OBSERVATIONS ON NON-MALIGNANT CONDITIONS OF THE BREAST

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The shadow of carcinoma lies heavy over all breast disorders. Women are probably more conscious of the possibility of cancer of the breast than of any other organ so that, whether expressed or not, the thought that symptoms or signs in the breast may mean cancer is rarely far absent from their minds. To the doctor, too, the possibility of cancer of the breast is rightly a constant concern. But this approach, essential in practice as it is, has the disadvantage that non-malignant conditions of the breast tend to be regarded less as subjects for study in their own right and more as an appendage to the problem of malignant disease.

Another factor which has led to blurring of the understanding of some non-malignant conditions of the breast is, paradoxically enough, the predominant position of histology in the diagnosis of breast disease. There is general agreement that histological examination is the crucial test in the diagnosis of lumps of the breast and in certain dangerous pre-malignant conditions of the breast. But its very importance in these connections has led to confusing and contradictory histological classifications of certain common disorders of the breast which are probably disorders of function and therefore best classified on a functional rather than anatomical basis.

Historical

Descriptions and classifications of breast disorders which do not strike the modern mind as strange and foreign to modern thought only began to appear about the middle of the 19th century. Before that even such classical writers on the breast as Astley Cooper (1829) and, to a lesser extent, Brodie (1846) seem from our present viewpoint to have a tinge of mediaevalism. But with Birkett (1850) and Velpeau (1854) the modern reader finds himself more in tune, and the small monograph on the breast published in 1887 by T. Bryant of Guy's, one of the finest works on the subject ever written, can be read today not only with pleasure and profit but also with amazement at its freshness and modernity. In the later

years of the century the histological studies of Réclus and of Schimmelbusch led to increased understanding and precision in breast disorders, but because of the frequent difficulties of interpretation to some extent became also a cause of confusion. But the greatest cause of confusion in the latter part of the 19th and the first part of the 20th century was the development of the conception of chronic mastitis, a sterilizing conception and terminology from which medical thought is today only gradually freeing itself (Patey, 1951).

Frequency

It is difficult, particularly from hospital and consulting practice, to form an accurate idea of the frequency of non-malignant conditions of the breast. So many of the simpler disorders are dealt with by the family doctor that hospital and consultant figures must be fallacious in this respect. The two tables appended here necessarily share in these fallacies of unconscious selection. They may, however, be taken as fair examples of the relative frequencies of non-malignant conditions as seen in private consultant practice (Table 1) and the surgical in-patients of a large teaching hospital (Table 2).

The most striking difference between the two sets of figures is that whereas in the consultant practice series the diagnosis of chronic mastitis was never made, in the hospital in-patient figures this classification was made 82 times following the Standard Nomenclature of Diseases used in the hospital filing system. An analysis of the histories of these 82 cases was therefore made to see exactly for what cases the term was used (Table 3).

Most of the cases so classified were suspected or indefinite lumps, in most of which surgical exploration and microscopy were carried out. By fugitive lump is meant a lump which seemed to be present when the patient was seen in out-patients, but had disappeared by the time the patient was admitted so that she was discharged without operation. The local explorations were either cases in which microscopical examination of suspected

TABLE I
ANALYSIS OF 275 CONSECUTIVE CASES OF NON-MALIGNANT CONDITIONS OF THE BREAST SEEN IN PRIVATE CONSULTANT PRACTICE DURING THE YEARS 1931-1950

Painful breasts	102
Cystic disease	76
Fibroadenoma	28
Abscess	25
Nipple discharge	19
Miscellaneous (e.g., fugitive lumps, exploration, inflamed follicles, fat necrosis, haematoma, periduct mastitis)	25
Total	275

During the same period 260 cases of carcinoma were seen.

TABLE 2
ANALYSIS OF 348 NON-MALIGNANT CONDITIONS OF THE BREAST ADMITTED AS IN-PATIENTS TO THE MIDDLESEX HOSPITAL DURING THE YEARS 1950-52

Chronic mastitis	82
Acute mastitis and abscess	82
Fibroadenoma	78
Cystic disease	57
Duct papilloma	17
Fat necrosis	6
Tuberculosis	3
Miscellaneous	23
Total	348

During the same period 572 cases of carcinoma of the breast were admitted to the hospital.

TABLE 3
ANALYSIS OF 82 CONSECUTIVE HOSPITAL IN-PATIENT CASES IN WHICH A DIAGNOSIS OF CHRONIC MASTITIS WAS MADE

Fugitive lumps	9
Local exploration only	37
Exploration followed by simple mastectomy	36
Total	82

pathological lumps showed no abnormality, or in which a simple condition such as a cyst was found and removed locally. The explorations followed by simple mastectomy were either cases in which some condition judged to be potentially dangerous was found on microscopical examination, or conditions such as cystic disease or nipple discharges which the surgeon judged on principle to be better treated by mastectomy; a few were cases of hypertrophy of the male breast.

