

likely to carry infection which has been eaten so largely or by so many of the sufferers as to merit serious attention. It has already been stated that the large expanse of foreshore is liable to sewage pollution, and that on this foreshore, lying upon and in the superficial layer of mud, cockles are comparatively abundant, and that these cockles are gathered by children and others, and are sometimes eaten uncooked. Samples of these cockles were collected by the sanitary inspector and submitted to examination. There were two lots, one gathered on the beach near the town, and the others further out nearer the sewer outfall. Three examinations were made of each batch (a) of the mud adhering to the shells, (b) of the fluid inside the shells, and (c) of the pulped body of the cockle. The results showed in every instance the presence of the bacillus coli communis, and of the spores of bacillus enteritidis sporogenes. There can be no doubt that all were sewage contaminated.

That the sewage of the town had been specifically infected for some time prior to the outbreak is undoubted, and it does not seem improbable, therefore, that shellfish bathed in such sewage, though diluted with sea water, may become specifically infected, and cause typhoid fever in susceptible people consuming them in an uncooked or imperfectly-cooked condition.

Dr. Walter, in cases which occurred in previous years and in two cases which occurred in the district this year prior to the cases in the terrace, had suspected cockles as the probable cause. One of these cases was notified on June 30th, a child, aged 4, living in Waking Road. No other cause could be assigned, and it was known that the child was in the habit of picking and eating cockles from the beach. The next case which occurred was in the terrace, and this was followed by one in West Road. In both these the eating of cockles appeared the most probable cause. Such being the case, careful inquiries were made at all the houses in the terrace, with the following results taken in order of invasion:

House No. 8. Four cases occurred here; the dates of notification show that some of the later ones were probably secondary, but they may have been due to the same cause as the first. Children often on the beach gathering cockles. Those brought home were cooked before being eaten. The family has since removed and we could not get further details.

House No. 9. Seven cases occurred in this house. The first notified was a girl, aged 13. The parents at first asserted that they rarely ate cockles, and that none had entered the house since May, and the child did not remember having had any. Afterwards the family acknowledged that all except the father often had cockles, and that the children were constantly on the beach during the summer months gathering them. They certainly had cockles on more than one occasion early in August, the last occasion being on or about August 6th, two days after Bank Holiday. This would account for the earlier cases, and the others were either secondary or caused by the children eating cockles as they picked them from the beach. The father denies ever touching shellfish.

House No. 6. Two cases occurred here, the later one probably being secondary. The patient was a child, aged 7 years. The six people in this house ate lots of cockles. They occasionally buy them, but more often pick them from the beach, and wash and boil them before eating. They know that they had some about a week before the child was taken ill.

House No. 4. Of the eight people in this house, five contracted typhoid fever. Dr. Walter thinks that four of the five were primary cases, the fifth only being secondary. The family admit nearly living upon cockles picked from the beach, boiling them before use. In this house every person was attacked, save a baby aged 4 months, and a lodger and her child. The lodger and child never touched shellfish, and the baby was obviously too young to eat cockles.

House No. 5. Of the three occupants of this house two had typhoid fever, and both were attacked at the same time and notified September 15th. They only rarely partook of shellfish, but early in August (Bank Holiday) they had some oysters, and near the end of the month they had some cockles collected from the beach. These they cooked. This would be about the time when they became infected.

House No. 7. Of the six persons in this house two contracted fever. One, a lodger, as soon as he felt ill went off home. The other was an adult notified on September 16th, at which time the lodger was found to be ailing. This family rarely took shellfish, but about three weeks before the attack the people next door gave them a plate of boiled cockles. The people who gave them the cockles have since left. They only occupied the adjoining house for a few weeks and then removed.

House No. 10. The last case notified in the terrace. One of the end houses occupied by a man in fairly good position. Patient a child aged 3. The mother says that none of the children have ever tasted cockles, and she would not have such things in the house. The nuisance caused by erecting the ventilating shaft at the side of this house has already been referred to. Of the remaining three houses unattacked No. 1 (end house) the family had partaken of cockles several times during the summer. They did not pick them, but purchased them at the door. The other two houses are now unoccupied, and appear only to have been occupied occasionally, and for a few weeks at a time, since their completion.

