed a spindle cell tumour with features of smooth muscle differentiation. The diagnosis is thus gastrointestinal stromal tumour. These lesions may arise anywhere in the GIT. Ulceration is common and they may present with iron deficiency anaemia. Histologically they comprise spindled mesenchymal cells. Some have features of smooth muscle cells. There is a spectrum from benign to malignant. Behaviour depends on size, mitotic activity and nuclear atypia.

CASE 19899
The patient was a man aged 68 who presented with a 2-month history of gradually progressive left-sided weakness, together with mental vagueness and incontinence of urine. After a short period of unconsciousness and left hemiparesis he was admitted to hospital, where a chest x-ray showed a single circular lesion at the right lung apex. The CSF contained 35 lymphocytes per cm. The left visual field was impaired, the left corneal reflex was absent, there was left facial weakness and paralysis of the left trapezius muscle. There was diminished power in the left side with total paralysis of the left arm and shoulder. A right carotid angiogram showed a right fronto-parietal space-occupying lesion. Burrhole biopsy was inconclusive. He died after 2 weeks in hospital. At post-mortem the right apical pulmonary tumour proved to be a poorly differentiated carcinoma. There was a necrotic tumour mass 5cm in diameter in the right frontal lobe, with marked shift of midline structures to the left and herniation of the right hippocampus. This tumour proved to be a metastasis from the pulmonary carcinoma. There was also a tumour at the recto-sigmoid junction but there were no glandular metastases in the abdomen and none in the liver.
The specimen shows the distal sigmoid and rectum with a circumferential tumour 3cm in length. It leaves only a narrow central lumen. The tumour is seen to invade through muscularis propria into surrounding adipose tissue. There is marked hypertrophy of the muscle coat proximal to the tumour.
Diagnosis: Carcinoma at the rectosigmoid junction
Comment: Histology showed the colonic tumour to be a well-differentiated adenocarcinoma. The lung tumour did not resemble it, being a poorly differentiated carcinoma with many tumour giant cells. The cerebral tumour resembled the lung tumour. It is probable that this man had 2 primary malignancies.

CASE 20043
The patient was a woman aged 36 with a 12-month history of malaise, indigestion, abdominal pain with occasional vomiting and occasional melaena. She was a private patient and no other information is available.
The specimen consists of the stomach together with the spleen. The spleen appears normal. The stomach wall is extensively infiltrated and thickened by pale firm tumour. The mucosal aspect is nodular and the tumour has penetrated the muscle coat to the serosal surface and into the omentum.
Diagnosis: Diffuse carcinoma of the stomach (linitis plastica)

CASE 20367
The patient was a man aged 84 with congested cardiac failure. He died 3 days after a mid-thigh amputation for gangrene of the left big toe. The specimen was an incidental finding at post-mortem.
The specimen is part of the stomach and proximal duodenum and demonstrates an encircling carcinoma at the pylorus. The tumour is 3cm in length with raised edges but the pyloric canal still appears relatively wide with no evidence of significant obstruction as there is no apparent gastric dilation proximally and the muscle coat of the stomach is not hypertrophied
Diagnosis: Localised carcinoma of the stomach at the pylorus
What histological type of carcinoma is this likely to be? Adenocarcinoma

CASE 20732
The patient was a man aged 70 who had suffered from chronic bronchitis and emphysema for many years. There was a 6-month history of altered bowel habits with increasing constipation and bouts of diarrhoea, with the passage of mucus but not blood. Barium enema suggested infiltrative carcinoma of the sigmoid colon. The affected segment of the bowel was resected.
The specimen consists of 15cm of the resected large bowel. Much of the specimen shows large rounded mucosal swellings with some mild intervening ulceration, particularly across the middle. The peritoneal surface is essentially normal. **Diagnosis:** Pneumatosis cystoides intestinalis
Histology showed many empty cystic spaces in the mucosa and submucosa, in some places extending through the muscularis propria. The cysts were lined by flattened cells and occasional foreign body giant cells.
Comment: Pneumatosis cystoides intestinalis may be idiopathic or occur in association with a number of diseases, including chronic obstructive lung disease and a variety of gastrointestinal diseases. Gas filled cysts form in the wall, the gas possibly entering from the bowel lumen via inflamed crypts. The giant cells presumably represent an inflammatory response to the tumour.

CASE 20874
The patient was a man aged 52 in whom a “subacute lymphatic leukaemia” had been diagnosed 6 months previously. On his last admission there was a 3-day history of severe rectal bleeding and signs of renal failure. The platelets dropped to less than 10,000/c.mm and there were some petechial haemorrhages in the skin. He died after 5 days in hospital. At post-mortem the spleen was considerably enlarged and there were some moderately enlarged lymph nodes in the abdomen. There was severe leukaemic involvement of the sigmoid colon.
The specimen comprises 12cm of colon. There are numerous scattered ulcers with raised irregular edges and bloodstained exudate in their bases.
Diagnosis: Leukaemic infiltration of the colon
Histology showed infiltration of leukaemic lymphocytes, most marked in the mucosa. The margins of the ulcers were swollen and necrotic. The ulcers were quite superficial and penetrated only a short distance into the submucosa.

CASE 21164
The patient was an alcoholic man aged 48 who was admitted to hospital with bleeding oesophageal varices. He was transfused but continued to bleed, and the haemoglobin level fell. He then signed a risk form and left hospital, but was readmitted 3 weeks later still bleeding. He was transfused but became unconscious, with ascites and peripheral oedema, and died. At post-mortem there was a typical alcoholic cirrhosis.
The specimen consists of the lower 16cm of the oesophagus and the proximal stomach, which are markedly congested from dilated varices. There is some superficial erosion of the mucosa in the lower oesophagus. No obvious bleeding point can be seen.
Diagnosis: Oesophageal varices

CASE 21501
The patient was a young man aged 19 who presented with what was thought to be appendicitis. On laparotomy an appendix abscess was found and drained. Later he developed a faecal fistula and further operation revealed Crohn's disease. The affected portion of the bowel was resected and comprises the present specimen. Two and a half years later a further 30cm of the terminal ileum were resected for recurrent disease (specimen 23429).
The specimen consists of some 50cm of terminal ileum together with the caecum and part of the ascending colon. The terminal 20cm of the ileum shows diffuse thickening of the wall by pale tissue particularly in the submucosa. The mucosa is nodular and there are some irregular ulcers. The process becomes gradually attenuated proximally and ceases some 25cm above the ileocaecal valve. The ileocaecal valve is narrow but the disease extends for only a few centimetres into the caecum, and the ascending colon appears essentially normal. The serosal surface is congested and remnants of fibrous adhesions can be seen. There is no definite evidence of perforation though the entire specimen is not well seen. The appendix is present and appears normal.
Diagnosis: Crohn's disease of the terminal ileum
Comment: The reported appendix abscess that was found and drained was obviously not an appendix abscess. Presumably there had been a perforation that had been contained locally by omentum to form an abscess. This was reportedly drained but the site of perforation not found so it continued to leak. There is fibrosis in the adipose tissue above the ileocaecal junction and loops of bowel are possibly adherent behind, features suggesting that there may have been a previous perforation with inflammation and fibrosis in this region.

CASE 21733
The patient was a woman aged 40 who had a small dark mole on her abdomen that began to bleed after a minor injury. The injury did not heal and the mole gradually increased in size. Three months later it was widely resected and a skin graft was performed. A year later involved nodes were removed from both axillae and there was abdominal distension. The abdomen was irradiated but ascites continued and she died 15 months after the onset. At post-mortem there was a massive blood- stained ascites and very many metastatic nodules were present on the peritoneum.
The specimen is a portion of small intestine with its mesentery. On the serosal surface are many tiny nodules with one larger 4cm tumour. Most of the nodules are pale but some are darkly discoloured.
Diagnosis: Metastatic melanoma
Comment: You would be forgiven for suggesting that the dark discolouration of the lesions is pigment. However, no pigment was reportedly seen histologically so it is likely to be haemorrhage.

CASE 21924
The patient was a man aged 89 who died of pneumonia. An incidental finding at post-mortem was a thickened area at the junction of the proximal and middle thirds of the ileum.

The specimen is a portion of small intestine with its mesentery. The mesentery and wall are diffusely thickened by a pale infiltrate. The mucosal folds are thickened and nodular, but not ulcerated. There is marked congestion of the bowel proximal to the infiltrated area.
Diagnosis: Lymphoma of the small intestine
Comment: While histology showed uniform infiltration by lymphoid cells, the diagnosis can certainly be suggested by the macroscopic appearance.
Comment: Lymphomas may arise in the small bowel or involve it as part of systemic disease. Primary lymphomas are the second most common tumour of the small intestine, following adenocarcinoma. There are a variety of non-Hodgkin's lymphomas that can involve the small bowel and depending on the type, they may cause a mass lesion, diffuse infiltration (as here) or multifocal lesions.