Apart from the inexactitude and inaptness of the term chronic mastitis, the striking thing which emerges from the last analysis is the frequency with which vague indurations are felt in the breast which even experienced surgeons are unable to classify definitely as pathological or non-pathological, the final determination only being made either by disappearance of the suspected pathological lump or its surgical exploration. This emphasizes once again the importance

of proper and careful examination of the breasts and the difficulty even so in distinguishing between the pathological and the pseudo-pathological. Three points may be worth mentioning in this connection. The first is the value in doubtful cases of examining breasts in the post-menstrual phase when physiological congestion is at its least marked. The second is to recognize the fact that the trauma of repeated palpation by the patient of an area which she is suspicious of may of itself result in congestive induration, and that re-examination after the patient has disciplined herself not to palpate the breasts for ten days or a fortnight may find the suspected lump disappeared. And finally, it should not need mentioning that the pulps of the fingers are the most sensitive tactile areas of the hand. But so many text books still repeat the false dictum that the breast should be examined 'with the flat of the hand' that unfortunately it does need emphasizing. The error appears to have arisen owing to the confusion between examining with the flat of the hand, which is a relatively poor tactile agent, and with the hand flat which is necessary if the pulps of the fingers are to be brought properly into action.

Selected Examples

It is not proposed here to attempt to deal fully with the various non-malignant conditions of the breast, but merely to give some points of interest from selected examples.

Hypertrophy of Breast

The degree of breast development varies so much in women that the borderline between the normal and abnormal is indefinite. Gross hypertrophy such as illustrated in surgical monographs is fortunately rare. Excessively adipose and pendulous breasts may cause women considerable mental, and sometimes physical, distress to the point that the aid of the plastic surgeon may be needed. But probably the commonest type of hypertrophy seen is of the male breast. The breast in the male is a compact disc-like structure, the outline of which is about the same size as that of the areola. Normally it is impalpable, but when hypertrophied it becomes palpable, is often slightly tender, and may slightly protrude. The condition may occur spontaneously, the common ages being at puberty, in early adult life, and over 50. It is a well recognized response to stilboestrol treatment of carcinoma of the prostate, and rarely is a manifestation of a reaction to hormone secreting testicular tumours. The spontaneously arising condition usually resolves spontaneously, particularly in the younger group. But if it persists it is readily dealt with by removal of the breast

by a periareolar cosmetic incision with preservation of the nipple and areola.

Infective Mastitis and Abscess

The features of acute mastitis and abscess of lactation are well known. Apart from the occasional difficulty in distinguishing from the fortunately rare acute carcinoma of lactation, diagnosis is usually straightforward. And the treatment, both chemotherapeutic and surgical, is well established. One technical feature of drainage of an acute lactation abscess is, however, perhaps worth mentioning. Loculation is such a marked feature of these cases that if simple drainage only is used, there is considerable danger with the collapse of the main cavity of the drainage from a peripheral loculus being inadequate. A fresh abscess or a persistent sinus may thus result. If the loculated cavity after opening is packed for a few days, preferably with soft rubber tubing such as Paul's tubing, these complications are much less likely.

Lactation abscess is so well recognized that the existence of non-lactation abscess is often overlooked. It is in fact not uncommon. Its treatment is much simpler than that of lactation abscess as the cavity is usually not grossly loculated.

The possibility of tuberculous abscess should also not be entirely ignored, and it will be seen that three such cases were admitted to the Middlesex Hospital in three years. While sometimes the patient may be an obvious tuberculous subject, often the diagnosis is only established after exploration by bacteriological and histological examinations. Sometimes, too, it is difficult to determine whether the disease is of the breast tissue itself or spreading into the breast tissue through a sinus in the chest wall from a mediastinal lymph gland. In only one of the Middlesex Hospital cases noted was the disease thought to be originating in the breast tissue; in the two others the breast was thought to be secondarily involved from a mediastinal gland.

The Pain Syndrome

This is almost certainly much the commonest breast disorder of women. Patey (1949.) It will be noted that it heads the list of the private series, and even this must be an underestimate of its frequency because of the large number of cases that are dealt with by the family doctor without reference to a consultant. The condition is a subjective disorder without objective findings, though it is in this type of case that the false lump is so apt to be felt either by the patient or the doctor. The condition may occur in any of the wide anatomical varieties of breast, but if it happens to occur in the type of breast in which the normal lobularity of the breast is easily appre-

ciated as diffuse nodularity, the diagnosis of chronic mastitis is very likely to be made. The main causative factor in its development is fear of cancer which leads to an undue mental fixation on an organ which is normally sensitive and tender, and which even under physiological conditions is never far removed from the conscious. A less common but important causative factor is the presence of psycho-sexual upsets. The treatment is usually easy and can be summed up as firstly a patient and careful history and examination to exclude organic disease, and secondly reassurance and healthy neglect. Both a hedge diagnosis of chronic mastitis which confirms the woman in the opinion that she has diseased breasts, and local treatment, which necessarily concentrates attention still further on the breasts, usually make the condition worse.