The subjoined table shows that in the terrace referred to a larger proportion of males than females were attacked, that children suffered more, proportionally, than adults, and that

about one-third of the occupants have had typhoid fever. Only three cases proved fatal. As the result of an inquiry we are strongly inclined to the opinion that this outbreak was due to the eating of cockles, and our reasons may be briefly summarised as under:

1. There is no evidence tending to implicate the water supply.
2. There is no evidence tending to implicate the milk supply. It is true that one supply was impure, but it was only used in two out of the seven houses infected. The houses were supplied with milk from four different sources, and nothing occurred in any other part of the town to implicate any of the sources from which milk was obtained.
3. The drainage arrangements were unusually good.
4. The subsoil was free from polluting matter.
5. Cockles were eaten by nearly all the persons attacked, and these cockles were obtained from a source known to be polluted by sewage. Moreover, cockles gathered from this source showed when examined bacteriologically unmistakable signs of sewage pollution.
6. Cockles from the beach are consumed chiefly by newcomers to the district. The men in the garrison are expressly forbidden to eat any shellfish from the beach, and the older residents regard them with suspicion, it being well known that typhoid fever has been attributed to eating them. The residents in the infected houses were all recent arrivals in the town.

Age and Sex of Occupants of Nine Occupied Houses in the Terrace.

	Under 5.	Under 10.	Under 15.	Under 20.	Under 25.	Under 35.	Under 45.	Under 55.	Total.
<i>Males.</i>									
Attacked with typhoid fever	4	2	2	1	1	2	1	0	13
Not attacked	4	2	3	1	4	2	2	1	19
<i>Females.</i>									
Attacked with typhoid fever	2	3	1	2	0	2	0	0	10
Not attacked	3	3	3	2	4	3	5	0	23
<i>Males and Females.</i>									
Attacked with typhoid fever	6	5	3	3	1	4	1	0	23
Not attacked	7	5	6	3	8	5	7	1	42

## A COMPLICATED CONVALESCENCE FROM OVARIOTOMY:

WITH REMARKS ON THE ORIGIN OF PAROTITIS AFTER ABDOMINAL SECTION.

By JOHN D. MALCOLM, F.R.C.S. EDIN.,  
Surgeon to the Samaritan Free Hospital.

SHORTLY after Christmas, 1898, Mr. Kingston Barton was asked to see a patient, 64 years of age, on account of a slight "cold," and because her health appeared to have been failing for some months.

He found a lung condition which at first suggested the presence of an extensive pneumonia, but it was obvious that the patient was not ill to a degree corresponding with the physical signs, and the crepitations which were heard around the diseased part were not detected after a few days. The patient stated that she had had a delicate chest as a child; she said, however, that she had never had any lung disease, nor any special liability to bronchial catarrh. She had suffered from spinal disease also when very young, and two of the dorsal spines now stand out prominently. The patient's relations could not remember that she had ever been kept in bed by illness except for a few days nine years ago, when she had a violent bleeding from the nose which necessitated plugging of the nares. Besides the cold, which the patient considered a very trifling trouble, she complained that recently she had been unable to push her garden roller, because this caused discomfort and pain in the abdomen. Mr. Barton diagnosed a large cavity in the right lung, and an ovarian tumour which extended from the pelvis nearly to the ribs.

On January 12th, 1899, Sir William Broadbent and myself met Mr. Barton in consultation and agreed with his diagnosis. It was clear that under ordinary circumstances the abdominal condition found in this case should be treated by operation, and it was decided that the state of the lung did not constitute a sufficient reason for altering the method of dealing

with the ovarian tumour, the pulmonary cavity being evidently of very old standing.

On January 12th a laxative, consisting of 1 gr. pil. hydrarg. and 6 gr. pil. rhei co., followed by Esculap water, was given, and the bowels acted the next day. They were moved by enema on the evening of the 14th, and again early in the morning before the operation, which was performed on January 15th, at 10 A.M. I removed a cystoma of the left ovary, the pedicle of which was twisted, the tumour having made one full turn. The circulation was not completely obstructed by the twist, but the tumour was congested, and the intestines also were of a darker colour and rather more distended than usual. There were no adhesions, and there was nothing further worthy of remark in connection with the operation.

At 3.15 P.M. the vaginal temperature was 100°, the pulse was beating 72 to the minute, and the patient's condition was in every way satisfactory. She had slept for an hour, and she slept again later without any opiate. Between 7 o'clock and half-past 8 in the evening the bowels acted repeatedly, the patient vomited freely, and she rapidly became very feeble. I was not sent for immediately, and when I saw the patient at 9 o'clock her face and extremities were very cold, she was hardly able to speak, the pulse was felt with difficulty, and I thought she was dying. Although the bowels had ceased to act I at once ordered 20 minims of tincture of opium to be administered by the rectum, and fortunately there was no further evacuation for a time. I gave brandy and milk freely, but it was an hour or more before I could see any sign of recovery. The condition very gradually improved and the skin became warm. At 3.30 A.M. she was somewhat restless and complained of pain in the back. Ten minims of tincture of opium were therefore administered by the rectum, and this induced quiet sleep.

