Malignant cysts of the male breast

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Summary: Two cases of male breast carcinoma presenting as cystic swellings are reported. Cysts of the male breast are rare, but unlike cysts in female breasts are more likely to represent significant pathology. We recommend consideration of excision biopsy of isolated cysts in male breasts.

Introduction

Carcinoma of the male breast is rare, constituting less than 1% of all breast cancers.¹ In 1978 the mortality rate was 3 per million for men compared to 448 per million for women.²

Cysts of the female breast are common, although intracystic tumours are very rare. The criteria for treating female breast cysts by simple aspiration are well recognized.³ The management of cysts of the male breast is not well established. We here report two cases of male breast carcinoma presenting as cystic swellings.

Case reports

Case 1

A 71 year old man presented with 2-year history of swelling in the left breast, in association with an intermittent brown discharge from the nipple. On examination there was a 6 × 6 cm irregular swelling behind the left nipple. One ml of blood-stained fluid was aspirated and cytological examination revealed well differentiated adenocarcinoma cells. Chest X-ray, bone scan, liver ultrasound and liver function tests showed no evidence of metastatic disease. A left simple mastectomy and axillary clearance was performed. Pathological examination of the specimen revealed a 4 cm diameter cyst, within which a tumour was arising from the anterior wall. Microscopic examination showed an intracystic papillary carcinoma surrounded by a compressed layer of fibrous tissue, with no evidence of infiltration (Figure 1). Oestrogen and progesterone receptor estimation was performed on the tumour and was 382 and 279 fmol/mg cytosol

Figure 1 Intracystic papillary carcinoma. Part of the cyst showing a solid mass of tumour cells (large arrow), surrounded by compressed fibrous tissue (small arrow). Haematoxylin and eosin. Original magnification × 35.

protein respectively. Post-operatively he received radiotherapy (42.5 Gy) to the left chest wall and gland fields. He remains well after 9 months.

Case 2

A 66 year old man presented with a 2-month history of a lump in his right breast. On examination there was a

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2 × 2 cm smooth swelling beneath the right nipple which felt cystic. Following aspiration of 3 ml of blood-stained fluid there was no residual swelling.

Cytology examination of the cyst fluid revealed no malignant cells. At out-patient follow-up, the cyst was again palpable but repeat cytology showed no abnormality. In view of the persistence of the swelling he was admitted for excision biopsy. Pathological examination of the specimen revealed a 0.8 cm blood-filled cyst. Microscopic examination showed intraduct carcinoma lining the inner surface of the cyst (Figure 2). A right simple mastectomy with axillary clearance was subsequently performed. No evidence of residual tumour was found in the mastectomy specimen and the axillary nodes were not involved. The patient remains free of tumour after 12 months.

Discussion

Intracystic papillary carcinoma of the breast is rare, with a reported incidence of 0.5–2.0% of all female breast cancers^{4,5} and only isolated previous reports in men.^{6,7} Intracystic papillary carcinoma should be distinguished from carcinomatous invasion of a pre-existing benign cyst and from secondary cystic degeneration of a previously solid carcinoma. Czernobilsky described intracystic papillary carcinoma as a large solitary haemorrhagic cyst, surrounded by a fibrous wall, from one part of which arises a soft papillary adenocarcinoma, with absence of extensive tumour involvement of the surrounding tissue.⁴ The pathological findings in Case 1 are identical to this classical description. It has been suggested that intracystic carcinoma almost always arises from a long standing intraduct papilloma,⁸ and when the tumour becomes invasive it may retain its papillary pattern or adopt the pattern of a ductal carcinoma. Intraduct papilloma has occasionally been reported in male breasts.⁹ It is possible that in Case 1 the long history of a breast swelling and nipple discharge was due to a pre-existing intraduct papilloma. Alternatively it may reflect the relatively good prognosis of these tumours, reported in females.¹⁰

In Case 2, the cyst was found to be lined by intraduct carcinoma. Breast cysts are thought usually to be derived from lobules and are consequently not a recognized feature of male breasts. It is possible that in Case 2, cystic dilatation occurred secondary to obstruction of a duct by *in situ* carcinoma. Although the net result was a cystic swelling containing intraduct

Figure 2 Cyst lined by intraduct carcinoma. Part of the cyst lined by intraduct carcinoma (large arrow) and containing blood clot within the lumen (small arrow). Haematoxylin and eosin. Original magnification × 35.

carcinoma, this is different to Czernobilsky's classical description of intracystic carcinoma.

The tumour in Case 1 was found to have positive oestrogen and progesterone receptor activity. This is not surprising as male breast carcinoma is usually hormone sensitive. Everson and Lippman reviewed previous publications in male breast cancer and found that 84% of tumours sampled contained oestrogen receptor activity and 73% progesterone receptor activity.¹¹

In conclusion, cysts of the male breast are rare. We have reported two cases of male breast cysts which proved to be due to malignant disease, and we would therefore recommend a high index of suspicion in dealing with cysts of the male breast.

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