

BREAST

MAIN CATALOGUE

COMMONWEALTH OF AUSTRALIA

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CASE 90

No clinical history is available.

Describe the specimen. The specimen consists of a slice of breast tissue with no attached skin. The normal fatty tissue has been replaced by dense white fibrous tissue. Towards one side there is a collection of simple cysts varying in size up to 2cm in diameter. The cysts have a smooth lining.

What is the diagnosis? Fibrocystic change

CASE 127

No clinical information is available.

Describe the specimen. The specimen consists of breast with a fungating polypoid tumour 3.5cm in diameter arising from and replacing the nipple. The surface of the tumour is composed of many irregular fronds with some superficial crusting. The cut surface is fleshy.

What is the diagnosis? Carcinoma of the nipple

CASE 2398

No clinical information is available.

Describe the specimen. The specimen consists of a portion of breast tissue with attached skin including nipple. On cross section there is a large rounded tumour 7cm in diameter with a pale whorled cut surface. The tumour is clearly demarcated from the surrounding tissue and although there are a few cystic areas there is no evidence of haemorrhage or necrosis.

What is the diagnosis? Fibroadenoma

Comment: The histological diagnosis of this tumour was reportedly fibroadenoma. However, this example is larger than the average fibroadenoma. The main differential macroscopically is phyllodes tumour (see specimen 16199).

CASE 3890

The patient presented with a discharge from the nipple.

Describe the specimen. The specimen shows a portion of the breast including the nipple and surrounding skin. The lactiferous ducts have been opened and in one of them about 2cm from the nipple is a small brown pedunculated papillary tumour 8mm in diameter.

What is the diagnosis? Intraduct papilloma

Comment: These are benign papillary lesions that tend to occur in the large breast ducts and present with a nipple discharge that is often blood stained.

CASE 3991

No clinical information is available.

Describe the specimen. The specimen consists of the breast with overlying skin, which has been sectioned through the nipple. The nipple is retracted and the skin is irregularly thickened and its surface variably nodular over a large area. On the cross section, the normal fatty tissue of the breast has been locally infiltrated by a pale, fibrous and irregular tumour that extends to involve the nipple. Although there is no evidence of haemorrhage or necrosis within the tumour, its infiltrating pattern is diagnostic of its malignant nature.

What is the diagnosis? Carcinoma of the breast with *peau d'orange*

Comment: Note how difficult it is to assess the size of the tumour macroscopically. Small groups of tumour cells can infiltrate widely. A microscopic measurement is much more accurate.

CASE 4193

No clinical information is available.

Describe the specimen. The specimen consists of the breast sectioned through the plane of the nipple. Beneath the nipple is an ill-defined pale schirrous tumour infiltrating the normal fatty tissue of the breast. The tumour is invading into the nipple causing retraction.

What is the diagnosis? Carcinoma of the breast

Comment: Note how difficult it is to assess the size of the tumour macroscopically. Small groups of tumour cells can infiltrate widely. A microscopic measurement is much more accurate.

CASE 4194

The only information available is that trauma to the breast brought an underlying lump to attention.

Describe the specimen. The specimen shows a portion of breast containing a large rounded well-circumscribed tumour 12cm in diameter. The cut surface of the tumour is heterogenous with many areas of necrosis and a few haemorrhages. At one point the tumour involves the overlying skin and there is a large irregular ulcer 3cm in diameter.

What is the diagnosis? Malignant tumour of the breast

Comment: This tumour appears quite different from the pale infiltrative pattern of a typical carcinoma. In some areas it appears extremely well circumscribed but the areas of haemorrhage and necrosis are against a diagnosis of a benign tumour. The appearances are suggestive of a medullary carcinoma of the breast. Histology would be required to make the definitive diagnosis.

CASE 4205

No clinical information is available.

Describe the specimen. The specimen consists of a slice of breast with overlying skin including the nipple. There is a cauliflower-like enlargement of the nipple producing a mass 3cm in diameter and 1cm high. Pale tumour expanding the nipple is in continuity with a lesion 4.5cm in diameter in the underlying breast that is pale and fleshy with focally irregular margins, but no evidence of haemorrhage or necrosis. The underlying pectoralis muscle appears normal.

What is the diagnosis? Carcinoma of the breast involving the nipple

CASE 4685

No clinical information is available.

Describe the specimen. The specimen consists of a breast. The nipple is small and nodular and the surrounding skin is pale and unusually smooth. Breast tissue has been cut from around an ill-defined fibrous tumour beneath the nipple (seen from back of specimen).