At 5.45 P.M. on the day of operation the patient passed 4 ounces of urine, and after twelve hours she passed 2½ ounces more. Six hours later another ounce was passed. All this urine was free from albumen, and had a specific gravity of 1026, or higher. At noon on the day following the operation the temperature was 101° F. in the vagina, and the patient was perspiring freely. She had to a very great extent recovered from the state of collapse in which she had been the previous evening, but the pulse was still very feeble. It was beating 100 to the minute. The secretion from the kidneys continued to diminish. At 2 P.M. a little urine was passed, and by catheter the quantity was made up to fully an ounce. The patient was inclined to be drowsy. At 10 P.M., as there had been no desire to micturate, I again passed a catheter, and found the bladder empty. Thus the secretion of urine was entirely suppressed for eight hours. During the day there had been practically no change in the temperature, pulse, or condition of the bowel. There had been much rumbling in the abdomen, but flatus had not come down to the rectum. Poultices were applied to the loins, and at Mr. Barton's suggestion 2 gr. of citrate of caffeine were given in the early morning. At 4 A.M. on the second day after the operation a few drops of urine were passed, and at 9.45 A.M. nearly an ounce was voided, containing a trace of albumen. The amount rapidly increased to as much as 4½ ounces in an hour, and during the third day after the operation 77 ounces were excreted. The urine gradually became normal in quantity and character.

On the third day the temperature fell to 99.4° F. in the vagina, and the pulse was beating 80 to the minute, but flatulence caused a good deal of pain. It was not till the fourth day that flatus was freely propelled into the rectum, and the bowels were moved by enema on the fifth morning.

A week after the operation the wound looked quite healthy. The abdomen was soft and almost flat, but peristaltic movements were visible through the abdominal wall. The lungs had given no trouble. The temperature was, however, about 100° in the vagina, and during the second week it did not fall below 99.8°. In every other respect the condition had improved. On the fifteenth day the patient was allowed to lie on her side. Next morning the left side of the neck was swollen and painful. The temperature rose, and early on the seventeenth day it was 103.2° F., the pulse beating 120 to the minute. The ostium of the left Stenson's duct was in contact with a decayed tooth, and was obviously

inflamed and very dry. Under soothing treatment by glycerine, belladonna, and warmth externally, and by mild antiseptic washes inside the mouth, the pain gradually subsided, and after about thirty hours there was a free discharge from Stenson's duct, which could be increased by pressure outside the parotid gland. This discharge was of a pure white colour, and seemed to be very irritating. The patient complained of a constant tickling in the throat, the fauces became decidedly red and angry-looking, and a slight bronchial catarrh was induced, with fairly free expectoration. The discharge from the parotid was constantly wiped away by means of pledgets of wool steeped in boracic lotion. Three weeks after the operation the discharge from Stenson's duct was still free, but the fluid was then like ordinary clear mucus and not white. The temperature was 99.2° in the vagina, the pulse was 86, the wound was healed, and the abdomen was normal in every way.

The neck was carefully kept warm but the swelling did not quite subside. Four weeks after the operation there was an increase of the oedema and tenderness behind the angle of the left jawbone, and the patient complained of occasional sharp shooting pains in that situation. The highest temperature about this time was 100.2° F., and the patient did not seem so well. On the twenty-ninth day I incised the capsule of the parotid, and opened an abscess by means of sinus forceps. About 2 drachms of pus escaped from the deep parts of the gland. The patient went home a week after this, and the drainage tube which had been inserted was removed from the neck on the forty-first day. After her return home she got a little bronchitis which retarded her recovery, and it was not till nearly three months after the operation that she was able to go out; she then had a normal temperature and a pulse beating 64 to the minute.

Mr. Barton saw the patient on June 13th, and he found the lung condition exactly as before the operation. The patient was able to go out driving and for short walks. She ate and slept well and had put on flesh. The bowels and kidneys acted normally, and the patient's condition was in every way satisfactory. During the foggy weather in October she had a sharp bronchial attack affecting chiefly the area round the cavity in the right lung. She has nearly recovered. There has been no trouble in the abdomen.

