Some few years ago a considerable epidemic of typhoid disease occurred at Norwich, the poorer classes being those principally affected. As it was prolonged, and no definite cause could be ascertained for its continued prevalence, I took some trouble in the matter, and made many inquiries as to possible causes and sources of the disease. After a time one of the medical officers of the Local Government Board came down and inspected the city sanitary arrangements; and at an interview with him I mentioned a suggestion which had been made to me by a leading surgeon residing in one of our coast towns as to the possibility of mussels being a medium of contagion. We could not demonstrate this, and indeed it was then a mere hypothesis, but the suggestion was noted in the subsequent medical report to the Board, and as the epidemic shortly after this died out, the matter dropped.

It is well known that mussels are collected in large quantities on our shores, and are stored in the beds of our estuaries until required for sale. I have myself seen them lying stored in the bed of one such tidal estuary, into which the sewage of the adjacent town was (and I believe is) constantly discharged, although, of course, at a little distance from this "living fish warehouse."

If, then, oysters be proved to be capable of ingesting typhoid germs, and of passing them on undigested to human consumers, it seems in the highest degree probable that mussels also may be capable of being such carriers of contagion; and it is well known that these molluscs are constantly on sale on public stalls in our large towns, and are largely consumed by the poorer classes.

With the evidence now before us, and considering the seriousness of the matter, I cannot but think that attention should be directed to the mode of storing these, and that medical officers of health should forthwith insist upon their not being allowed to be placed in waters contaminated by town sewage. Doubtless the accepted view has been that current water, and especially sea water, was an immediate and complete destroyer of these living germs, whilst we should certainly have expected that the digestive processes of the mollusc would have destroyed their vitality. But the facts now being adduced appear to render this view doubtful and dangerous. Of course, the typhoid bacillus is specific, and, if no local typhoid disease existed, ordinary sewage matters could not propagate this disease; but it would become recurrently dangerous, as cases of this disease from time to time appeared or reappeared in the town draining into the water.

I may mention that quite recently I saw, in consultation, in one of our county towns, a case of typhoid, where the patient had visited London some ten or twelve days before his seizure, and had there eaten oysters.

MULTILOCULAR CYST—(?) OVARIAN OR MESENTERIC: ABDOMINAL SECTION: RECOVERY.

By GEORGE BUCHANAN, M.A., M.D., LL.D.,
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Mrs. M. D., aged 40, was admitted to the Western Infirmary on November 2nd, 1894. She is a healthy woman with a slightly sallow complexion. She has had eleven children, the last in October, 1893. Following on her last confinement she had an attack of influenza which confined her to bed for four months. Nevertheless, she has been nursing the child up till the present time, and has not menstruated. After recovering from influenza she regained her usual good health till about three weeks ago, when it became apparent to her that her abdomen was increased in size. On close questioning she admits that there may have been some swelling for a longer time as she was rather stout, and not particularly observant on the matter.

On examination the abdomen was found to be greatly enlarged: circumference at level of umbilicus 44 inches; from pubes to umbilicus 9 inches; from there to ensiform cartilage 8 inches; from right anterior superior spine to umbilicus 11

inches, and from there to left spine 10 inches. It was occupied by a globular mass, somewhat prominent at the umbilicus. This was decidedly fluctuant, with some feeling of resistance at the sides, suggesting the idea of some solid matter. Percussion was dull in front and at the sides, but tympanitic in the lumbar region. The mass was slightly movable from side to side. The uterus was low down in the pelvis, not enlarged, and movable in the vagina. The diagnosis was that of a multilocular ovarian tumour.

Abdominal section was performed on November 9th, Dr. Renton assisting. I made a long incision from the pubes to an inch above the umbilicus. When the peritoneum was opened the cyst bulged forward. Passing my hand all round in front and at the sides, no adhesions were detected, but, owing to the abdomen being completely distended by the mass, the hand could not be passed round behind to feel if there were any posterior connections. I therefore reduced the bulk by tapping, till most of the fluid ran out (280 ozs.), and it remained about the size of a young child's head. The fluid was oily or starchy looking, of a pale greenish-yellow colour, with some whitish flakes floating in it. Immediate microscopic examination of it showed abundant oil globules, epithelial cells, and cholesterine.

