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PRIMARY CARCINOMA OF THE FALLOPIAN TUBE *

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It is a well-known fact that no portion of the body is immune to the invasion of carcinoma. The more ready exposure of certain portions of the structure to traumatism renders its appearance in such tissues more probable. It is not surprising, then, that the cervix, exposed as it is to frequent injury in coitus and the course of pregnancy, should be the most frequently involved.

The many changes to which the active cellular structure of the ovary is subject render it particularly vulnerable to cancer, and authorities agree that probably 20 per cent. of ovarian tumors will prove malignant. Situated as the tube is, between two such vulnerable organs and in direct functional relations with them, it could scarcely be seen how extension from these structures to the tube could be avoided.

Notwithstanding the frequency of cancer in the ovary, the investigations of Orthmann would seem to show that carcinoma is rarely transmitted from it to the tube. It is true that 8 per cent. of all reported cases of tubal cancer are associated with tubo-ovarian cysts, but careful observation indicates that the disease was primary to the tube and had been projected into the ovarian portion.

In seeking a cause for such involvement it is found in the irritation cells which result from tubal inflammation. In all the cases, carefully observed, the malignant disease has been preceded by long-continued tubal inflammation. Inflammatory conditions of the tube are so frequent that abundant opportunity exists for development.

Primary carcinoma of the Fallopian tube is regarded as a rare affection, and it is rare, when compared with the frequency of carcinoma in the uterus. The investigations of Orthmann, Boxer and others, have demonstrated its occurrence more frequently than supposed. While sarcoma and chorio-epithelioma have been found, carcinoma is much more frequent.

Boxer, in his contributions to the knowledge of tubal carcinoma, has analyzed 100 cases.

In its early stages the disease presents no symptoms which are likely to awaken the fears of the physician. Indeed, the gravity of the condition may be overlooked when the patient is subjected to operative procedure, unless the specimens removed are as a routine procedure subjected to microscopic investigation.

The most frequent symptom is menorrhagia, and a watery discharge is not infrequent. Pain as a consequence is rare. It is true the patient may complain of an uncomfortable sensation in the affected side of the pelvis.

The symptoms enumerated are common to a number of conditions within the pelvis, and take place in women who have had prolonged or repeated inflammatory attacks. The appearance of such symptoms in women who have pelvic disorder, and especially a thin, watery discharge, should be an indication for early operative interference.

The neoplasm, even when exposed, does not always present an appearance which should warn the operator of its gravity. While the largest percentage of reported cases occur between the ages of 45 and 50, the proportion is not sufficiently great to be of any diagnostic importance. It has been found in women who had passed the sixtieth year, and as early as the twenty-seventh year.

The occurrence of menorrhagia and watery discharge in women who have been victims of pelvic inflammation, when found associated with enlargement of the tubal structure should be regarded as danger-signals of sufficient importance to demand investigation through an operative procedure.

Neoplastic rather than inflammatory involvement indicates radical removal. When both tubes and ovaries are involved in neoplastic change, or the tubes only, the operative procedure should include the removal of uterus and ovaries as well as the tubes.

The diagnosis of malignant neoplasm cannot be made from the macroscopic appearance only. No case should be accepted as malignant when such diagnosis is not confirmed by the microscopic findings.

A very interesting case illustrating the importance of the position I have just stated was sent by me to my private service at the Jefferson Hospital, Sept. 9, 1910.

History.—The patient was aged 34 years, married twice, but never pregnant. The only constitutional condition incident to the family was tuberculosis, although none of the immediate family had died of it. The patient's husband informed me that his wife's first husband had died of cancer. Puberty was established at the age of 14. Periods were regular, profuse, painless, and lasted four to five days. She had been treated for pulmonary tuberculosis during the last two years, but had apparently recovered. Five months before coming under my observation she began to experience pain in the pelvis for four or five days preceding menstruation. The menstrual periods occurred every three weeks, lasting three to four days, and were very profuse. She had also noticed during this time a whitish discharge.

Examination.—This disclosed a retroversion of the uterus, and behind it to the right was a mass the size of an English walnut, which was quite movable. Diagnosis was retroversion with endometritis and a prolapsed right ovary.

* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Operations.—The patient was subjected to operation on September 10. The uterus was dilated and curetted, and the abdomen opened by the Pfannenstiel incision. The mass on the right side was found to be a neoplasm of the end of the tube, which was not adherent but freely movable. It was removed. The left tube was adherent and considerably thickened in its central portion. I contented myself with separation of the adhesions, and proceeded to shorten the round ligaments by carrying a loop of each between the layers of the broad ligaments and through the aponeurosis. The appendix was removed, although it presented nothing of an inflammatory character. The neoplasm, when cut through, gave the appearance of a fibroid which was undergoing fatty change. Microscopic examination disclosed the growth to be cylinder-cell carcinoma.