#### REMARKS.

It is desirable that the patient's bowels should be opened well before an abdominal section is performed. In the case under consideration a purgative was prescribed two days before the operation, and I understood that this had acted well; but when the abdomen was opened the small intestine was full and congested, and I have no doubt that the effects of the purgative had not passed off. This was due partly to pressure on the lower bowel, partly to the congested condition of the tumour and of the rest of the peritoneum caused by the twist of the pedicle. Mr. Barton and I agreed that in all probability the frequent evacuations of the bowels in the evening after the operation were due to a delayed action of the purgative given three days earlier. In a younger woman the effect would probably have been beneficial, but in the circumstances of this case a most alarming collapse was induced. The patient's arteries were all very tortuous and atheromatous, and the blood tension became so low that for eight hours there was no secretion of urine. As is usual in such cases, there was a compensating excessive secretion later on. It is to be noted that the urine did not absolutely cease to be excreted until eighteen hours after the onset of the collapse caused by the action of the bowels, although during that time the condition of the patient was improving in many respects. It is, of course, open to question whether the opium and stimulants which were administered may have acted adversely on the secretory action of the kidneys.

This is the second case in which I have seen parotitis following laparotomy and associated with a carious tooth opposite the ostium of Stenson's duct. In the other case, also, the opening of the duct was obviously inflamed, and after a few hours there was a free discharge of fluid from it, but the condition was recovered from without the necessity of incising the gland.

The parotitis which every now and then follows an abdominal section has been considered somewhat mysterious in



origin. It has been said that the inflammation is always due to some septic condition in the abdomen. It has also been attributed to a sympathetic nervous influence.

It seems to me probable that a direct septic infection from the mouth may account for the parotitis in some cases, and perhaps in all. There is no doubt that the conditions under which the patient is usually placed contribute very materially to the occurrence of such an infection. The patient is made to retain the dorsal position for a time, and thus the force of gravity tends to prevent the emptying of the parotid ducts. The diet is at first liquid, hence the jaws are not used in chewing, and thus another powerful aid to the emptying of the ducts of the gland—namely, the intermittent pressure of the muscles—is in abeyance. The feverish condition following the operation, by reducing the quantity of the secretion, leads to a still further stagnation. The dryness of the mouth in fever is well known. Under such circumstances septic organisms in the mouth must be far more likely to affect the parotid gland than under normal conditions. Moreover, it is often extremely difficult to give the desirable attention to cleaning the teeth for some days after an operation without inducing nausea.

In the two cases I have observed the opening of Stenson's duct was certainly inflamed as soon as attention was directed to the gland. I have not had an opportunity of examining other cases since the above explanation occurred to me, but in a case temporarily under my care after both glands had been incised for parotitis a small abscess formed in the right cheek close to the opening of Stenson's duct, and I succeeded in arresting the formation of an external fistula only by a free incision inside the mouth. At that time, many years ago, I thought the infection in the cheek was secondary to that in the gland, but it now seems to me much more reasonable to suppose that the abscess in connection with the duct was due to an infection from the mouth. I have shown that many arguments may be brought forward in favour of the suggestion that parotitis may be thus induced, and this view has at least the merit of attributing the inflammation to a series of conditions which may be logically associated together. It has always seemed to me that the suggestion that the parotitis is due to a septic condition connected with the operation is, to say the least, a hypothetical one, for a parotitis comes on at a very varying period after a laparotomy, and it may occur after a simple operation in connection with which from first to last there is no other complication. The idea that there is a nervous association between the parotid gland and the rest of the intestinal tract might account for a proneness to parotitis after an abdominal section, but a direct infection seems to explain the condition more fully.

### A CASE OF MYOMETOMY FOR SUBPERITONEAL MYOMA COMPLICATING PREGNANCY.

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THE following case appears worthy of record :

Mrs. L., a young married woman, aged 26, consulted me on August 26th, 1899, complaining of pain in the left groin, which was gradually becoming more severe. She had reached the end of the fourth month of her first pregnancy. She complained of obstinate constipation, but the sickness of the earlier months had passed off.

On examination, I found a hard movable lump in the left iliac region, which appeared to spring out of the pelvis and not to be attached to the uterus. The uterus itself was of a normal size for a four months' pregnancy. On vaginal examination the same lump could be felt as a mass about the size of an orange, lying at the pelvic inlet to the left of the enlarged uterus. The ovary was not discoverable apart from the tumour. It appeared to be probably a tense cyst of the ovary, or a solid tumour of that organ. The possibility of its being a myoma did not occur to me, as it did not feel as if it were attached to the uterus, although a thorough examination was made under chloroform in consultation with Mr. H. A. Ballance of Norwich.