What is the diagnosis? Carcinoma of the breast involving the nipple

CASE 8628A and B

No clinical information is available. The specimens are from both breasts of the same patient.

Describe the specimens.

Specimen A consists of a slice of breast tissue with overlying skin and a separate portion of vertebral column. Within the breast tissue and invading overlying skin is a mass at least 8.5cm in length with well-demarcated (but not encapsulated) margins. The cut surface of the mass is lobulated with areas of fleshy tumour and patchy fibrosis. The vertebral column shows several small areas of pale tumour replacing cancellous bone.

Specimen B consists of a slice of tissue from the other breast that contains a rounded focally encapsulated nodule 2.5cm in diameter. The cut surface is granular with some haemorrhage and degeneration at the lower pole.

What is the diagnosis?

A: Carcinoma of the breast with bony metastases

B: Fat necrosis of the breast

CASE 9089

This is a surgical specimen for which no clinical information is available.

Describe the specimen. The specimen consists of a slice of breast tissue with overlying skin. Just below the nipple there is a pale, stellate scirrhous tumour with irregular margins infiltrating the fatty tissue of the normal breast. The nipple is retracted.

What is the diagnosis? Carcinoma of the breast

Comment: Note how difficult it is to assess the size of the tumour macroscopically. The stellate and scirrhous nature of the lesion suggests that it is probably a ductal carcinoma.

CASE 9292

The patient was a woman aged 48. For 20 years she had had "chronic interstitial mastitis" and on 4 occasions lumps had been removed for biopsy. Both breasts were involved and each was removed by simple mastectomy, leaving the nipple and a small nodule of breast tissue.

Describe the specimen. The specimen shows the two breasts bisected. Each contains many cysts with smooth linings varying in size up to 4cm in diameter that are embedded in dense fibrous tissue. The upper specimen shows two small areas of haemorrhagic fat necrosis, each about 5mm in diameter.

What is the diagnosis? Fibrocystic change with focal fat necrosis

CASE 9500

No clinical information is available.

Describe the specimen. The specimen consists of a piece of breast tissue with no skin attached. The cut surface shows several large cysts with smooth shiny linings embedded in firm fibrous tissue interlaced by adipose tissue.

What is the diagnosis? Fibrocystic change

CASE 10494

The patient was a woman aged 66. A carcinoma had been discovered in the right breast 9 months previously and was treated by radiotherapy. Later the left breast was also involved by tumour, a right pleural effusion developed and there was bilateral thrombosis of the femoral veins. Androgens and oestrogens were given. She died rather suddenly and at post mortem there were metastases in the right pleural cavity, the lumbar vertebrae and the para-aortic nodes.

Describe the specimen. The specimen consists of the right breast. The nipple is deeply retracted and the surrounding skin is abnormally smooth and thickened, with an irregular margin. Above this is a separate deep ulcer 4x2cm. The reverse of the specimen shows an irregular pale brown tumour extensively invading the normal breast tissue.

What is the diagnosis? Carcinoma of the breast invading the overlying skin

CASE 11299

No clinical information is available.

Describe the specimen. The specimen consists of a slice of breast with overlying skin. There is a sharply defined 3.5x2cm oval lesion within the lower half that is crisscrossed by delicate septa and appears to be filled with mucin. The breast tissue beneath the nipple is unusually fibrous.

What is the diagnosis? Mucinous carcinoma of the breast

Comment: This is an uncommon variant of breast carcinoma, associated with a better prognosis than ductal carcinoma. The malignant cells make abundant mucin that surrounds them.

CASE 13152

No clinical information is available.

Describe the specimen. The specimen consists of a slice of breast together with overlying skin and underlying pectoral muscle as well as a separate group of axillary lymph nodes. Within the breast is a large pale irregular infiltrating tumour mass approximately 6.5cm in maximum diameter. Nodules of tumour are also seen within the underlying muscle. The axillary nodes are enlarged and pale.

What is the diagnosis? Carcinoma of the breast with involvement of the pectoral muscle and lymph node metastases

CASE 16199

The patient was a woman aged 44. A lump in the left breast had increased rapidly in size over 4 months until it occupied the whole breast. There was no pain. The overlying skin was adherent and the nipple was retracted. A simple mastectomy was performed.

Describe the specimen. The specimen shows a breast containing a roughly spherical tumour, approximately 12cm in diameter and clearly demarcated from the surrounding breast tissue. The cut surface is pale and lobulated and there are a few areas of cystic change. The retracted nipple can be seen on the right. The skin is not obviously invaded. There is no evidence of haemorrhage or necrosis within the tumour.