After its size was sufficiently diminished, I lifted it out from the wound, and, when half out, I found that it pulled after it the mesentery, which, along with a large loop of intestine running round, was firmly adherent. By carefully scraping and tearing with the finger-nail and a director, and cutting through—between two fine catgut ligatures—several fair-sized veins, which seemed to enter into the substance of the walls, I succeeded in separating all the peritoneal attachments, but, to my surprise, there was no pedicle nor any connection with the ovary or broad ligament, so that, when freed from the mesentery, it slipped out. A good many bleeding points on the edge of the torn mesentery were tied with fine catgut. A few clots which were lying among the coils of the intestine were removed, and a quart of tepid boracic solution was poured into the pelvis. I now passed down my hand into the pelvis, and felt and took between my thumb and finger the uterus and both ovaries, which seemed to be in their normal place, and in size and consistence were very much as they should be in a woman at the gestating age. I looked in and saw them, and in neither ovary could I find any indication of present or former cystic disease. I again poured in two or three quarts of tepid boracic solution, and removed it thoroughly with successive spongings.

The wound was closed with five strong silk deep sutures, and numerous surface silkworm gut sutures.

Result.—The patient never had a bad symptom, and made a rapid recovery. The wound was not uncovered till the fifteenth day, when the stitches were removed, and union was found to be complete throughout.

PATHOLOGICAL REPORT BY PROFESSOR COATS.

A large cystic tumour, whose external surface presents many tags of connective and adipose tissue. The wall generally is of a white fibrous character. Internally the cyst is seen to be divided by many partial septa, and in some places there are collections of developing cysts. In addition, the internal wall frequently presents a white flocculent deposit, and this in several places has a glistening satiny look; for instance, there is a flat deposit of this kind measuring 5 cm. by 6 cm. Microscopical examination shows these deposits to be largely composed of cholesterine.

MICROSCOPICAL EXAMINATION BY DR. SUTHERLAND.

Sections made through the entire thickness of the wall show essentially a fibrous structure. Externally there is a considerable amount of adipose tissue, and this also occurs, in less amount, superficially in the substance of the wall. The connective tissue fibres are disposed irregularly, interlacing throughout the tissue, which, tolerably rich in spindle-shaped nuclei, is permeated with numerous blood vessels. Internally there is no appearance of any definite endothelial lining, but applied to this surface, and adherent in part, are considerable masses of altered fibrin, with occasional leucocytes. Scattered irregularly throughout the entire thickness of the wall there are areas of massed leucocytes. These areas are of a size visible to the naked eye. In

addition, there are towards the internal surface not infrequent clefts or cyst-like spaces, isolated or grouped, which are lined with what appears to be a single layer of low cubical epithelium. In a few cases these spaces are filled with a material resembling fibrin.

Judged solely from the histological standpoint the precise nature of this cyst is obscure. There is nothing sufficiently distinctive in the microscopic structure of its wall to suggest the ovary as a starting point; it rather favours the possibility of a local origin. The existence of the cyst-like spaces mentioned would imply an epithelial origin of these particular structures, but the actual nature of this epithelium, and especially its source, is not clear.

REMARKS.

It is now thirty years since I performed the first successful ovariectomy in Glasgow. Since that time I have done a great number of abdominal sections and removed tumours of all sorts. But I have never myself met with, nor seen, nor have I read of one precisely similar to this. Its clinical characteristics and pathological description as to structure of the sac and the endogenous sacculae, as well as the nature of its contents, fluid and viscid, are all those of an ovarian tumour; but the absence of any trace of a pedicle on its wall, and of any fragment remaining attached to the ovary or broad ligament seem to favour the idea that its origin was not ovarian.