CASE 21932
This is a surgical specimen from a woman aged 60 who presented with a 3-month history of malaise, anorexia and recurrent severe central abdominal colicky pain. For the last 10 days there had been intermittent vomiting.
The specimen consists of a portion of small bowel. There are scattered irregular ill-defined variably nodular congested masses with focal ulceration in the wall. The cut surface of the deposits is pale and firm.
Diagnosis: Multiple malignant lesions of the small bowel.
Comment: Lymphoma was diagnosed on histological examination. The macroscopic differential is metastases. Lymphomas may arise in the small bowel or involve it as part of systemic disease. Primary lymphomas are the second most common tumour of the small intestine, following adenocarcinoma. There are a variety of non-Hodgkin's lymphomas that can involve the small bowel and depending on the type, they may cause a mass lesion, diffuse infiltration or multifocal lesions.

CASE 21933
The patient was a woman aged 47 who had been losing weight for some months. There was some cough and hoarseness, but no other symptoms. Physical examination disclosed little. In particular, the neck was reported as showing no masses or other abnormality. The possibility of a laryngeal tumour was considered, but laryngoscopy was not performed. A week after admission a mass "attached to the thyroid" was noted on the right side of the neck. Chest x-ray showed collapse of the right middle lobe. Hoarseness and cough increased during the next few days. While awaiting bronchoscopy she suddenly died.
The specimen consists of the pharynx, larynx, upper oesophagus and thyroid. There is an encircling pale infiltrating necrotic fungating tumour of the hypopharynx extending into the aryepiglottic folds and right lobe of the thyroid. It is 8cm in length. Scattered colloid-filled cysts are present in the thyroid.
Diagnosis: Carcinoma of the hypopharynx
Histology showed a squamous cell carcinoma with much keratin formation and many epithelial pearls.
From what may this patient have died? A fatal arrhythmia from ischaemic heart disease, a massive pulmonary embolism or aspiration.

CASE 21945
The patient was a girl aged 14 who was thought to have food poisoning. No further information is available. At post-mortem by the coroner's pathologist the scar of an old appendix operation was present and there were band-like adhesions joining the mesentery of the ileum to the appendicular region.
The specimen consists of a length of the ileum measuring about 45cm in length that has passed beneath the band (difficult to see) with resulting strangulation. The infarcted gangrenous bowel is grossly dilated and haemorrhagic.
Diagnosis: Ileal strangulation from an adhesion

CASE 22043
No clinical information is available for this surgical specimen, which is from a woman aged 68.

The specimen consists of the lower rectum, anal canal and a fringe of perianal skin. There is a 3cm diameter ulcerated nodular tumour just above the ano-rectal junction.
Diagnosis: Carcinoma of the lower rectum

CASE 22197
The patient was a man aged 60 who presented with progressive constipation, anorexia and abdominal swelling, terminating in a large bowel obstruction. He was managed with gastric suction, intravenous therapy and serial enemas without satisfactory improvement. Sigmoidoscopy was blocked at 24cms. On the day after admission the left leg became cold and mottled and he died suddenly next day from massive pulmonary embolism. At post-mortem a tumour was found in the sigmoid colon 20cm from the anus. There were no obvious metastases in regional nodes or the liver.
The specimen is of large bowel. Within the wall is an encircling pale fungating tumour 5cm in length that narrows the lumen. The tumour infiltrates through to the mesocolon on one side and to the serosa forming nodules on the other. Congested vessels are present on the serosal aspect of the growth. A few small not obviously involved lymph nodes are seen in the mesocolon.
Diagnosis: Carcinoma of the colon

CASE 22425
The patient was a diabetic woman aged 56 who developed acute pancreatitis, which was complicated by a large pseudocyst in the lesser sac. She died from gram-negative septicaemia after 6 weeks in hospital.
The specimen consists of the stomach and distal oesophagus. Several acute mainly superficial haemorrhagic ulcerations are present in the stomach. The largest ulcer in the prepyloric region measures 1.5 x 1 cm. The oesophagus also demonstrates some haemorrhagic erosions.
Diagnosis: Acute gastric ulceration
How do the changes in the specimen correlate with the clinical history? Acute gastric erosions and ulceration are seen in the setting of severe illness (e.g. in shock, severe burns, acute pancreatitis), excessive alcohol consumption and with some drugs e.g. NSAIDS. This patient has a satisfactory cause: acute pancreatitis and septicaemia.
What are the potential complications of this pathology? Acute gastric ulcers can bleed, leading to hypovolaemic shock when severe, or perforate, causing acute peritonitis.

CASE 22435
The patient was a woman aged 57 who died from a malignant melanoma with many metastatic deposits. The primary site was not identified.
The specimen consists of a portion of small bowel. The proximal segment on the left shows a large plaque of variably pigmented tumour 8cm in diameter protruding into the lumen from the wall. A smaller patchily pigmented metastasis 4cm in diameter forms the head of an intussusception at the centre of the specimen.
Diagnosis: Intussusception related to metastatic melanoma

CASE 22483
A woman aged 31 had a malignant melanoma excised from the back 4 years previously. There were several recurrences that were treated at various times by vaccination, excision and radiotherapy. She died with widespread metastatic deposits, including many in the small bowel.
The specimen consists of two lengths of small bowel each containing several deeply pigmented, pedunculated and sessile melanotic deposits.
Diagnosis: Metastatic melanoma

CASE 22597
This woman aged 55 gave a history of difficulty in swallowing solids for 7 years. Recently the dysphagia had worsened. Barium swallow, oesophagoscopy and biopsy revealed a post-cricoid squamous carcinoma. She died of bronchopneumonia after 3 weeks in hospital, before radiotherapy was begun.

The specimen consists of the pharynx, larynx, the upper portions of the trachea and oesophagus and the thyroid. There is an encircling superficially necrotic tumour 5cm long in the hypopharynx commencing at a point 3cm below the aryepiglottic folds. The tumour is attached to the posterior wall of the trachea and has produced a smooth indentation into the tracheal lumen.
Diagnosis: Carcinoma of the hypopharynx
What type of tumour is this likely to be? Squamous cell carcinoma.

CASE 22612
The patient was a man aged 62 who was admitted with left-sided cerebral symptoms. Five days before death he became shocked and passed large melaena stools. On the day of his death there was a massive haematemesis with melaena.
The specimen consists of the lower oesophagus, the stomach, the duodenum and the pancreas. The oesophagus appears normal. The stomach is large with prominent mucosal rugae but is not diseased. There is a large peptic ulcer lying in the first part of the duodenum on the posterior wall. It measures 2.5 x 2 cm, has a regular overhanging margin and a shaggy base. The pancreas shows no significant abnormalities.
Diagnosis: Chronic duodenal ulcer
Comment: Note the difference in appearance between the oesophageal lining (stratified squamous non-keratinising) and the gastric lining (more velvety – simple columnar).

CASE 22692
The patient was a woman aged 87 with a history of progressive dysphagia leading to persistent vomiting. There was dull retrosternal pain and she lost 19kg in weight in the last two months. Barium meal showed a carcinoma of the oesophagus just below the carina. In view of her age and poor general condition only symptomatic treatment was given, and she died 7 weeks after admission.
The specimen consists of some 20cm of the oesophagus together with the cardiac end of the stomach, the distal trachea, a sliver of lung and the aortic arch. There is a pale fungating and stenosing oesophageal tumour 6cm in length arising at a level slightly below the bifurcation of the trachea. The tumour is approximately 1cm in thickness and invades through muscularis propria. Several enlarged involved lymph nodes are present at the cardio-oesophageal junction anteriorly.
Diagnosis: Carcinoma of the oesophagus with nodal metastases

CASE 22732
The patient was a man aged 57 with a history of anorexia and loss of weight for one year, post-prandial epigastric fullness for 3 months and dull epigastric pain for
2 months. Barium meal showed narrowing in the body of the stomach and gastroscopy and biopsy revealed carcinoma. Gastric washings were also positive for malignant cells. At operation disseminated metastatic deposits were found on the peritoneum and the abdomen was closed. He died of broncho-pneumonia 2 days later. At post-mortem there was more than a litre of watery bloodstained fluid in the peritoneum and very numerous malignant seedings on the peritoneal surface. There were also metastases in coeliac lymph nodes and in the liver.
The specimen consists of the stomach and the first part of the duodenum. The stomach is small and its wall extensively thickened by a pale neoplastic infiltration. The infiltration is maximal in the central part of the stomach, producing narrowing. The fundus and the pyloric antrum appear to be spared. Tumour extends directly into the lesser and greater omenta.
Diagnosis: Diffuse carcinoma of the stomach (linitis plastica)

