

ORIGINAL CONTRIBUTIONS.

COMPLICATIONS OF RECURRENT CARCINOMA OF THE BREAST.*

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I OFFER no apology for a paper upon such a well-worn theme, because any new light upon a subject of such general interest to all practitioners of medicine will, I take it, be most welcome.

I shall make no pretense, either, to enumerate *all* the complications of recurrent carcinoma of the mammary gland, but would ask your attention to those which recent cases in my hospital beds have forced upon my notice, and which, though fairly frequent, have not, perhaps, received the attention their importance merits.

I. BONE METASTASES.

Osler, in 1902, published a very instructive monograph on this subject. Many other writers, both before and since, have drawn attention to this complication of mammary cancer. Wharton in the *Annals of Surgery*, July, 1907, and Hawley in the same journal for May, 1910, both give fairly good resumes of the subject, and report cases. Hawley makes the statement that spontaneous fracture is a rare occurrence in the long bones in skeletal carcinomatosis! Most observers will differ from him there.

Bones Involved.—Vertebrae, femur, ribs and sternum, humerus, cranial bones, in the order named, are generally accepted, and I now report one in the tibia.

Time of appearance.—Usually after Volkmann's triennial limit. It is more apt to follow unsuccessful attempts to operate upon a recurrence. Not seldom the spontaneous fracture may be the first symptom of a metastasis, and the local breast recurrence only develops later on.

What is the method of involvement? By metastasis through the blood stream—a sort of cancer-like embolus—or by direct extension through the lymphatics? Authorities differ much about this. One can easily see how the ribs and sternum might be directly infected, and there may well be much truth in the contention that because the breast lymphatics run directly into the second and fourth intercostal spaces, and thence deliver their lymph into the venæ azygos at the spine, that this explains the frequency of attack upon the spinal vertebrae. But this does not explain the frequency with which the femur is attacked, nor does it explain why the metastasis begins in the bone marrow and extends out

* Read at the Toronto Meeting of the Canadian Medical Association, June 3rd, 1910.