What is the diagnosis? Phyllodes tumour

Comment: Histologically this was a Phyllodes tumour. Macroscopically the diagnosis is not easy to make. It does not look like a typical breast carcinoma, however, it does look like a large fibroadenoma, being well circumscribed, firm with a whorled cut surface, to which it also has similarities microscopically. Phyllodes tumours are also composed of both epithelial and stromal elements, however, unlike in fibroadenomas, the stromal component in a Phyllodes tumour is more cellular and may show variable atypia. Clinically they are mostly seen in women over 40 years of age (later than fibroadenoma). Most behave in a benign fashion though there is a tendency for local recurrence. The few with more obvious malignant histological features may metastasise.

CASE 16882

The patient was a young woman aged 19 who developed a mobile lump in the left breast. The lesion was excised.

Describe the specimen. The specimen shows part of an oval tumour that measures 4.5cm in maximum diameter. The cut surface is pale, firm and somewhat lobulated. The reverse of the specimen shows it to have a smooth surface. There is little surrounding breast tissue.

What is the diagnosis? Fibroadenoma

CASE 18084

The patient was a girl of 17 who developed a mobile lump in the breast, which was excised.

Describe the specimen. The specimen comprises a portion of breast tissue in which there is a homogenous, pale tan, well-circumscribed, oval mass 2cm in maximum dimension. The tumour is surrounded by dense fibrous tissue.

What is the diagnosis? Fibroadenoma

Comment: The fibroadenoma is the oval tan mass. For some reason it is surrounded by dense fibrous tissue.

CASE 18231

The patient was a man aged 76 who collapsed and died soon after the repair of a ruptured iliac aneurysm. He had been receiving stilboestrol (oestrogen) for carcinoma of the prostate.

Describe the specimen. The specimen shows a section of breast with overlying skin including the nipple. Beneath the nipple is a diffuse area of pale, firm, rubbery and slightly lobulated breast tissue.

What is the diagnosis? Gynaecomastia

What are the causes of gynaecomastia? Gynaecomastia generally arises as a result of imbalances between oestrogenic and androgenic hormones in the male, with relative oestrogen excess. This may occur at puberty, in cirrhosis, in Klinefelter's syndrome, with taking exogenous oestrogens or with oestrogen producing testicular or adrenal tumours. Other causes include prolactin excess from pituitary adenomas and certain drugs including spironolactone, chlorpromazine and digitalis. Many cases have no identifiable cause.

Does carcinoma of the breast occur in men? Yes, but it accounts for only 1% of all breast cancers. Lesions tend to be more locally advanced at the time of diagnosis than in women, presumably related to the lesser amount of breast tissue and closeness of the lesion to chest wall and skin.

CASE 19578

The patient was a woman aged 65. Seven years previously she had been given radiotherapy for an adenocarcinoma of the cervix. A pelvic recurrence developed 5 years later, but hormone treatment produced some symptomatic improvement.

A year later a tumour was noted in the right breast and lesions were also found in the cervical, lumbar and thoracic spine and the humerus. On her last admission there was a mass in the right iliac fossa, the liver was palpable 2 fingers below the costal margin and there was a vesico-vaginal fistula. She died a few days later from renal failure secondary to ureteric obstruction caused by recurrent adenocarcinoma of the cervix in the pelvis.

Describe the specimen. The specimen consists of a portion of breast tissue with overlying skin sectioned through the nipple. Within the normal fatty breast tissue is a pale stellate scirrhous tumour. The nipple is markedly retracted by the tumour beneath it and there is thickening of the overlying skin.

What is the diagnosis? Carcinoma of the breast with nipple retraction and possible skin invasion.

Comment: Note how difficult it is to assess the size of the tumour macroscopically. Small groups of tumour cells can infiltrate widely. A microscopic measurement is much more accurate. The stellate and scirrhous nature of the lesion suggests that it is probably a ductal carcinoma.

CASE 19657

The patient was a woman aged 73 who presented at the Outpatient Department with a lump in the breast for 6 weeks. Examination showed a hard irregular lump beneath a retracted nipple. The mass was attached to the skin and to the pectoral fascia. No axillary nodes were palpable. She was admitted to hospital for operation but died suddenly on the 2nd day from myocardial infarction.

Describe the specimen. The specimen consists of a slice of breast with overlying skin and underlying muscle. Deep to the retracted nipple is a pale fibrous tumour, approximately 3.5cm in maximum diameter, with irregular margins and containing pale streaks. Tumour extends very close macroscopically to the underlying muscle.