Cases are cited by Sir Spencer Wells, Thornton, and others, which had been diagnosed as ovarian cysts, but during operation or on *post-mortem* examination had proved to be mesenteric or omental. In none of these, however, so far as I know, has there been such similarity in the structure of the sac and its contents to multilocular true ovarian cysts. In fact so much am I impressed with the idea that it is of ovarian origin that I believe it is one of those rare cases of transplanted ovarian cysts. It is easy to understand how an extra-ovarian tumour, such as a parovarian cyst, can escape from its position below the ovary, can form adhesions to peritoneal folds, and how its pedicle can be elongated, stretched, or twisted, and ruptured. But for a tumour which has its origin in the substance of the ovary it is not so easy. Ovarian tumours which have been found detached, or in the process of detachment, have the distal end of the pedicle adhering to their walls, and the proximal stump of the pedicle connected with the broad ligament. Cases of this kind are described in the *Edinburgh Medical Journal* for 1861 by Sir Wm. Turner, who quotes other cases from Rokitsansky, 1860. But here there was no stump at either end, so that it was not an ovarian tumour which had become disconnected by division of a pedicle of the usual kind, which includes the Fallopian tube.

But a tumour of ovarian origin might become disconnected, through having no true pedicle in the ordinary sense of the term. Suppose a Graafian vesicle on the surface of the ovary should put on a cystic character, should grow externally without invading the structure of the organ or pressing upon it and incorporating it with the substance of its walls, should increase in size till it became a pedunculated tumour with a neck consisting of little more than the peritoneal covering and the stretched fibres from the opening of the ovarian capsule through which it escaped. Having attained a certain size, it became attached to the mesentery, and soon derived its chief supply of blood from the mesenteric vessels. The intestinal movements gradually pulled it off from the ovary, the neck being stretched and elongated till it was thinned away to a mere shred; then some sudden movement or twist broke this through. The cyst, being disconnected, rapidly increased in size till it became an abdominal tumour; and the ovary, being now free, slipped back and resumed its normal place in the pelvic cavity. Such I imagine to be the history of the tumour under consideration. Myomata have occasionally been found detached or semidetached from the uterus in a similar manner.

REFERENCES.

I have made some inquiry into the subject of transplanted ovarian tumours and mesenteric tumours simulating ovarian, but I found that it involved an extended search through many books, pamphlets, and periodicals. I therefore ob-

tained the assistance of my former house-surgeon, Dr. Munro Kerr, now assistant to the Professor of Midwifery, and he has furnished me with the following references. They may be useful to others engaged in similar research:

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IMPROVED METHOD OF DEODORISING AND CLEANSING CATHETERS.

By JOHN WARD COUSINS, M.D. LOND., F.R.C.S.,

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SURGICAL tubes and catheters are difficult to clean, and every surgeon has felt the need of some simple method by which they could be readily cleansed and effectually deodorised. These instruments are often syringed out with some antiseptic solution; but this process cannot be wholly relied on. I have frequently found catheters which had been washed out in this fashion lined with a dangerous mixture of foetid urinary products and decomposing oily matter. Catheters are manufactured, too, with hollow points, and these become receptacles for a septic accumulation which is always very difficult to remove.

Another method frequently employed consists in simply boiling the instruments in a long tin or copper vessel with some disinfecting solution, but this boiling process alone is not sufficient to secure the thorough cleansing of the interior of the tube.

At the recent Bristol meeting I exhibited a deodorising apparatus, with some special instruments and cleaning rods. The catheters are made of solid metal points, terminating in flat surfaces within the tubes, just above the first perforation. The antiseptic method I recommend consists of two stages—(1) steaming the catheters, and (2) polishing the interior of the tubes.

1. The deodorising of catheters can be very rapidly and effectually performed by the action of steam. The apparatus consists of a boiler having a capacity of about 3 pints, and capable of bearing a pressure of 80 pounds to the square inch. It can be heated by a spirit or gas jet in about fifteen minutes. The steam pipe is connected with a circular tube fitted with projecting terminals, and these are adapted to hold a complete set of catheters. Steam cocks are arranged on the steam pipe to regulate the discharge of steam, and a tray is placed beneath the instruments to collect the condensed water. Steam sprays—the relics of early antiseptic days—are still to be found in many hospitals, and these can very easily be converted into catheter deodorisers. Four tapering tubes can be attached to them capable of holding three catheters of different sizes, and with this arrangement four catheters can be steamed at the same time.

2. As soon as the deodorising process is finished, the instruments should be wiped dry with a soft leather, and their insides polished with the steel stilettes. The beak of a catheter and the corresponding stilette are represented in the woodcut. The point of the stilette consists of a flat metal disc,