

### Endothelioma of the Breast.

By H. BETHAM ROBINSON, M.S.

A SINGLE woman, aged 27, was brought to me in November, 1908, for a lump in the right breast which she had first noticed in the preceding August. This has caused her no pain or inconvenience, and she thought it had not got larger, although it was a little harder. There had been no discharge from the nipple. She had good health generally, except for painful menstruation; from time to time she had had swelling of lymphatic glands, particularly of those of the axillæ. One aunt had a carcinoma of the breast, otherwise there was no family history of tumours. Examination of the right breast showed two hard nodular masses just above the nipple, one in the outer and the other in the inner quadrant, both fairly well defined yet loosely connected with each other. The skin over them was free except at the outermost part, where there was a little dimpling; on manipulation the nipple was normal. There was no fixation of the gland to the chest wall. There were three hard, discrete glands in the right axilla. In the left breast was some indefinite thickening with a few soft glands in the axilla. The condition seemed one of lobular hypertrophy, with the addition of a carcinoma on the right side.

On November 25, in St. Thomas's Hospital, the breast was amputated and the axilla cleared; the skin, fat, and fascia were freely removed, but the pectorals left. Healing was by first intention. Section through the growth showed that it was of a pinkish colour, rather granular-looking, and without any obvious cupping. The larger, harder nodule on the outer side was of the size of a five shilling piece and over this the skin was rather fixed. Both the main nodules were fairly sharply defined from the surrounding white tough tissue, which was evidently unduly fibrous. The axillary glands had the appearance of being invaded by a reddish granular growth. Histological examination shows that the tissue is not carcinomatous. There is considerable variation in different parts of the section. The most distinctive feature is the appearance of more or less rounded cell masses enclosed in a fibrous connective tissue framework, which is singularly free from round-celled infiltration except in patches at the margin, where the tissue is compressed to form a sort of capsule. The cells composing

the masses are somewhat variable in shape with deeply stained nuclei and a large amount of cell protoplasm; at the periphery adjacent to the fibrous stroma the cells tend to become flattened and to stain rather more deeply. In most of the masses are rounded or oval spaces with a sharply defined margin, and in many of these is to be found a fibrinous coagulum with some entangled leucocytes; round the spaces the cells have a whorled or radiating appearance. None of these clefts are well-formed vessels and in none of them are red blood disks to be seen. There is no appearance in the section of any included breast tissue.

The patient has remained quite well since the operation and there is no sign of any recurrence—an immunity of over five years.

In reviewing this case it will first be noticed that the clinical history and the local appearances gave nothing distinctive from what might be met with in an ordinary case of spheroidal-celled carcinoma of the breast of the scirrhus type, engrafted on or associated with some interstitial mastitis. The macroscopic features of the growth are worth noting, the pink colour and granular appearance, the well-defined margin, and the absence of any cupping on section.

The histological features are distinctive, and I have little doubt that members will endorse the view that the tumour is an endothelioma. On perusal of the paper by Dr. Lazarus-Barlow<sup>1</sup> on this subject, in which different types are discussed, I would refer this tumour to the group of lymphatic origin and to the variety he names "peri-entelioma," for the reason that the cell elements are arranged not around any definite blood-vessels but in relation with lymph spaces; the lumen of these in places is preserved and the arrangement of the cells around conform to his peritheliomatous type, whereas in other parts there are large cell masses corresponding to his enteliomatous form.

A point worthy of our consideration is the occurrence of this class of tumour. It is very rare, according to our statistics at St. Thomas's Hospital, for this one is the only authentic case recorded. Dr. Lazarus-Barlow, in the previously quoted paper, states that at the Middlesex Hospital 10 per cent. of malignant breast tumours are of this character, which statement suggests that a much wider interpretation is given to their histological features than any observers would agree to. Accepting his postulates, I think, on reviewing a number of sections of

<sup>1</sup> Lazarus-Barlow, *Glasg. Med. Journ.*, 1907, lxvii, pp. 265-74.

tumours somewhat difficult of classification, that a small proportion do agree with his histological findings.

From this one case it would be useless to draw any conclusion as to the degree of malignancy. So far it has not recurred, a feature in common with some endotheliomata elsewhere; still, it is common knowledge that they may do so after a long interval. Anyway, one would assume that the standard of malignancy is considerably lower than in an ordinary typical breast carcinoma.