CASE 22757
This is a surgical specimen from a man aged 71 who was first admitted after a sudden severe epigastric pain of 6.5 hours duration radiating to the back. There was associated nausea and vomiting. The serum amylase level was considerably raised. He was treated symptomatically for acute pancreatitis and

recovered. However there was a hypochromic microcytic anaemia (Hb 114 g/L) suggestive of chronic blood loss. Gastroscopy, barium meal and cholecystography were not diagnostic but 2 weeks later he passed a moderate amount of blood per rectum. Closer questioning then disclosed that there had been intermittent blood loss for some 18 months. Barium enema and sigmoidoscopy showed a polypoid carcinoma in the upper rectum. Anterior excision was performed. At operation the pancreas was noted to be nodular and firm suggesting previous pancreatitis.
The specimen consists of 24cm of large bowel. Towards one end is an ulcerated fungating polypoid tumour 4cm in diameter with a raised rolled irregular nodular edge and central excavation. Several smaller polyps are visible in the bowel above the tumour. No lymph nodes are seen in the mesocolon.
Diagnosis: Carcinoma of the rectum

CASE 22768
The patient was a man aged 64 with increasing obstructive jaundice for 3 months. The specimen was removed at surgery.
The specimen consists of 16cm of the duodenum together with the head of the pancreas and the lower 5cm of the common bile duct. In the region of the ampulla of Vater is an ill-defined 3cm diameter ulcerated nodular invasive mass that occludes the end of the common bile duct and protrudes into duodenum. Above this the duct is dilated.
Diagnosis: Carcinoma of the ampulla of Vater
What histological type of tumour is this likely to be? Adenocarcinoma

CASE 22802
The patient was a woman aged 71 who had passed bright blood per rectum for several months. For the last two weeks there had been faecal incontinence and a sense of fullness in the anal canal. For the last several days there had been a faecal discharge from the vagina.
The specimen consists of the rectum, anus, posterior wall of the vagina and a wide collar of surrounding skin. There is a large fungating encircling carcinoma of the lower rectum and anal canal measuring 8cm in length. It partly protrudes from the anus. The rectum immediately above the tumour is mildly dilated. The opening of the recto-vaginal fistula is not apparent.
Diagnosis: Carcinoma of the rectum

CASE 22839
A man aged 48 gave a history of 6 months pain on defaecation. He was treated by his local doctor for haemorrhoids and a haemorrhoidectomy was performed. After the operation there was a persistent fissure despite a variety of treatments. Examination finally showed a hard ulcer in the anal canal with an everted edge that was biopsied, showing squamous cell carcinoma. Excision was performed.
The specimen consists of rectum, anus and a fringe of perianal skin. Arising from the anal margin and extending upwards for a distance of 4cm is an ulcerated tumour with moderately rolled edges. The tumour is 2cm wide.
Diagnosis: Carcinoma of the anus

CASE 23066
The patient was a man aged 75. Multiple myeloma with amyloidosis had been present for 8 years. Three years after the onset crush fractures of the dorsal spine occurred, and chemotherapy was given (Melphelan). Some weeks before his death he developed aplastic anaemia for which steroids were given, but in spite of this he developed coliform and pseudomonas septicaemia and died. At post-mortem he was jaundiced and there were many purpuric spots in the skin and viscera. There was amyloidosis of the heart (see specimen 23066 in the Cardiovascular section of the museum). The tongue was greatly enlarged. Slight amyloid changes were present in the serosal vessels of the gut, and in the liver, but the kidneys were not affected.

The specimen consists of the tongue and the neck structures. The tongue is very greatly enlarged and there are ill-defined submucosal swellings at its base lateral to the foramen caecum.
Diagnosis: Amyloidosis of the tongue
Of what will the amyloid be composed in this case? Immunoglobulin light chains produced by the malignant plasma cells.

CASE 23069
The patient was a woman aged 76 who had had an inguinal hernia for 20 years. A month before her death she was placed on the waiting list for operative repair. Three weeks later she was admitted urgently, after bile-stained vomiting and diarrhoea for 5 days. There was gross respiratory distress, peripheral and central cyanosis and unrecordable blood pressure. The abdomen was distended and the left inguinal hernia was tender. X-ray showed greatly dilated loops of small bowel. Intensive resuscitation was begun but she died next day.
The specimen consists of the hernial sac measuring 7 x 8cm containing congested bowel.
Diagnosis: Strangulated inguinal hernia
Comment: Hernias, a protrusion of serosa-lined peritoneum through the wall of the peritoneal cavity arising from a weakness or defect in the wall, are common. The usual sites are the femoral and inguinal canals, umbilicus and surgical scars. Loops of bowel or omentum can become caught within the sac and pressure at the neck of the pouch can impair venous drainage. The resulting oedema leads to permanent trapping (incarceration) of the viscus and further compromise of the arterial supply and venous drainage (strangulation) leads to infarction. Perforation may subsequently occur with acute peritonitis and G-ve septicaemic shock.

CASE 23082
The patient was a retired miner aged 79 who first presented 7 years previously with breathlessness, attributed to occupational lung disease, and anaemia and painless diarrhoea, for which no cause was found on barium studies. Four years later a bladder stone was removed by cystoscopy. On his last admission he complained of generalised abdominal pain, worse in the epigastrium and worse on rising in the morning, and eased by belching. He had lost 19kg in weight in 4 months and there had been dysphagia, necessitating a fluid diet. Barium meal was reported as normal and he was discharged. He was readmitted two weeks later with acute urinary retention and acute vascular collapse, and died that day. At post-mortem there was marked anthracosis of the lungs with emphysema and bronchopneumonia. A few peritoneal metastases, one small liver metastasis and metastases in the scalene node were found. The prostate showed marked nodular hyperplasia.
The specimen consists of the stomach bisected to show a fungating carcinoma 6cm in length near the oesophago-gastric junction high up on the lesser curve. Tumour invades through the complete thickness of the wall of the stomach. The mucosal aspect is ulcerated. There is cicatricial hourglass contraction of the stomach at about its midpoint, below the tumour. No lymph nodes are seen.
Diagnosis: Localised carcinoma of the stomach

CASE 23138
The patient was a man aged 80 who presented with abdominal pain a year before his death. X-ray at that time showed what was interpreted as duodenal diverticula, and in 6 weeks his symptoms had abated. His last admission was as an abdominal emergency, clinically a ruptured duodenal ulcer. This was confirmed at laparotomy and the ulcer was oversewn with an omental plug. He had a stormy post-operative course with swinging fever and leucocytosis. A sub-diaphragmatic abscess was suspected but was not identified on subsequent laparotomy. The creatinine level rose steadily, fever and leucocytosis continued and the serum sodium and chloride rose just before his death. A definite cause was not found at autopsy.
The specimen consists of the distal oesophagus, stomach and first part of the duodenum. There are two 1-2cm chronic peptic duodenal ulcers in the first part of the duodenum, one on the anterior and the other on the posterior wall. Each ulcer has regular rounded overhanging edges, and there is shaggy exudate in their

floors. A small piece of pancreas is present behind the posterior ulcer. Omentum covers the anterior ulcer externally.
Diagnosis: Chronic duodenal ulcers

CASE 23145
The patient was a woman aged 84, admitted with a three day history of left-sided abdominal pain radiating to the chest and right side of the back associated with vomiting, She had a several month history of anorexia, poor exercise tolerance, palpitations and swelling of the ankles. On examination she was pale but not shocked, and there was general abdominal tenderness. She suffered some indigestion during the admission. Her haemoglobin fell from 116g/L to 85g/L over the 12 days of her admission, and on the 12th day she passed two large melaena motions and died soon afterwards. At post-mortem there was a large amount of blood in the small bowel, bilateral pleural effusions, ascites, and oedema of both legs.
The specimen consists of the stomach together with the terminal oesophagus and the first part of the duodenum. There are at least 5 scattered ulcers in the body and antrum of the stomach. The largest ulcer measures about 1cm in diameter. Their margins appear oedematous and some have haemorrhagic bases.
Diagnosis: Acute and subacute gastric ulcers
Comment: Whilst it is difficult to assess the depth of these lesions, their number, oedematous margins and haemorrhagic bases suggest these are acute or subacute rather than chronic.
How could the approximate age of the ulcers be more accurately determined? On histological examination. Acute ulcers will show a surrounding neutrophil infiltrate and no scarring. Older ulcers will show variable amounts of granulation tissue and scarring.