This report reached me on September 23, and the following day I removed the uterus, the remaining tube, and both ovaries. I was impelled to do this by the fact that at the previous operation I had found the left tube considerably thickened in its central portion.

Postoperative History.—With the exception of a slight phlebitis of the left leg, which developed on the fifth day after the second operation, the convalescence was very satisfactory. The patient was discharged in good condition Oct. 22, 1910. A week later some induration occurred at the lower angle of the wound, and a small quantity of sero-purulent fluid was discharged. A sinus discharging very slightly persisted for some months before it finally healed. It was difficult to account for this, as no silk was employed, either as ligatures or buried sutures. At the end of eight months the patient had gained 50 pounds, and seemed in the best of health. The uterus removed, aside from a small interstitial fibroid, was in good condition. The left tube the pathologist reported to be a tuberculoma.

This patient, but 34 years of age, presented the anomalous condition of carcinoma in one tube, tuberculosis of the other, and a myoma in the uterus. Her future cannot but be interesting.

CONCLUSIONS

The study of the cases which have been reported by a number of observers would seem to justify the following conclusions:

1. Menorrhagia and watery discharge occurring in women giving a history of previous tubal inflammation should be regarded as danger-signals demanding careful investigation.

2. The association with such symptoms of tubal masses should be considered as requiring their removal, and where both tubes are involved the removal of the uterus through an abdominal incision.

3. All neoplastic masses of the tube should be subjected to microscopical investigation, for only thus can the diagnosis as to malignancy or non-malignancy be accurately determined.

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Scientific Investigation vs. Theorizing and Speculation.

The utter futility of the speculative method as a means of attaining effective knowledge is completely demonstrated by the stagnation and inefficiency of medicine under its influence for thousands of years. The only sure and effective way of gaining knowledge is the empirical method, by patient observation and investigation, the tardy adoption of which was the sole means by which internal medicine has been revolutionized and vivified. The keynote of the true method was struck by John Hunter in his advice to Jenner when the latter was beginning to ponder on the subject of vaccination, "Do not think, investigate." The whole history of medicine is an imposing demonstration of the futility of theorizing and the utility of scientific investigation.—Nichols in *Popular Science Monthly*.

A MILK-BORNE EPIDEMIC OF TYPHOID FEVER

AND THE DEMONSTRATED VALUE OF THE WIDAL REACTION IN DETECTING A TYPHOID CARRIER

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This epidemic of typhoid fever, which occurred among the customers of one milk distributor, is reported, that once more the probable danger to the community of a carrier of infection, engaged in the production of a food, may be emphasized, and the value of the agglutination reaction of Widal, as a means for locating such a carrier, be more fully appreciated. By reports of such epidemics the public will be aroused to the dangerous possibilities of these carriers. With this realization, the cooperation of whole communities, which is lacking at present, will be enlisted, the selfish personal motives and prejudices of ignorance, which attempt to block the efforts of the health service, will be overcome and the culmination will be a general demand that methods be devised and means be generously provided that such carriers may be sought out in advance, and such epidemics thus anticipated.

In the last twenty-five years, an average of 106 cases of typhoid fever has been reported yearly to the Board of Health of Worcester, a city with a population of 145,000 at present. This is, roughly, an average of one case a thousand of population a year for this period. In fact, however, the city has more than doubled in population in these twenty-five years, while the aggregate number of cases of typhoid fever is actually less in the second half of this period than in the first, increasing this ratio markedly. In the year 1910, the records of the health board show 295 reported cases, more than one case to each five hundred of population. The source of infection in 204 of these cases can be traced to one milk distributor's route. Through misunderstandings between responsible parties because of a change in physicians or transfer to the hospitals, nine additional cases were discovered after the epidemic was over, no report of which had been made to the Board of Health, and this number rightfully should be added to these 204 cases. Thus, in this epidemic at least 213 cases with ten deaths may be certainly attributed to one milk route. If the source of infection in several other cases could be surely traced, it is probable that several more of the 295 reported cases would be enumerated in this epidemic. Of these 213 cases, more than 180, after careful study, may be classed as primary, and it may be said that their infection was incurred at practically the same time. The remainder for the larger part were cases developing in families secondarily to one of the primary cases. Two were nurses employed in the hospitals in the care of primary cases, and a few are to be attributed probably to two cases among the employees of the distributor, who will be mentioned later.

From Jan. 1 to Aug. 11, 1910, only eighteen cases of typhoid fever had been reported to the Board of Health. During that day (August 11) seven more cases were reported. Six of these were on one milk distributor's route. An investigation of the premises of this distributor was made the following morning. Two of his employees complained that for the past two or three days they had had head and back aches, loss of appetite, felt weak and tired, but had continued about their work of distributing milk, washing bottles and other utensils used in the distribution of the milk. On physical examination, both had rose spots and temperatures, the higher