As the growth of the tumour and its position rendered the possibility of hindrance to labour a very likely one, I performed laparotomy on August 30th, thinking it highly probable that the removal of the tumour in the fourth month would not interrupt the natural course of pregnancy.

On opening the abdomen by the usual median incision, the tumour was found to spring from the left side of the uterus low down, and the hand in the abdomen readily made out the appendages to be healthy immediately below it. With a little difficulty the tumour was delivered through the wound, when it appeared as a mottled whitish yellow solid body, rather more than 3 inches in diameter, hard and nodular on its surface; a pedicle could be defined, not containing much fibrous tissue, about an inch in diameter, attaching it to the uterus. It was decided to remove it, and the

pedicle was accordingly ligatured in two portions, and the tumour snipped away with strong scissors. The stump was hollowed out somewhat by snipping away the central portion so as to allow the peritoneum to be drawn across it, which was then stitched carefully together with chromic catgut. There was no bleeding and no adhesions had to be dealt with. The wound was then stitched up by deep and superficial silk sutures, a separate series of catgut sutures being applied to support the rectal sheath. Cyanide dressing was used, carefully supported with a many tailed flannel bandage.

During the first twenty-four hours after the operation some painful uterine contractions occurred which were controlled by morphine suppositories. The temperature was 100.5 the first evening, but fell the next day and remained under 99° throughout. The bowels were opened by an enema on the third day. With the exception of some slight rapidity of the pulse, 88 to 100, which lasted for the first ten days, there were no unfavourable symptoms. Three weeks after the operation the patient quickened. The wound healed throughout by first intention, and she was up at the end of a month, and is now able to follow her usual course of life without inconvenience, the body being supported with a well-fitting abdominal belt. On examination of the tumour its structure was found to be typical of a fibromyoma of the uterus and does not call for any further remark.

Several questions arise for consideration in this case. What is the proper treatment of a pedunculated fibroid of the pregnant uterus of such size as to produce a well-marked tumour at the inlet of the pelvis? Kelly in his *Handbook of Operative Gynaecology* gives several rules for the treatment of myomata complicating pregnancy. He says that we should remember that there are two lives to consider and that operation as prophylaxis against possible complications is unjustifiable, in fact, that we should reject all radical measures unless the symptoms are urgent. He does not countenance operations for small fundal tumours, nor except in exceptional circumstances for interstitial fibroids.

The rapid growth of a tumour and excessive pain may necessitate operation. Kelly's rule for intraligamentary and subperitoneal cervical fibroids is that operation should not be undertaken unless the fibroid is of such size as to encroach upon the pelvic room and the superior strait in such a way as to prevent labour.

Now, the above case seems to me to belong practically to this last division; the tumour was of such a size and in such a position that when labour began, it would, in my opinion, have been forced into the pelvis, though it is open to argument whether the increasing size of the uterus and tumour would not have removed it from its dangerous proximity to the pelvic cavity.

The fact that in my case the pedicle could be easily ligatured decided me in favour of extirpation; if the tumour had been sessile the operation would have been fraught with more danger to the mother, and would have been more likely to produce abortion, while there would have been more likelihood of the tumour being gradually lifted out of the pelvis as the pregnancy advanced.

Fortunately the result justified the procedure in the case described, but there is always the other aspect to consider, what would have been one's reflections if the case had not done well. Was the risk of complications at the time of labour equal to the risk of removing the tumour? In connection with this, one should recall the published statistics of this operation. The mortality of myometomy for pediculated fibroids of the pregnant uterus is stated by Kirschheimer<sup>1</sup> to be 18.87 per cent. This probably does not represent the mortality of the operation when carried out with modern aseptic methods, but it is sufficiently high to make one hesitate to operate unless the indications are clearly among those enumerated above.

#### REFERENCE.

<sup>1</sup> *Inaug. Diss.*, Halle, 1895, quoted by Kelly.

DANGERS OF "HEADACHE POWDERS."—Dr. J. Sobel, of New York, has published in the *Medical Record* the case of a woman, aged 25, who was a sufferer from headaches and had been in the habit of taking powders called "antiheadache or half-hour headache healer," a quack remedy which is "guaranteed" not to contain any dangerous drug. The patient foolishly relying on the advertisement took three powders for a violent headache, with the result that shortly after taking them the most distressing symptoms supervened. She became very cyanosed, her pulse and respiration grew feeble, and she fell into a state of collapse, her condition being decidedly serious. Under suitable medical treatment she however recovered. A specimen of the "antiheadache" powder was submitted to analysis and found to contain a large proportion of acetanilide.