CASE 23287
This was an incidental finding at autopsy in a 71-year old man who died from congestive cardiac failure due to a myocardial infarction.
The specimen consists of a length of small bowel and shows an intussusception. The wall of the bowel shows some congestion.
Diagnosis: Intussusception of the small bowel
Comment: This had presumably occurred shortly before death, for the patient had reportedly had no signs of intestinal obstruction and the bowel was not obviously infarcted.

CASE 23325
The patient was a man aged 51 who presented 13 months before his death with seizures involving the left arm and trunk, with loss of consciousness. Chest x-ray showed an opacity in the right midzone and brain scan showed uptake of isotopes in the right parietal region. Angiography suggested a right frontal lesion also. The cerebral metastases progressed and he died from cerebral oedema with marked midbrain herniation. At post-mortem there was a large neoplastic cavity in the hilum of the right lung, measuring about 6 x 5 x 5cm, with a ragged necrotic wall. There were many metastases in the liver, kidney, lung, bones and thyroid. The right parasagittal parietal metastasis measured 3 x 2.5 x 2cm and was surrounded by a wide zone of oedema. There was a further large metastasis in the cerebellum.
The specimen consists of the stomach opened to show an irregular rounded ulcerated tumour 4.5cm in diameter with raised edges in the fundus. The surrounding mucosa is congested.
Diagnosis: Metastasis in the stomach from primary lung carcinoma
Comment: Histology showed squamous cell carcinoma similar to the primary tumour in the lung. The macroscopic appearances are also in keeping with a primary localised type gastric carcinoma.

CASE 23392
The patient was a 67-year old woman. Twenty four years before she presented she had had a haemorrhoidectomy, which had left a skin tag present. During the two years before admission this had become very prominent and she presented finally for assessment and treatment. The physical examination showed a papillary-like lesion in the skin tag extending into the rectum. A biopsy showed that this was a squamous cell carcinoma and an abdominal-perineal resection of the rectum and anal canal was performed.

The specimen consists of the rectum, anal canal and anal skin. A 1cm diameter skin tag projects from the anus and an ill-defined ulcerated neoplasm extends upwards from this tag for a total distance of 4cm into the rectum.
Diagnosis: Carcinoma of the anus

CASE 23422
The patient was a man aged 57 who had had acute lymphoblastic leukaemia for 10 months. Initially he was treated with intravenous Lincomycin, Heparin, Vincristine, steroids and 6-mercaptopurine with good response. At his last admission there was a 3-week history thrombo-phlebitis in the left big toe, anorexia, lassitude, weakness and breathlessness. Later he was given Rubidiomycin and Cytosine A and transfusion. The leucocyte count dropped markedly. Bloody diarrhoea was present for several days before his death.

The specimen consists of rectum and sigmoid colon. There is great thickening of the wall of the bowel, particularly of submucosa, with loss of mucosal folds. The wall is congested. The process steadily diminishes proximally.
Histology reportedly showed extreme fibrinous inflammatory thickening of the submucosa, with dilated vessels but no inflammatory cells. The inner muscle coat was necrotic and there was a sparse mononuclear exudate and some focal haemorrhages. Masses of gram-positive cocci were present.
Comment: This case was reported as phlegmenous procto-colitis. Another alternative is neutropenic colitis. Without reviewing the histology it is difficult to say. Both conditions are rareties. Crohn's disease could be suggested from the macroscopic features but the reported histology does not support this.

CASE 23429
The patient was a young man aged 19 with Crohn's disease. An affected portion of bowel was removed 2.5 years earlier (specimen 21501). Recurrent disease necessitated further resection of the ileum (current specimen).
The specimen consists of a portion of small bowel and its mesentery. Much of the wall is greatly thickened and congested and there is patchy mucosal ulceration with overlying exudate. Where thickening is greatest, over a length of approximately 20cm, the lumen has been reduced to a rigid narrow cylinder. The serosa is also congested. A short length of relatively normal bowel is present at each end. An enlarged reactive lymph node is noted in the mesentery.
Diagnosis: Crohn's disease
Histology showed mucosal congestion and infiltration with lymphocytes and plasma cells. The submucosa was oedematous and contained lymphoid aggregates with occasional granuloma formation. The muscle coat was moderately infiltrated and there was quite marked inflammation and oedema of the serosa. Regional lymph nodes showed intense reactive hyperplasia with many germinal centres and some sarcoid-type granulomata.

CASE 23463
The patient was a man aged 70 who died from a cardiac arrest after a myocardial infarction. For 6 weeks previously he had complained of epigastric pain before meals, relieved by milk. This pain often awoke him in the early hours of the morning.
The specimen shows the terminal oesophagus, stomach, duodenum and underlying pancreas. There is a benign chronic peptic ulcer 2cm in diameter on the lesser curvature in the antrum of the stomach. Its edges are overhanging and the gastric rugae radiate outwards from the ulcer. There is a second ulcer 1.5cm diameter in the pylorus on the posterior wall. Its base penetrates the underlying tissue and contains two apparently eroded vessels.
Diagnosis: Chronic gastric ulcers
What causes the mucosa to radiate outwards from the lesion in such a way? This arises as a result of fibrous contraction of the underlying tissues during healing.

CASE 23569
The patient was a man aged 78 with a past history of angina and Parkinson's disease. He was admitted to hospital flushed and confused. During the next 3 weeks he was observed but not actively treated and died from bronchopneumonia. At post-mortem there was a carcinoma of the stomach with many metastases in the liver.
The specimen consists of the stomach opened to show an ulcerated neoplastic plaque 5cm in diameter on the lesser curvature, 4cm from the oesophago-gastric junction. The edge is raised and there is central excavation covered with ragged slough. The reverse of the specimen shows direct extension of the tumour into the lesser omentum. No lymph nodes are seen.
Diagnosis: Localised gastric carcinoma

CASE 23945
The patient was a man aged 54 who presented with aching joints and night sweats. The ESR was 82mm. Chest x-ray showed a cavity in the right upper lobe and biopsy of a cervical lymph node showed granulomatous inflammation consistent with tuberculosis. It was then found that he had acute lymphoblastic leukaemia and he was treated with steroids and anti-mitotic agents as well as antituberculous chemotherapy. He developed persistent dysphagia ascribed to monilial oesophagitis. This was treated locally with Mycostatin. He died after a month in hospital.
The specimen consists of the pharynx and upper oesophagus. The oesophagus shows extensive confluent mucosal ulceration with ragged shaggy exudate.
Diagnosis: Fungal oesophagitis
Comment: Histology showed a dense superficial mass of PAS-positive mycelia. There was virtually no underlying inflammatory reaction. Fungal infection of the oesophagus occurs in immunocompromised patients, the latter being susceptible to a wide range of opportunistic infections. As they are immunocompromised, there is often minimal inflammatory response to the infection. Immunocompromised patients are also at risk of *Herpes simplex* oesophagitis.

CASE 23981
The patient was a man aged 56 who presented with windy lower abdominal pain, slight constipation, and bright bleeding per rectum on one occasion 3 weeks previously. One brother died from cancer of the bowel, a sister died from "thrombosis" at age 37 and the whereabouts of the 2nd brother was unknown. Total colectomy was performed with anastomosis of the ileum to the recto-sigmoid junction. Polypi remaining in the rectum were fulgurated.
The specimen consists of most of the colon. The mucosa is studded with numerous pedunculated and sessile tubular polyps mostly varying in size from 1-6mm. There are a couple of larger polyps, the largest is pedunculated with a head 2cm in diameter.
Diagnosis: Familial adenomatous polyposis syndrome

CASE 23991
The patient was a man aged 49 who presented with urinary symptoms. For 8 weeks there had been frequency, terminal dysuria, severe strangury and fever. For 4 weeks he had passed blood and mucus per rectum, with some pain on defaecation. Cystoscopy showed an ulcerated lesion that was thought to be possibly a primary bladder tumour. Sigmoidoscopy to 23cm was normal, but barium enema showed a tumour in the sigmoid. At operation the tumour was found to be adherent to the bladder. It was resected together with a portion of the bladder.
The specimen consists of 15cm of the colon and a portion of bladder wall. There is a fungating polypoid tumour 5cm in length projecting into the lumen of the colon. The tumour infiltrates the muscularis propria across a wide front to the serosa and extends across into and through the serosa of the bladder into bladder wall, focally to breach the main muscle coat of the bladder. The bladder mucosa is intensely congested and haemorrhagic.
Diagnosis: Carcinoma of the colon invading bladder wall

CASE 24081
No history is available for this surgical specimen.
The specimen consists of a portion of stomach containing a bisected pale tan fleshy tumour 5cm in diameter and 3cm in depth with irregular margins. The tumour protrudes into the lumen and invades into the wall to serosa. The tumour exhibits a large central ulcer crater 2cm in diameter with overhanging edges and lined by haemorrhagic slough.
Diagnosis: Gastric malignancy
Comment: This tumour macroscopically doesn't look like a typical primary carcinoma, though it is still in the differential diagnosis. Other possible diagnoses include lymphoma, gastrointestinal stromal tumour, or even a single metastasis. Histology reportedly showed a type of non-Hodgkin's lymphoma. Primary lymphomas are the second most common tumour of the stomach, following adenocarcinoma. The commonest primary lymphoma of the stomach is Mucosa Associated Lymphoid Tissue (MALT) lymphoma (a type of non-Hodgkin's lymphoma). The main predisposing factor for this is *Helicobacter pylori* infection. Normally in the stomach there is minimal lymphoid tissue, but chronic inflammation occurs with Helicobacter infection and aggregates of lymphocytes form. Proliferating lymphocytes in these may eventually give rise to lymphoma.

