condition of the patient, the deepest part of the cyst wall cannot be removed, then drainage through a lumbar incision presents no difficulty.

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EARLY AND CURABLE DISEASE OF THE BREAST.

BY

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(With Special Plate.)

SINCE the publication of my article on the proemial breast in the *BRITISH MEDICAL JOURNAL* of June 3rd, 1922,* I have gained valuable information on the interpretation placed upon it by many of my readers. They have asked whether the breasts of patients whom they have sent to me were in what I termed the proemial state. From them I have been able to select instances of diseased breasts in stages which, under proper treatment, can be saved from becoming examples of the established proemial condition.

The most typical conditions of an early and curable disease are exemplified in one of my own patients. She was 26 years old, single, by occupation a saleswoman. At the time of the consultation her tongue, teeth, tonsils, bowels, and urine were normal. The breast had not been injured by a blow, and her stays were not high enough to touch it in any position which she assumed. The left breast was normal. She had complained of pain in the upper and outer segment of the right breast for three and a half months; the pain was increased at the time of her periods.

Palpation revealed an irregularly swollen duct which could be traced from the ampulla in the areola region to the part towards the periphery, where the gland was more tender than elsewhere. On observation of the nipple three minute raised yellowish dry spots could be seen, situated at the upper and outer margin of the nipple, and I concluded that probably one of them was the exit of the duct which belonged to the affected segment of the breast. I believed them to be points of exit of ducts which were plugged with dry epithelium and excretions, either from the breast or from the sebaceous glands which open into the outlet of the duct (Special Plate, Fig. 1). Acting on this belief I advised the woman to carry her arm in a sling and to put hot fomentations on the breast; but the most important part of my treatment was to make sure that she constantly soaked the nipple with hot sterilized water applied with cotton-wool. This treatment was continued for fourteen days until the plug in the outlet of each duct was macerated enough to enable me to remove it by wiping away the film that covered it, and by gentle pressure to squeeze it out. In two months the breast gradually became normal. I then advised her to keep the nipples clean always, by means of the same process, and to avoid all kinds of soap, powder, methylated spirit, hydrogen peroxide, and so on, for fear of irritating or plugging afresh the outlets. If soap be not properly washed away it dries and cakes and fills the outlet. In addition to this it must be realized that soaps are irritating and some brands more so than others.

My interpretation of the state of affairs in this woman's breast was as follows. The presence of the plug was detrimental in many possible respects—for instance, as an irritant it might have encouraged the local action of non-virulent micro-organisms upon the epithelial lining of the duct outlet, and in consequence the whole duct might have suffered a mild infection, or the products of a mild infection might have been disseminated in the same directions. The observations of Mr. A. J. Walton in 1914 and 1915¹ and those of Dr. A. H. Drew² suggest another possible explanation—that the products of epithelial irritation created by the plug in

the duct outlet caused changes in the epithelium throughout the distribution of the duct and acini. My belief is that the change was probably a desquamative hyperplasia of epithelium which distended this duct and caused the woman pain. I further believe that similar treatment applied to the breast in this early stage of disease will prevent it from becoming an established proemial breast. Thus the prevention of disease in the care of the breast can be taken a step further back than the proemial state.

Many authorities seem able to connect changes in a sebaceous gland with plugging at the outlet of its duct, but do not seem able to connect changes in the breast with a plugged outlet of a mammary duct. I do not understand why there should be this difference, and it is all the more incomprehensible when it is realized that many sebaceous ducts open into the outlets of a mammary duct (Fig. 2), so that any detrimental discharge from these sebaceous glands would open direct into the mammary duct at this point. In addition to this anatomical feature, there is this fact: in a previous article on cysts and primary cancer in cysts of the breast,³ I pointed out the consummate ease with which foreign material is distributed throughout the ducts of the breast when once entrance be gained. Further, to show what a definite pathway for entrance there is, I draw attention to the anatomical section in Fig. 2, which shows a complete duct in the nipple and the outlet on the surface. The duct lumen is seen distinctly throughout its course. The duct widens at its outlet, into which enter the openings of many sebaceous glands. To all intents and purposes each duct system of the breast may be regarded as a separate gland. This notion may create a doubt in the minds of those authorities to whom I have alluded.

It is essential that women should keep these duct outlets free from plugs. I say this for another reason: I have in my possession whole sections of a breast affected with the earliest Paget's disease of the nipple I have seen. Only half the top of the nipple is affected by the disease. There is no carcinoma in the deeper parts of the breast. The main focus of the disease is in a plugged duct outlet, from which the process is spreading into the duct and on to the surface of the nipple. Epithelial cells are invading deeper tissues and have entered lymphatic vessels. It is a typical case of Paget's disease of the nipple, and this section, together with many other reasons, convince me that Paget's disease of the nipple is carcinoma from the beginning. This is another investigation, on the writing of which I am at present engaged. I mention it here to emphasize the importance of keeping duct outlets clean and free from irritating agents.

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² Three Lectures by Dr. A. H. Drew on the Cultivation of Tissues and Tumours *in vitro*, Lectures II and III, *Lancet*, April 28th, 1923.

³ *British Journal of Surgery*, vol. viii, No. 30, 1920, Figure 113.

POLYTHELIA.

BY

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CASES of polymastia (supernumerary breasts) are not uncommon. Goldberger¹ makes mention of some 262 such cases. Williams (Baltimore)² says: "Probably one in every few hundred women has one or more accessory breasts," and points out that the condition is usually regarded as an atavistic reversion, though it is not associated with any increased tendency towards multiple pregnancy. Ahlfeld,³ on the other hand, holds that the distribution of the mammary tissue is to be attributed to the transference at an early period of development, by means of the amnion, of some of the cells which ordinarily go to form the breasts to other

* See also the *British Journal of Surgery*, April, 1923, p. 436.

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FIG. 1.—Cyst as seen from the front. The yellow nodules described in the text are seen scattered over the cyst wall, and some of them are marked with crosses. The main mass of the suprarenal capsule is at the upper part of the photograph on the left side.

FIG. 2.—Section of cyst wall, low power. There is a layer of fibrous tissue on the outer and inner sides of the section. In the outer half of the wall are seen the glandular cell elements. The inner surface of the cyst at the bottom of the photograph is lined by a layer of flattened cells. Blood vessels are seen cut across in the wall of the cyst.

FIG. 3.—Section of portion of the thickness of the cyst wall under a high power, showing adrenal cells; many have degenerated.

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FIG. 1.—Photograph of a plugged mammary duct outlet. A is a sebaceous gland, the duct of which can be seen opening into the mammary duct outlet. A1 is another sebaceous gland. B marks the opening of the duct outlet on the surface of the nipple. C is the duct opening into its outlet: the lumen of the duct is clearly seen to be quite patent.

FIG. 2.—A lower power drawing from a section showing a mammary duct A, and its outlet on the surface of the nipple. Sebaceous glands are opening into the duct outlet. There is here seen to be a perfectly clear pathway for many kinds of irritating agents. The dilatation at the outlet is normal. B shows another outlet to the subadjacent duct C.