Cystic Disease

Cystic disease is a common condition which usually presents with the objective finding of a definite lump but without subjective symptoms. The commonest age incidence is the decade 40 to 50. The cause is unknown but the condition is presumed to be the effect of hormonal factors on the breast. If this is so, it is interesting that these hormonal factors are rarely associated with other upsets such as of the periods. Though the disease is bilateral, the commonest presenting symptom is the development of a lump in one breast. The lump usually appears quickly, is usually hard, and often has a characteristic smooth rounded dome shape on palpation. The diagnosis is established by exploration, either with a needle or at operation. The contained fluid is watery, and of a greenish grey colour in reflected light and reddish brown by transmitted light. The disease is not ordinarily a dangerous one, and while further cysts may develop in the same or opposite breast, this tendency may die out in the course of years. Some form of conservative treatment is therefore indicated, either simple aspiration or local removal of the cyst (Patey and Nurick).

It is necessary to distinguish simple cystic disease from the much rarer condition of intracystic papilloma. The distinction is important since the latter is often precarcinomatous and demands therefore simple mastectomy. If a papillomatous cyst is aspirated, the diagnosis from simple cyst can be established by three signs: firstly, the fluid may be blood stained; secondly, a lump may remain and be palpated after the fluid has been evacuated; and thirdly, the fluid may rapidly re-accumulate. These three signs either alone or in conjunction demand exploration and biopsy.

Fibroadenoma

The clinical features of fibroadenoma, both the slowly growing and the rarer rapidly growing varieties, are so well known that they do not need repeating here; so also are the pathological features with their fascinating microscopical terms which slip so readily off the student's tongue, and which practically are of so little significance. It only needs emphasizing once again that clinically a carcinoma may simulate completely a fibroadenoma, and that the dictum that the diagnosis of fibroadenoma is only established when it has been microscopied represents the only sound attitude.

Duct Stagnation

This is a common condition the frequency of which is concealed by the fact that it is only occasionally that it causes trouble sufficient to bring the patient to the doctor (Patey, 1949). As a result of atrophy of the breast at the menopause or hyperinvolution after lactation, the large ducts under the nipple and areola may become dilated. Sometimes in a thin breast, these dilated ducts may be palpable or even visible, a condition graphically described by Bloodgood as varicocele of the nipple. Into the dilated ducts, a serous effusion occurs and often a shedding of cells, the fatty degeneration of which converts the duct contents into a yellowish-grey toothpaste-like material. The condition is usually discovered incidentally when the breast is explored or removed for other conditions. But occasionally it causes symptoms. Thus, the patient may come complaining of serous discharge from the nipple, of which it is an important cause, or of a discharge of 'matter' which is the term usually applied by the patient to the inspissated discharge. Sometimes the fibrosis around the ducts leads to retraction of the nipple. Sometimes again a tender mass may be present underneath or near the areola due to periduct mastitis. Geschickter. A sub-variety of periduct mastitis in which plasma cells are predominant has been described by Cutler under the title plasma celled mastitis. In still other cases, the mass may be due to rupture of a duct with discharge of the fatty cellular contents into the surrounding tissues, a reaction being excited similar to that of fat necrosis. In all these cases with a lump, the diagnosis is usually only established by exploration. A full description of the condition is given by Geschickter.

Nipple Discharges

These are perhaps the most difficult of all breast conditions to know how best to treat, particularly those cases in which the nipple discharge is the only abnormality. For whereas in the

majority of cases a nipple discharge is probably not of serious significance, in a not insignificant minority it signifies a dangerous or potentially dangerous condition, particularly if the discharge is blood stained. Thus, of Geschickter's 57 cases of bleeding from the nipple without other abnormality in the breast followed for 3 years or more, 5 developed cancer (9 per cent.). Kilgore's figures also show the possible dangers of a blood stained discharge in particular, and all surgeons with experience of breast disease can remember similar cases.

Under these circumstances, it becomes a difficult decision whether to play for safety and sacrifice the whole breast, or whether to attempt to save the woman this mutilation. The decision to advise the woman to submit to the mutilating procedure of mastectomy is naturally a particularly distressing one if she is comparatively young. Different surgeons will respond to this situation in different ways, but my own personal response in cases in which the breast is otherwise normal is to carry out in the first instance a limited removal of the affected duct and associated sector of breast tissue through a cosmetic periareolar incision. If the microscopical examination reveals nothing more than a simple papilloma, nothing more is done. But if the examination reveals diffuse papillomatosis or irregular epithelial proliferation, then the breast is removed. In this way, in most cases of discharging nipples the breast can be preserved with safety to the patient and cure of the symptoms, though it must be admitted that the possibility of a proliferative epithelial lesion occurring in a duct remote from that removed cannot be dismissed. A comparatively new approach in nipple discharges is a detailed study of the discharge, chemically for blood and cytologically for secretory cells (Hedley Atkins, Kilgore). The whole question of nipple discharges is one calling for continued study.

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