CASE 24170
The patient was an alcoholic man aged 49. He had been in hospital 3 years previously with acute alcoholism. Next year he noticed a swelling on his tongue, which biopsy showed to be a squamous cell carcinoma. He was treated by radiotherapy and chemotherapy but the tumour spread around the oropharynx and into adjacent lymph nodes. He died of bronchopneumonia.
The specimen consists of the tongue, pharynx and neck structures. There is a large deeply penetrating ulcerated tumour at the base of the tongue extending into surrounding structures. The margins of the tumour are ill defined. The tumour has infiltrated and destroyed epiglottis, it has expanded the aryepiglottic folds and caused marked narrowing of the entrance to the larynx.
Diagnosis: Carcinoma of the base of tongue and hypopharynx
What histological type of tumour is this likely to be? Squamous cell carcinoma

CASE 24208
The patient was a woman aged 82 who was admitted after a severe haematemesis. The BP was unrecordable but she was readily resuscitated within 24 hours. A barium meal was inconclusive. The next day there was a further massive haematemesis and she died.
The specimen consists of the stomach opened to display a very large benign ulcer measuring 7 x 6cm in the middle of the lesser curvature. The edge is regular and rolled and is overhanging in some places. The floor penetrates the body of the pancreas. A bleeding point with associated blood clot forms a nodule in the upper part of the floor of the ulcer. Small acute mucosal haemorrhages up to 5mm in diameter are scattered on the gastric mucosa around the ulcer.
Diagnosis: Chronic gastric ulcer penetrating pancreas and a vessel

CASE 24538
The patient was a man aged 66 with a 12-year history of severe vascular disease, including two myocardial infarctions, a below-knee amputation of the right leg and a small stroke. His last illness began with the passage of bright blood per rectum and a rectal carcinoma was felt and biopsied. He was admitted for abdomino-perineal resection but had a further myocardial infarction. The planned operation was begun a week later and the carcinoma was found to involve the bladder and the left ureter. The planned resection was therefore abandoned, and a colostomy was performed. He developed a urinary fistula and an abscess in the abdominal wall around the colostomy opening. He died suddenly 3 weeks after the operation.
The specimen includes the rectum, bladder and prostate. There is a pale tumour 8cm in length extensively invading the wall of the rectum and narrowing its lumen. Anteriorly the tumour is beginning to invade the posterior wall of the bladder and posteriorly it invades peri-rectal fat.

Diagnosis: Carcinoma of the rectum
What histological type of tumour is this likely to be? Adenocarcinoma

CASE 24574
The patient was a man aged 77 who presented with a 4-month history of central abdominal pain and loss of 13kg in weight. The abdomen was tender in the right hypochondrium and left loin. X-ray showed sclerosis of the body of T3 consistent with an osteoblastic metastasis, and liver scan showed enlargement with multiple metastatic deposits. A presumptive diagnosis of carcinoma of the pancreas was made and he was discharged. He was readmitted 10 days later with vomiting, abdominal distension and constant lower abdominal pain. There had been a further loss of 9.5kg in weight. No masses were palpable, but x-ray showed lower intestinal obstruction. At laparotomy a mass was noted at the recto-sigmoid junction and a sigmoid colostomy was performed. He died suddenly 4 days later. At post-mortem, metastases were found in the liver, adrenals, mesenteric nodes and the body of T3.
The specimen consists of 17cm of the rectosigmoid. In its centre is a fungating ulcerated circumferential tumour about 5cm in length that has caused marked narrowing of the intestinal lumen. The mucosa above and below the tumour shows intense melanosis coli, but the tumour itself is not pigmented.
Diagnosis: Carcinoma of the colon with melanosis coli
What is melanosis coli and how does it arise? In this condition, numerous macrophages filled with dark lipofuscin-like pigment are present in the lamina propria. This pigment probably derives from overuse of anthracene type laxatives.
What is its clinical significance? It doesn't have any clinical significance, apart from indicating that the person has been using a lot of laxatives and may have a history of constipation.

CASE 24592
This was an incidental finding in a man aged 73 who died of a large undifferentiated carcinoma of the lung with a metastasis in the brain.
The specimen consists of the lower rectum and anal canal, with a row of deeply congested internal haemorrhoids. One of the haemorrhoids is more nodular than the others and is possibly thrombosed.
Diagnosis: Internal haemorrhoids

CASE 24653
The patient was a man aged 72 who fell and fractured the shaft of his left femur. A Steinman pin was inserted and traction applied. He soon developed congestive cardiac failure and died of pneumonia. At post-mortem there were three pedunculated polypoid adenomas 3mm in diameter in the caecum, a small fungating sessile carcinoma 2cm in diameter opposite the ileo-caecal valve, and a larger carcinoma in the centre of the transverse colon. The specimen is of this last tumour.
The specimen comprises 15cm of large bowel. Centrally is a fungating plaque 5cm in diameter with irregular raised thickened edges and central excavation. Direct extension by tumour to serosa can be seen on the reverse of the specimen between the two taeniae coli. A 20 x 6mm sessile tumour is present 4cm above the main tumour, possibly representing an adenoma.
Diagnosis: Carcinoma of the colon
What histological type of tumour is this likely to be? Adenocarcinoma

CASE 24686
This 78-year old woman had been in a country hospital for 2 weeks with abdominal discomfort, anorexia, nausea and vomiting. On transfer to the RAH she was in congestive cardiac failure and the abdomen was distended and tympanitic. Bowel sounds were reported to be normal. Two days later she suddenly became distressed with a fall in blood pressure and loss of consciousness, and she died shortly afterwards. At post-mortem, in addition to the specimen demonstrated, there were emboli in both right and left pulmonary arteries, a pericardial effusion, pleural effusions and ascites.
The specimen comprises a portion of small bowel with its mesentery and a portion of pancreas. Within the mesentery is the superior mesenteric vein which contains a large antemortem thrombus in its main trunk and principal branches. The associated bowel is congested and slightly oedematous.
Diagnosis: Thrombosis of the superior mesenteric vein with incipient venous infarction of the gut
Histology showed an oedematous bowel with intense venous congestion, slight diffuse mucosal haemorrhage and much haemorrhage in the inner muscle coat but not the outer coat.
What risk factors does this patient have for this condition? This patient has had a venous thrombosis. Her main risk factor is congestive cardiac failure. Note that she also had deep venous thromboses (which gave rise to her pulmonary emboli) to which poor mobility due to her age and severe cardiac failure may have contributed.

CASE 24689
The patient was a man aged 72 who was admitted with pain in the upper quadrant together with anorexia and loss of 13kg in weight in 8 weeks. Sigmoidoscopy showed a carcinoma at the recto- sigmoid junction and a defunctioning colostomy was performed. He developed a faecal fistula and died of bronchopneumonia 3 weeks after admission. At post-mortem there was a small secondary in the right lung, but none in the liver or abdominal lymph nodes.
The specimen shows 18cm of the sigmoid colon with proximal rectum. A fungating circumferential pale tumour 3.5cm in length is present. It has markedly narrowed the lumen. Tumour just invades through muscularis propria into mesocolon. No lymph nodes are seen. The mucosa appears slightly pigmented, suggestive of mild melanosis coli.
Diagnosis: Carcinoma of the colon
What histological type of tumour is this likely to be? Adenocarcinoma

CASE 24793
The patient was a man aged 77 who had had asthma for 20 years. On admission he was severely breathless, using accessory muscles of respiration. The fingers were clubbed. He was given bronchodilators and antibiotics but did not respond and died on the 6th day. Incidental findings at post-mortem were several subacute peptic ulcers in the stomach and a chronic ulcer in the first part of the duodenum.
The specimen is of part of the stomach and duodenum. Within the stomach are at least 6 ulcers of variable size and depth. The largest is 1cm in diameter and probably extends through muscularis propria. A few tiny haemorrhages are present in the adjacent mucosa. A deep ulcer 1.5cm in diameter is present in the duodenum. It has penetrated through muscularis propria.
Diagnosis: Acute or subacute gastric and duodenal ulcers
Comment: The number and superficial nature of at least some of the gastric ulcers suggest that they are acute or subacute rather than chronic.
How could the approximate age of the ulcers be more accurately determined? On histological examination. Acute ulcers will show a surrounding neutrophil infiltrate and no scarring. Older ulcers will show variable amounts of scarring.
What risk factor does the patient have for acute gastritis and acute gastric ulceration? Severe acute life threatening illness. This leads to major physiological upset and is thought to cause gastric mucosal ischaemia with secondary acid induced injury. The patient has obviously been very ill for at least 6 days.