What is the diagnosis? Carcinoma of the breast

Comment: The stellate and scirrhous nature of the lesion suggests that it is probably a ductal carcinoma. Note how difficult it is to assess the size of the tumour macroscopically.

CASE 20631

The patient was a woman aged 83 who was admitted to hospital after the discovery of a lump in the left breast. The nipple was retracted but there was no fixation of the lump to the underlying tissues. She was discharged without local treatment but was readmitted 3 months later with a fracture of the neck of the femur after a fall. This was plated and she was transferred to the Northfield wards where she remained for some weeks somewhat disorientated, until she died suddenly from pulmonary embolism.

Describe the specimen. The specimen consists of a portion of breast tissue with overlying skin. There is a 2cm mass in the fatty breast tissue that is pale and fibrous with irregular margins. It demonstrates elongated white flecks on its cut surface. Although the nipple does not appear to be directly involved, it appears retracted.

What is the diagnosis? Carcinoma of the breast

Comment: The stellate and schirrous nature of the lesion suggests that it is probably a ductal carcinoma.

CASE 21036

The patient was a woman aged 75 who presented with painful enlargement of the right breast for 2 months and a non-productive cough for 2 weeks. On examination, there were crepitations at the right lung base, the abdomen was distended, the liver was palpable 10cm below the right costal margin and the spleen was palpable 12cm below the left costal margin. Chest x-ray confirmed right pleural effusion. A right pleural tap yielded bloodstained fluid. She was found to be diabetic but the disease was inadequately controlled by oral hypoglycaemic drugs. She continued febrile and died after a week in hospital.

Describe the specimen. The specimen consists of the right breast. Deep in the breast is a 15x10cm cavity that would have been filled with pus, lined with shaggy pale exudate and probably also patchy areas of fibrosis.

What is the diagnosis? Abscess

Comment: At post-mortem there was a large empyema containing 2.5 litres of green creamy pus. The empyema communicated through the chest wall with the large abscess behind the right breast.

CASE 21059

A woman aged 70 with a past history of carcinoma of the right breast treated by mastectomy, was admitted to hospital with a fracture of the shaft of the right femur. X-ray showed metastases in the femoral shaft. There was also a large fungating malignant ulcer in the scar of the right mastectomy. She was treated but deteriorated rapidly and died in 3 days.

Describe the specimen. The specimen shows the skin from the region of the previous mastectomy with underlying fat and muscle. Over an area of approximately 11x8cm the skin is irregular and ulcerated. The margins of the ulcer are thickened and rolled. Nodular elevations of non-ulcerated skin are noted above the ulcer. An area of pale tumour is seen in the subcutaneous fat from the right hand side of the pot.

What is the diagnosis? Recurrent carcinoma of the breast

CASE 21253

The patient was woman aged 71 who died from a massive myocardial infarction. The lesion was an incidental finding at post mortem.

Describe the specimen. The specimen consists of a portion of breast tissue with overlying skin sectioned through the nipple. Deep to and inferior to the retracted nipple is an elongated tumour 5cm in maximum diameter. The tumour is pale and fibrous, with scattered white flecks within it, but no haemorrhage or necrosis. The margins are irregular but it does not appear to have extended to involve the underlying pectoral muscle.

What is the diagnosis? Carcinoma of the breast

Comment: This lesion is schirrous and vaguely stellate suggesting that it is probably a ductal carcinoma.

CASE 21523

The patient was an obese woman aged 71 who died of acute renal failure consequent to renal papillary necrosis. The left breast was greatly enlarged.

Describe the specimen. The specimen is of the breast sectioned to show a large rounded tumour 17cm in maximum diameter. The tumour has a thin fibrous capsule and the cut surface demonstrates uniform mature adipose tissue. At one side of the tumour within its substance is a 3cm encapsulated oval lesion containing yellowish granular material. A similar smaller area is present on the other side of the lesion.

What is the diagnosis? Lipoma of the breast with focal fat necrosis

CASE 22453

The patient was a woman aged 74 who died of congestive cardiac failure. A lump had been present in the right breast for some years. No nodes were palpable in the axilla or supraclavicular region.

Describe the specimen. The specimen consists of the breast with the overlying skin, sectioned through the nipple. In the breast tissue is a pale schirrous tumour 4.5cm in diameter with irregular margins lying deep to the retracted nipple. A mass of yellow-brown inspissated secretion is visible in a large dilated duct beneath the nipple. There is some superficial crusting of the areola.