In relation with this breast tumour I will make reference to another having many points in common which, although recorded elsewhere,<sup>1</sup> is worthy of our consideration. Specimens of this tumour are placed under the microscope for comparison with the former. This tumour was removed from a married lady, aged 38, childless, who was seen by me in December, 1904. The lump was noticed accidentally in the previous September, gradually growing and becoming tender on pressure. There was no pain either in the tumour or down the arm. At the lower part of the right breast, towards its margin, was a wedge-shaped, nodulated lump about the size of a small hen's egg; its edge was fairly well defined, and an elastic feeling in the nodules suggested cysts. The skin was not adherent to the tumour, and the breast with the growth was freely movable on the chest wall; there was no retraction of the nipple and no enlarged glands. It was impossible to say positively whether it was a cystic mastitis or a scirrhus carcinoma, or both. At the operation a preliminary incision was made into the tumour, when its character decreed free removal and clearance of the axilla. The tumour on section had a very well defined margin, appearing to be bordered by a capsule from the surrounding breast tissue, yet intimately connected with it; from this apparent capsule septa passed into the tumour dividing it up into sections. The growth was of a reddish colour with pale yellowish patches through it; it was rather soft, granular, and bulged above the level of the septa, and had somewhat the character of a soft carcinoma. The glands on section seemed healthy.

On examining a section under a low power the growth is split up into masses of cells by fibrous septa containing many vessels. Where the section has been washed free of these cells there is to be seen a well-marked framework of the retiform type connected with the

<sup>1</sup> Robinson, H. Betham, "Angio-sarcoma of the Breast," *Trans. Med. Soc. Lond.*, 1906, xxix, p. 339.

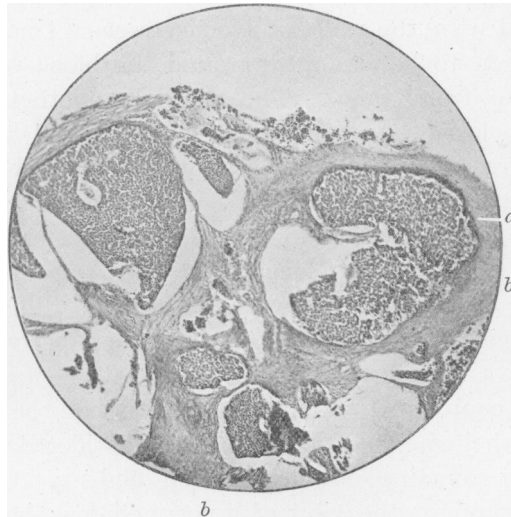


FIG. 1.

Endothelioma. *a*, masses of growth with lumina here and there ;  
*b*, fibrous stroma.

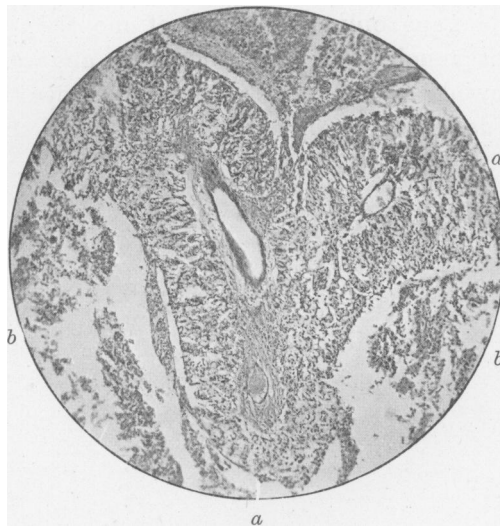


FIG. 2.

Perithelioma. *a*, vessels surrounded by radiating cell columns ;  
*b*, degenerated growth.

fibrous septa on the outer side, and extending inwards among the cells to be connected with the walls of blood-vessels. Under a high power the cells are seen to be arranged around the blood-vessels and in the main to radiate from them. The normal endothelial lining of the vessels with enclosed blood disks can be seen and the arrangement of the cells corresponds to that of a perithelioma. The cells occupying the reticulum are large and of fairly uniform size, with large oval or round nuclei. In places outside the perivascular growth are areas of necrotic tissue with invading leucocytes.

All will recognize that there is considerable difficulty in deciding between an angio-sarcoma and a perithelioma (perivascular endothelioma), and it was under the former title that the case was recorded in 1906. Without much doubt I think it can be now classed as a vascular perithelioma and should be so considered.

This patient remains now quite well eight years after removal, which possibly supports the view of a perithelioma; but I say this with the knowledge that we have a very scanty information of true angio-sarcoma of the breast. The best available paper is that of Schmidt,<sup>1</sup> in Langenbeck's *Archives*, and a very important conclusion he draws from the cases therein mentioned is that although they may develop slowly there is a marked tendency to an early recurrence in the scar or internal organs, only a question of months; in other words, the tumour runs much the same course as any ordinary sarcoma. It must be allowed, however, that the naked-eye and histological appearances he describes are much in accord with those seen in my case.

<sup>1</sup> Schmidt, Langenbeck's *Archiv. f. klin. Chir.*, Berl., 1887, xxxvii, p. 421.