CASE 24847
The patient was a man aged 72 with an 8-week history of incomplete bowel obstruction with abdominal pain, distension, constipation, anorexia, and the loss of 19kg in weight. Barium enema showed a carcinoma of the colon near the hepatic flexure. He was admitted for operation but arrived in the theatre almost moribund, with pin-point pupils and no response to pain. The operation was cancelled and he died two hours later.
The specimen shows the terminal 8cm of ileum, the caecum, and the ascending colon. There is a small encircling pale 3cm long napkin-ring tumour in the wall of the ascending colon 10cm above the ileo-caecal valve. It invades through muscularis propria. The tumour has reduced the lumen to a very narrow rigid channel. The caecum and ascending colon proximal to the tumour are markedly dilated.
Diagnosis: Carcinoma of the ascending colon

CASE 25164
The patient was an old woman who presented in private with a mass on the scalp that grew rapidly and was thought to be a secondary deposit. She was too old for further investigation and following death, necropsy was performed to find the primary source. It proved to be a carcinoma in the transverse colon 7cm from the hepatic flexure. There were metastases in regional lymph nodes, the liver and the left frontal bone.
The specimen shows a portion of large bowel containing an ulcerated fungating tumour 5cm in length that has produced a permanent kink in the bowel. The edge of the tumour is serpiginous, thickened and rolled and there is much central excavation with ragged slough in the floor. Tumour invades through muscularis propria. No lymph nodes are seen.
Diagnosis: Carcinoma of the colon
What histological type of tumour is this likely to be? Adenocarcinoma

CASE 25220
No clinical information is available for this surgical specimen of submaxillary salivary gland.
The specimen consists of a portion of salivary gland measuring 4 x 2.5 x 2 cm. A hard pale spiny calculus 2cm in length is wedged in the duct.
Diagnosis: Calculus in the submaxillary gland

CASE 25263
The patient was a man aged 57 known to have chronic lymphocytic leukaemia. He died of lobar pneumonia. Just before death the platelet count fell markedly. The spleen had been removed a year previously. At post-mortem there was generalised lymphadenopathy and leukaemic infiltrates in many organs.
The specimen is the stomach opened to show massive thickening of the rugae on the greater curvature. The intervening mucosa is congested. Numerous greatly enlarged haemorrhagic lymph nodes are present in the omentum.
Diagnosis: Leukaemic infiltration of the stomach

CASE 25340
The patient was a man aged 64 who presented with retention of urine for 4 days, with vomiting. An enlarged prostate was felt per rectum. While in hospital he was found to have a hypochloraemic alkalosis and a haemoglobin of 75g/L. Further questioning elicited a history of 5 years dyspepsia and weight loss of 13kg in the last 18 months. Gastroscopy then showed a very large ulcer crater in the stomach. It was about 10cm in diameter and was actively bleeding. A presumptive diagnosis of gastric carcinoma was made, but biopsy did not confirm this. In spite of treatment he experienced a severe attack of epigastric pain on the 17th hospital day and died. At post-mortem a severe general fibrino-purulent peritonitis was found.
The specimen consists of the stomach and the distal oesophagus. A very large peptic ulcer 10 x 7.5cm covers much of the lesser curvature. Its edge is rounded, smooth and overhanging. The floor is composed of the indurated body and head of the pancreas and adipose tissue. There is a large perforation 2cm in

diameter at one side of the ulcer and there appears to be an eroded thick walled vessel to the right of this. Mucosal folds radiate from the edge of the ulcer. Fibrinous serosal exudate is seen adjacent to the perforation on the posterior aspect of the specimen.
Diagnosis: Perforated chronic gastric ulcer

CASE 25433
The patient was a man aged 72 who was admitted with a 3-day history of cough. He was hypertensive and had been demented for 2 years. There were signs of broncho-pneumonia, but no special symptoms apparently directed attention to the abdomen. He died after 5 days.
The specimen consists of part of the stomach, together with the duodenum and pancreas. There is a perforated ulcer measuring 1.5 x 1cm on the posterior wall of the first part of the duodenum through which a red probe has been passed. Some congestion can be seen in the peripancreatic fat on the reverse side of the specimen
Diagnosis: Perforated chronic duodenal ulcer
What changes were likely to have been seen in the peritoneal cavity at autopsy in this patient? Although not obvious from the specimen, serosal congestion and a fibrino- or fibrinopurulent serosal exudate would be expected (i.e. from acute peritonitis).

CASE 25495
The patient was a girl aged 20 who was admitted with acute undifferentiated leukaemia diagnosed by bone marrow biopsy. During her admission she had several melaena bowel actions and epistaxis, for which she was transfused. Two weeks after admission Pseudomomas was grown from the blood. She died after one month from multiple haemorrhagic lesions, including subarachnoid haemorrhage.
The specimen consists of 18cm of large bowel. Many irregular dark partly confluent mucosal haemorrhages are evident. The mucosa is studded with small foci of exudate covering superficial ulcerations.
Diagnosis: Haemorrhage and ulceration of the colon in acute leukaemia
Comment: Histology reportedly showed small patches of mucosal necrosis with swelling. However, there was only slight infiltration of leukaemic cells into these areas. Without reviewing the histology and further clinical information, the cause is uncertain. Possibilities include an infective cause or neutropenic colitis (rare).
What is the likely underlying cause of this patient's haemorrhages? Thrombocytopenia secondary to leukaemic infiltration of the bone marrow and/or chemotherapy.

CASE 25523
The patient was a woman aged 57 who suffered episodes of painless haematemesis and melaena for the 3 days preceding her admission. There was a long history of alcoholism. The haemoglobin was low and she was transfused. Endoscopy showed prominent oesophageal varices in the lower third. Uncontrollable bleeding continued and she died on the second day.
The specimen consists of the lower oesophagus and upper stomach. Tortuous venous varices are seen in the lower oesophagus and a small bleeding point 1mm in diameter is visible at the cardio-oesophageal junction.
Diagnosis: Ruptured oesophageal varices

CASE 50061/80
The patient was a man aged 71.
The specimen is of the colon. The mucosa is extensively studded by soft raised plaques composed of inflammatory exudate.
Diagnosis: Pseudomembraneous colitis
Comment: This is a typical but severe example of pseudomembraneous colitis. Students would not be expected to make this diagnosis in the absence of any history. Pseudomembraneous colitis may develop

following antibiotic administration in association with *Clostridium difficile* overgrowth and toxin production. Ischaemia and some other infections may produce a similar pattern.

CASE 9763/82

The patient was an adult woman of unknown age who had evidence of small bowel obstruction for 3 days before coming to operation. At operation 120cm of small bowel and attached mesentery were resected.
The specimen consists of a portion of the small bowel which has a striking dark plum colour owing to infarction and interstitial haemorrhage involving all layers. The mesentery likewise is engorged and haemorrhagic.
Diagnosis: Infarction of the small bowel

CASE 15448/82

The patient was a male aged 17.
The specimen is of a total colectomy. The colon has been opened to reveal numerous smooth surfaced rounded mucosal polyps, mostly sessile and measuring less than 5mm in dimension. A larger, 1cm diameter polyp is present at the ileo-caecal valve.
Diagnosis: Familial adenomatous polyposis syndrome
Comment: This specimen is not a gross example as the adenomas may be larger and more numerous. Familial adenomatous polyposis is inherited as an autosomal dominant disease and patients who are affected almost inevitably develop carcinoma of the large bowel if left untreated.