What is the diagnosis? Carcinoma of the breast

CASE 22836

The patient was a woman aged 51 who presented with tenderness and firmness of the right breast for a year. She had also noticed that the breasts were of a different shape when she bent forward. The right breast had become progressively larger and two weeks before admission she became breathless on exertion and developed a cough.

X-ray showed right pleural effusion with metastases in the lumbar spine and in the upper ends of both femurs. Bilateral oophorectomy was performed but she died suddenly two days later.

Describe the specimen. The specimen consists of the right breast in continuity with the pectoral muscle, ribs and underlying lung. The skin over the breast appears thickened and irregular and the nipple slightly crusted. Deep to and involving the nipple is a large, pale fibrous tumour with irregular margins. There is no haemorrhage or necrosis. Tumour invades down to and into the pectoral muscles and through into the pleural cavity. Almost the entire pleural cavity is filled with a thick pale layer of tumour.

What is the diagnosis? Carcinoma of the breast with extensive local invasion

CASE 22912

The patient was a woman aged 80 who died from congestive cardiac failure with terminal pulmonary embolism. On admission it was noted that her right nipple was reddened and eczematous, but she could not say for how long this condition had been present. No mass was felt in the breast on examination.

Describe the specimen. The specimen consists of a breast viewed from the front. The nipple is flattened, widened and darker than normal. The areola and surrounding skin are also discoloured and crusted.

What is the diagnosis? Paget's disease of the nipple

Comment: This is a condition where an underlying ductal carcinoma in situ (with or without invasive carcinoma) infiltrates along the ducts to the nipple, where the cells invade along the epidermis, resulting in an eczema like rash. As a result biopsies should always be taken of 'eczema' of the nipple.

CASE 23534

The patient was a woman aged 51. A lump had been present in the left breast for 12 months and had begun to ulcerate through the skin 4 months before admission.

On examination there was a large irregular mass involving much of the left breast, fixing the breast to the chest wall. Enlarged hard but mobile lymph nodes were palpated in the axilla. The liver was not enlarged. Palliative radiotherapy was given over 4 weeks, with some decrease in the size of the tumour and the nodes.

A month later she developed bilateral sciatica and x-ray showed metastases in the left ischium and pubis, with a pathological fracture. There were also metastases in the body and pedicle of L1. Numbness and weakness in the legs increased until there was flaccid paraplegia and complete anaesthesia below the level of T9. She died 2 weeks later.

Describe the specimen. The specimen consists of a breast sectioned to show an elongated tumour mass 13cm in length. Part of the mass is deep to the nipple that is retracted. The tumour contains areas of haemorrhagic fat necrosis superior to the nipple. More superiorly the tumour obviously infiltrates the pectoral muscle. The reverse of the specimen shows the overlying skin that is erythematous from irradiation and demonstrates a focal area of ulceration.

What is the diagnosis? Carcinoma of the breast

CASE 23951

The patient was a woman aged 66 who had noticed a lump in the right breast 2 weeks previously after watching a television program on breast cancer. Examination showed distortion of the breast, nipple retraction and a single palpable axillary node. Radical mastectomy was performed.

Describe the specimen. The specimen consists of a slice of breast with overlying skin, sectioned through the nipple. There is an irregular, infiltrating, pale, fibrous tumour 6cm in maximum diameter deep to and involving the nipple which is retracted. The skin of the areola is thickened, pale and involved by tumour.

What is the diagnosis? Carcinoma of the breast

CASE 25287

The patient was a woman aged 87 who had noticed a lump in the right breast for a year. She was very reluctant to submit to surgery, but finally agreed to a partial mastectomy.

Describe the specimen. The specimen consists of a portion of breast sectioned to show a spherical tumour 4cm in diameter immediately beneath the skin. The cut surface of the tumour is lobulated with fine connective tissue septa and it contains mucus, with areas of haemorrhage. The tumour is well demarcated from the surrounding breast tissue and much of it appears encapsulated.

What is the diagnosis? Mucinous carcinoma of the breast

CASE 50482/83

From a patient with a history of breast carcinoma.

Describe the specimen. The specimen consists of a slice of liver, a section of vertebral column and a portion of a long bone. The liver shows several irregular, white tumour masses with little residual parenchyma. The long bone shows pale pink fleshy tissue replacing part of the medullary cavity. The 2 lower vertebrae appear abnormally dense and there is a focal nodule of tumour in one.

What is the diagnosis? Metastatic breast carcinoma in liver, vertebrae and long bone

Comment. The dense appearance of the vertebral metastases is an example of the phenomena of osteosclerosis caused by bony metastases of certain tumours. This is most characteristic of prostatic carcinoma but may also be seen in some cases of breast carcinoma.