

Surgical Section.

May 12, 1914.

Mr. G. H. MAKINS, C.B., President of the Section, in the Chair.

The Relation between Ducts and Acini to Cysts and Cancer of the Breast.

By G. LENTHAL CHEATLE, C.B., C.V.O., F.R.C.S.

MR. LENTHAL CHEATLE said that the cause of the cysts lay in the ducts. In support of this contention—

(1) Both cysts and ducts were lined by columnar epithelium, which did not extend into the acini.

(2) He showed what was practically an injection experiment upon a cystic breast. Into this breast there had been a hæmorrhage near the nipple, and blood could be traced into the normal ducts, acini, and cysts.

(3) Cysts opened into undilated normal acini.

Single cysts did not exist; smaller cysts could always be demonstrated by the microscope.

Mr. Cheatle did not believe that cysts were formed by obstruction in ducts. They were due to altered function of the epithelium, which leads to its proliferation. Obstruction in ducts might induce cystic formation, but would be unlikely to cause the intracystic growths which are so common. And also, were obstruction the cause, the acini would be dilated as well as the ducts, and probably would dilate sooner than ducts. Mr. Cheatle showed a section of a whole breast at the nipple of which was a dense, solid tumour, which must have caused obstruction to all the ducts entering the nipple, and in the rest of the breast there were no cysts.

There were two types of duct cancer—the intracystic papillomatous and the intracystic laciform. He used this term because the proliferated epithelium resembled lace-work.

The two forms might be more or less mixed, but they can and do exist pure. The laciform is the commoner disease of the two. In both forms simple cysts are usually to be found, also both forms exhibit alveolar arrangement in their spread. This fact necessitates the cutting of large sections, and possibly serial sections, to demonstrate the origin of the cancer. In the part of the spread which is alveolar the disease is always reverting to its original type, so that commonly a careful examination of the alveolar part of the spread reveals the true source.

The lymphatic glands when affected showed the intracystic laciform type. He had nothing by which either to prove or disprove a relationship between the acini and cysts or between the acini and cancer.

In 250 cases of cancer of the breast 45 per cent. were of duct origin, and of the remaining 55 per cent. some might have been of duct origin; no definite relation could be traced between them and acini.

Mr. Cheatele also showed whole sections of breasts which demonstrated the tendency of duct cancer of both types to spread about in the breast itself. So much was this the case that its appearance would lead one erroneously to suppose that cancer had begun in many foci of the same breast.

Mr. Cheatele considered that the laciform type as well as the papillomatous type begin in a cystic condition. That does not mean that all cystic breasts should be excised. All tongues suffering from leucoplakia are not excised, although probably more leucoplakia tongues become malignant than do cystic breasts.

DISCUSSION.

Mr. SAMPSON HANDLEY said that it was a difficult task to criticize the work of months or years after hearing a few minutes' exposition of it, and he proposed merely to offer a few tentative criticisms. He would like first to express his admiration of the thoroughness of Mr. Cheatle's work. While most observers were content to look at one corner of the breast Mr. Cheatle examined its whole breadth, and his paper to-night showed the advantages of such a thorough method. The investigation of duct carcinoma was an important and neglected branch of the pathology of the breast. The principal new fact elicited by Mr. Cheatle's paper was that this form of carcinoma was much more common than had been thought, and this was an important contribution to our knowledge, but the speaker did not think that true acinous carcinoma was so uncommon as Mr. Cheatle's work would indicate. Was it not possible that in some of Mr. Cheatle's specimens an acinous carcinoma, by extending along ducts, was simulating a carcinoma of duct origin? The possibility of simultaneous origin of duct carcinoma with acinous carcinoma must also be borne in mind. It was quite certain that though breast cancer was generally unifocal in origin, in a certain proportion of cases it arose simultaneously at several or many points.

Mr. RAYMOND JOHNSON pointed out the great value of the method adopted by Mr. Cheatle of examining tumours and other diseases of the breast by means of large sections, thus avoiding the errors which might arise from confining the examination to one small area. There was no doubt that in many cancers of duct origin the columnar character of the epithelium was lost in many parts of the growth, and thus the true nature of the tumour might be overlooked if the decision was based upon the histology of only one part of it. Mr. Johnson had had many opportunities of examining Mr. Cheatle's specimens, and widely spread epithelial proliferation seen in the ducts in many of the sections. He found it difficult to decide whether these changes were actually malignant or not. The question of the relation of cysts of the breast to carcinoma was an extremely interesting and important one. His experience did not lead him to regard a breast from which a simple cyst had been removed as specially liable to the subsequent development of carcinoma.

Dr. H. D. MCCULLOCH said that the excellent series of enlarged photomicrographs exhibited of duct and cyst cancer by Mr. Cheatle seemed to him to be incomplete without a corresponding comparative series of sections showing the ordinary normal variations which the ducts and acini presented, in the changes which they were apt to undergo during the intervening periods of functional involution of the gland, and at different age-periods, particularly those that were to be seen after total cessation of function in old age. What appeared in section as cysts lined by columnar epithelium might, in many

cases, be the transverse sections of contorted and unobstructed ducts, variously narrowed or dilated. What was the normal calibre of a duct? The hæmorrhagic breast to which the author alluded seemed to confirm the idea that the duct channels and acinous and cystic spaces were continuous, and in direct communication one with the other. It was conceivable that in many cases, during rapid involution of the gland, diverticula might arise in the length of the contorted and shrinking ducts. These diverticula might become severed and detached from communication. Their detachment might ensue upon the constricting effects of the involuting interstitial tissues, resulting in "occlusion cysts," which would necessarily be lined by the original columnar epithelium of the duct. The opening of cysts into acini might be the result of degeneration and rupture of the contiguous walls, or of the particular plane in which the sections were cut. The division into the two types of intracystic papillomatous and intracystic laciform did not seem to be a very happy one. He agreed that the formation of some of the cysts might be due to the reverse process of diverticulum formation—namely, papillomatous ingrowth, which would expand the cyst, enforcing accommodation. The cause of papillomatous proliferation might depend upon the chemical nature of the changing secretion that became included at the time of occlusion of the diverticulum that gave rise to it, and this might account for the existence of simple and malignant cysts in the same gland. It did not, therefore, seem difficult to prove the relationship that existed between acini and cysts. In fact, it became easier to trace the relationship between acini and cancerous proliferation in the gland. The acinous lining was admittedly continuous with the epithelial lining of the ducts, and that of the ducts was continuous with the epidermic cells of the nipple and skin.

The PRESIDENT (Mr. G. H. Makins, C.B.) warmly congratulated Mr. Cheatle on the admirable series of exhibits illustrating his paper, and congratulated the Section on receiving the results of Mr. Cheatle's long and arduous labours. Personally he (Mr. Makins) made a practice of dealing more thoroughly with those cases in which the nipples were ill-formed, as he believed that cysts were the result of obstruction. He had seen cases in which there was both duct and alveolar carcinoma.

Mr. CHEATLE briefly replied, and added that in his experience duct carcinoma might appear less malignant when confined within thick fibrous walls, but these appearances were also accompanied by invasion of the pectoralis major and other tissues.