CASE 15843/82

The patient was a woman aged 71 who had a carcinoma of the colon resected three months previously.
The specimen consists of a portion of small bowel that is plum-coloured from haemorrhagic infarction. The serosa is dull and not shiny and there is patchy adherent fibrin on the surface. The wall is swollen and the mucosa necrotic and beginning to slough.
Diagnosis: Infarction of the small bowel
Comment: Histology showed transmural necrosis of the wall including muscularis propria, confirming that this segment was not viable. The mucosal swelling seen here gives a characteristic appearance on x-ray.
Explain the potential relationship between the pathology demonstrated and the abdominal surgery 3 months previously. Fibrinous serosal inflammation developing following surgical trauma heals by organisation and scarring leading to the formation of fine fibrous bands between loops of bowel. The loop of small bowel may have undergone torsion around a fibrous adhesion leading to strangulation with impairment of the venous drainage and venous infarction.
What clinical symptoms would you expect in a patient with this pathology? **This patient could be expected to have symptoms of intestinal obstruction i.e. colicky abdominal pain, probably with nausea and vomiting. There may be bloody diarrhoea.**

CASE 50249/82

The patient was a woman aged 64.
The specimen consists of a length of large bowel (sigmoid) which is severely affected by diverticular disease. The diverticula form a series of sacs alongside the taeniae coli. One has been opened to show that the diverticulum is lined by mucosa and has a very thin wall, lacking the normal muscle coat.
Diagnosis: Diverticulosis of the colon

CASE 10347/83

The patient was a man aged 45.
The specimen consists of loops of terminal ileum with attached caecum and appendix. The wall of the ileum is thickened, the lumen narrowed and the serosa markedly congested and haemorrhagic. Mesenteric fat creeps around the outside of the bowel wall. The mucosa is flattened and demonstrates a few small areas of ulceration. Normal ileum is present proximally. An enlarged reactive lymph node is noted in the mesenteric fat on the posterior aspect of the specimen.

Diagnosis: Crohn's disease
What histological features would be expected in a section from the affected small bowel? There would be transmural chronic inflammatory infiltrate with lymphoid aggregates and germinal centres. Scattered non-necrotising granulomas are likely to be seen. There is likely to be oedema of the wall with dilated blood vessels and also areas of haemorrhage in the serosa. The mucosa would also demonstrate chronic inflammation with scattered areas of ulceration and neutrophil infiltration.

CASE 15172/83
The patient was a man aged 45.
The specimen consists of loops of terminal ileum with attached caecum and appendix. The small bowel loops are densely adherent, joined by fibrous adhesions. The bowel wall is thickened, the lumen narrowed and the mucosa flattened with patchy ulceration. Mesenteric fat creeps around the outside of the bowel wall and there are a few areas of haemorrhage in the serosa. Normal ileum is present proximally. Several enlarged reactive lymph nodes are noted in the mesenteric fat on the posterior aspect of the specimen.
Diagnosis: Crohn's disease
What histological features would be expected in a section from the affected small bowel? There would be transmural chronic inflammatory infiltrate with lymphoid aggregates and germinal centres. Scattered non-necrotising granulomas are likely to be seen. There is likely to be oedema of the wall with dilated blood vessels and also areas of haemorrhage in the serosa. The mucosa would also demonstrate chronic inflammation with scattered areas of ulceration and neutrophil infiltration.

CASE 50053/83
The patient was a woman aged 49.
The specimen is distal stomach and duodenum. A large 4.5 x 2.5cm ulcer with pancreas and blood clot in its base is situated in the first part of the duodenum. The ulcer edges are smooth and overhanging. Several shallow erosions are present in the duodenum away from the main ulcer.
Diagnosis: Bleeding chronic duodenal ulcer with penetration of the pancreas

CASE 50135/83
The specimen consists of a segment of colon (sigmoid). It has been opened to reveal numerous large diverticula. The walls of the diverticula are thin and contain no muscularis propria. Between the diverticula the muscularis propria is thickened.
Diagnosis: Colonic diverticulosis
Comment: Diverticula emerge at points of weakness in the muscle wall where feeding arteries penetrate the muscle coat to supply the submucosa and mucosa.

CASE 50183/83 A
The patient was a man aged 56. He had massive iron overload affecting many organs, possibly related to hereditary hemochromatosis or to his alcohol related cirrhosis, including the liver, pancreas and endocrine organs amongst others.
The specimen consists of the terminal oesophagus, the stomach and proximal duodenum. The stomach has a patchy pale brownish colour due to accumulated iron within the mucosa. The oesophagus appears congested and its mucosa somewhat eroded.
Diagnosis: Hemochromatosis of the stomach

CASE 50343/83 B
The patient was a woman aged 74.
The specimen consists of a length of colon. The mucosal surface is extensively covered by adherent yellow coloured slough composed of mucosal debris and inflammatory exudate. In some places the slough is confluent but in others it forms tiny raised patches.
Diagnosis: Pseudomembraneous colitis

Comment: Students would not be expected to make this diagnosis in the absence of any history. Pseudomembraneous colitis may develop following antibiotic administration in association with *Clostridium difficile* overgrowth and toxin production. Ischaemia and some other infections may produce a similar pattern.

CASE 6878/84
The patient was a young boy aged 11.
The specimen consists of a length of small bowel that is dusky in appearance and swollen. Portions of the bowel have been sectioned to show what appear to be 3 layers of bowel wall telescoped one inside the other. The enclosed bowel is deeply haemorrhagic.
Diagnosis: Intussusception with infarction of the small bowel
What is intussusception and what causes it? Intussusception is the invagination of a length of bowel into the lumen of the bowel adjacent, usually distal, to it. In children no cause for intussusception may be identified, but in adults the condition tends to develop because a tumour mass prolapses down the lumen and is dragged along by peristalsis.

CASE 11991/84
The patient was a woman aged 26.
The specimen consists of the terminal ileum, appendix, caecum and some ascending colon. Much of the mucosal surface of the colon is grossly abnormal, being covered by polypoid tags of mucosa. Intervening patchy small congested areas of ulceration are present.
Diagnosis: Pseudopolyps in colitis
Comment: The polyps present are the so-called pseudopolyps that typically develop in cases of ulcerative colitis as a result of mucosal hyperplasia.

CASE 13120/84
The patient was a man aged 67.
The specimen consists of a segment of colon (sigmoid). In the mesocolon adjacent to the bowel are 2 flattened spaces several cm in length, one containing pus and the other haemorrhagic debris. Their borders are congested and fibrotic. The muscularis propria appears hypertrophied.
Diagnosis: Paracolonic abscesses
Comment: Each of these abscesses is the direct result of diverticulitis, although diverticula are not clearly demonstrated.

CASE 14380/84
The patient was a man aged 53.
The specimen is of a short length of large bowel. Protruding into the lumen is a tumour 4cm long and 1cm high with a fine papillary architecture. There are no apparent areas of more solid tumour or invasion.
Diagnosis: Villous adenoma
Why do such lesions have the potential to become malignant? They are dysplastic in nature.
Comment: Adenomas of the large bowel have greater malignant potential if they have a papillary or villous configuration and are over 2cm in diameter.

CASE 15113/84
The patient was a woman aged 64. The specimen was removed at surgery.
The specimen consists of the gall bladder, bile ducts and duodenum. The cystic and common bile ducts have been opened longitudinally. The pancreas has been removed. An irregular ulcerated tumour mass approximately 4cm in diameter is seen in the region of the ampulla at the end of the common bile duct. It protrudes into the duodenal lumen. The ampulla itself has been destroyed by the tumour mass.
Diagnosis: Carcinoma of the ampulla of Vater

With what symptoms and signs may this patient have presented? Jaundice, pale faeces and dark urine, a palpable painless gall bladder, possibly indigestion, nausea and vomiting from duodenal obstruction, possibly weight loss and lassitude. Ampullary carcinomas can also cause symptoms and signs associated with acute pancreatitis.
Comment: The tumour had caused bile duct obstruction and the patient has been treated by performing a Whipple's procedure.

CASE 16065/84
The patient was a man aged 77.
The specimen is of a length of large bowel (rectum) which bears an 8cm diameter and 1.5cm high irregular lesion protruding from the mucosa into the lumen. Its surface is covered in fine finger-like projections. There is no evidence of more solid areas of tumour. The tumour is mostly polypoid but the adjacent mucosa also demonstrates a papillary surface.
Diagnosis: Villous adenoma
Why do such lesions have the potential to become malignant? They are dysplastic in nature.
Comment: Adenomas of the large bowel have greater malignant potential if they have a papillary or villous configuration and are over 2cm in diameter. Histological examination of this specimen revealed an area of invasive adenocarcinoma arising within it. The actual site of the adenocarcinoma has been sectioned and so removed and is not apparent in the specimen.

CASE 18720/84
The patient was a young woman aged 18.
The specimen consists of the terminal ileum and caecum. The appendix is not identifiable. The terminal 20cm of the ileum are grossly abnormal. The mucosa has a cobblestone pattern with intervening areas of ulceration. The wall is thickened and the mesenteric fat is tending to creep around the outside of the bowel. The lumen of the diseased segment is somewhat narrowed.
Diagnosis: Crohn's disease

CASE 19291/84
The patient was a man aged 57 with a bowel obstruction. The specimen was removed at operation.
The specimen of large bowel shows marked dilatation of an isolated segment.
Diagnosis: Sigmoid volvulus
Comment: Volvulus is characterised by twisting of a loop of bowel around its mesentery. This produces obstruction and infarction in the isolated segment.

CASE 50332/84
The patient was a man aged 83.
The specimen consists of the terminal oesophagus with much of the stomach that has been opened. There are numerous tiny black lesions up to 4mm in diameter scattered over part of the mucosa of the greater curvature.
Diagnosis: Acute gastric erosions
Comment: Each of these dark lesions is an erosion (very superficial ulcers involving only the mucosa). The discolouration is caused by altered blood. Erosions may develop quite rapidly in the setting of acute gastritis, sometimes following Aspirin ingestion or in post-operative and severely debilitated patients. They may cause severe haemorrhage but can recover quickly and do not leave scars.

CASE 995/85
The patient was a young woman aged 19. The specimen is a colectomy specimen.
The specimen consists of the anus, rectum and most of the colon. The caecum and distal ileum have been removed. The distal five-sixths of the specimen are grossly abnormal. The mucosa is red, granular and extensively ulcerated. The wall is not thickened.
Diagnosis: Ulcerative colitis
Comment: The disease is typical in that it is diffuse and mucosal and involves the rectum and extends proximally in continuity. It is slightly unusual in that the proximal margin of disease appears to end somewhat abruptly.

CASE 15914/85
The patient was a man aged 23 who had a history of abdominal surgery some years previously.
The specimen consists of a short segment of small intestine from which a deeply discoloured diverticulum arises. The mucosa of the diverticulum is flattened, granular and friable. The serosa is covered by pale wispy fibrin. There is a sharp demarcation between the deeply congested diverticulum and the adjacent bowel.
Diagnosis: Infarcted Meckel's diverticulum
Explain the potential relationship between the infarction and the previous abdominal surgery.
Fibrinous serosal inflammation developing following surgical trauma healed by organisation and scarring leading to the formation of fine fibrous bands between loops of bowel. The diverticulum then underwent torsion around a fibrous adhesion leading to strangulation with impairment of the venous drainage and venous infarction.

CASE 16525/85
The patient was a woman aged 65. The specimen is of duodenum.
The specimen consists of a length of small bowel. Within the wall is a tumour invading through its thickness into mesentery. The surface of the tumour in the bowel lumen is finely nodular. The cut surface of the tumour is part grey and translucent and part yellow.
Diagnosis: Mucinous adenocarcinoma of the small bowel
Comment: Primary carcinomas of the small bowel are uncommon and consideration should be given as to whether the lesion could be a metastasis from elsewhere. The translucency seen macroscopically suggests that there is abundant mucin in the lesion. This was confirmed histologically. These tumours producing abundant mucin are known as mucinous or colloid adenocarcinomas. They are one of the less common types of primary adenocarcinoma arising in the bowel, including large bowel. Another type is the signet ring adenocarcinoma. The usual type of adenocarcinoma of the small and large bowel forms glands but produces little mucin. The diagnosis of mucinous adenocarcinoma can be suggested from the macroscopic appearance. Macroscopically it is difficult to ascertain that this specimen is of small bowel.

CASE 4119/86
The patient was a man aged 54.
The specimen consists of the terminal ileum, caecum, appendix and ascending colon. There is an annular ulcerated fungating pale tumour 4cm in length a little above the ileo-caecal valve. The lesion has infiltrated through the full thickness of the wall into mesocolonic fat and caused characteristic dimpling and distortion of the overlying serosa. Enlarged pale lymph nodes suggestive of metastases are seen in the mesocolon at the back of the specimen.
Diagnosis: Carcinoma of the colon

CASE 18300/87
The patient was a man aged 45.
The specimen consists of an opened appendix with attached mesoappendix. A faecolith is present within the lumen. The mucosa appears necrotic and the wall and part of the mesoappendix are congested. Patchy fibrinous exudate is present on the serosal surface
Diagnosis: Acute appendicitis

CASE 2803/88
The patient was a young man aged 18.
The specimen consists of the proximal part of an appendix. A forceps crush marks the proximal end where it was removed from the caecum. Towards the distal end the appendix is markedly congested and there is fibrinous serosal exudate.
Diagnosis: Acute appendicitis

CASE 2804/88
The patient was a woman aged 90.
The specimen consists of the colon (sigmoid). There is a segment in which the wall is thickened, the mucosa ulcerated, congested and nodular and the lumen narrowed. The serosa shows fibrin deposition and marked congestion is present.
Comment: These changes occurred at the site of a previous resection for carcinoma and histology confirmed ischaemia in the region of the anastomosis as the cause. On macroscopic appearance alone the possibility of Crohn's disease would have to be considered as the colitis is segmental and transmural.

CASE 2818/88
The patient was a man aged 67. The patient presented with large bowel obstruction and required decompression colostomy before definitive operation.
The specimen consists of a portion of colon showing an annular carcinoma 3cm in length which is undergoing intussusception. The tumour is forming the head of the intussuscepting segment.
Diagnosis: Carcinoma of the colon causing intussusception

CASE 3289/88
The patient was a woman aged 23. She was in her first attack but medical treatment alone failed to control the colitis. Her general condition deteriorated rapidly and she required urgent colectomy.
The specimen consists of the terminal ileum, caecum, appendix and much of the colon. The colon is severely diseased with only the proximal segment being spared. The mucosa is congested, granular and extensively ulcerated. The wall is not thickened.
Diagnosis: Severe acute colitis, probably ulcerative colitis
Comment: This is probably more likely to be ulcerative colitis rather than Crohn's disease as although the ulceration appears relatively deep it is not fissuring and the wall is not thickened. The cause of colitis can sometimes be difficult to determine even histologically as ulceration into submucosa may occur in ulcerative colitis causing transmural inflammation that mimics Crohn's disease. These cases are thus classified initially as colitis indeterminate but over a period with clinical follow-up, further biopsies and radiology, a definite diagnosis may be established.

CASE 8694/88
The patient was a woman aged 59.
The specimen consists of a length of small bowel with a Meckel's diverticulum that has been turned inside out so that it appears as an elongated polyp. There is a 1cm diameter ulcer near what was the fundus of the diverticulum.
Diagnosis: Meckel's diverticulum with peptic ulceration.
What is a Meckel's diverticulum and how does peptic ulceration arise within one? Meckel's diverticula are congenital diverticula of the ileum arising from persistence of the embryonic vitello-intestinal duct, a structure that connects the lumen of the developing gut to the yolk sac. Some contain heterotopic rests of gastric or pancreatic epithelium. The gastric epithelium can secrete acid and pepsin leading to peptic ulceration. The ulcer may bleed or perforate.

CASE 4391/89
The patient was a woman aged 75 who presented with obstructive jaundice. The specimen was taken at surgery.
The specimen consists of a short segment of duodenum with the common bile duct and underlying pancreas. The ampulla has been destroyed by an exophytic pale tumour 3cm in diameter which blocks the end of the common bile duct and protrudes into the duodenal lumen.
Diagnosis: Carcinoma of the ampulla of Vater

CASE 24175/92
The specimen consists of terminal ileum, caecum, appendix and adjacent ascending colon. The appendix is much dilated and filled with mucus and its wall is thin.
Diagnosis: Mucocele of the appendix
Comment: Mucocele of the appendix may result from obstruction of the lumen with accumulation of mucin secreted from the normal mucosa or, alternatively, it may be caused by a mucosal tumour, either adenoma or adenocarcinoma, when the tumour secretes excessive amounts of mucus causing distension. In this case no residual epithelium was apparent in the sections taken of the mucocoele lining, but no frank obstruction was identified. This suggests that the mucocele has developed on the basis of an adenoma of the appendix, but that with attenuation and inflammation the adenomatous mucosa has been destroyed in the area sectioned.

CASE M90156/92
The patient was a young boy aged 12.
The specimen consists of the appendix and mesoappendix that are congested and the surface is covered by whisps of fibrin. The mucosa appears necrotic.
Diagnosis: Acute appendicitis
Comment: On histology there was mucosal ulceration and transmural acute inflammation with fibrinous serositis.

CASE 90161/M92
The patient was a young boy aged 14.
The specimen consists of the appendix. The distal end is mildly swollen, congested and covered in fibrin.
Diagnosis: Acute appendicitis

CASE 2422/94
The specimen is of colon. Within the lumen is a circumferential tumour with a necrotic surface. The tumour forms the head of an intussusception.
Diagnosis: Carcinoma of the colon with intussusception