

bone was felt. A probe could be passed along a sinus into the antral cavity, whilst a steel director was easily pushed through the necrosed portion into the mastoid cells, giving free exit to more pus. The beneficial effect of this was kept up by linseed-meal poultices. The temperature fell to 100° and the pain abated. On Jan. 12th rigors began, followed by profuse sweating, copious diarrhoea, and vomiting. He looked very anæmic; the temperature was irregular; he was obviously much worse and in a condition of danger. These symptoms pointed strongly to, and were highly suggestive of, a pyæmic involvement of the system or that of abscess formation. The rigors varied from three to six a day and the temperature from 99° to 105°. The mother stated that she had noticed twitching on the right side of the face, but this I was never able to verify for myself. On Jan. 19th the wound behind the ear was closing up, but still discharged pus. The pain in the head was gone. He did not complain when firm pressure was made over the mastoid, digastric fossa, or jugular vessels, but he was restless, with irritability of temper and fits of depression. On Jan. 26th the vomiting, which had been of daily occurrence, was more marked and occurred several times a day. The diarrhoea ceased; the tongue was quite clean; there was a certain amount of emaciation present; the temperature was sub-normal; there were no rigors; there was retraction of the abdominal walls and *tache cérébrale* was well marked. The pulse and respiration were slow. Cerebration was sluggish, the patient taking a long time to answer a question. Upon percussing the head no pain was complained of beyond that of a well-defined area over the right occipital region; here slight tapping caused great pain. On making him walk staggering gait was quite apparent, and on the patient closing his eyes there was a tendency to fall forwards; this together with the other symptoms was evidence in favour of cerebellar abscess. On Feb. 1st the incision behind the ear had quite healed; he sat up in bed, played with toys, and amused himself drawing pictures. Vomiting was still marked. The pulse was 40, the temperature sub-normal, and respiration slow but regular. There was no change in his condition till Feb. 7th, when he did not take so much notice of things and seemed difficult to rouse. He lay on his left side huddled up in bed, with the legs and thighs flexed. Constipation was present. The pulse, temperature, and respiration were as before; the vomiting was more frequent. On Feb. 12th violent paroxysms of acute pain set in over the vertex of the skull, causing him to clasp his hands over his head and scream during the attacks. Purgation and opium diminished their intensity and frequency. It was quite evident the end was slowly approaching. He was getting very emaciated. There was never any retraction of the head or Cheyne-Stokes respiration. On Feb. 22nd he sat up in bed to ask for a drink and fell back dead. The vomiting never abated and the temperature remained subnormal. After great difficulty permission was granted for a post-mortem examination of the head only.

*Necropsy.*—The skull cap came away easily; the dura mater was not adherent in any part; a degree of fulness was apparent as though there were increased intra-cerebral pressure; the dura mater stripped off easily, and with the exception of the veins being somewhat distended the surface of the brain looked healthy. There was no sign of meningitis, no caries of the petrous bone, a slight increase in the amount of cerebro-spinal fluid at the base, but no meningitis. The right tentorium cerebelli was seen to be distinctly bulged. On dividing it a large abscess was to be seen occupying the anterior and outer portion of the right lobe of the cerebellum evidently on the verge of bursting. The membranes were not adherent, neither was there any healthy layer of brain tissue seen to be intervening. On attempting to remove the brain the abscess burst and a quantity of offensive green pus escaped. There was a distinct limiting membrane encapsulating the abscess from the neighbouring brain tissue, but no channel of communication with the mastoid cells was to be found. There was no localised abscess beneath the dura mater covering the bone in this region; in fact, the membrane came away easily in the posterior fossa, leaving to all appearance a healthy surface. There was no thrombosis of the lateral sinus. The pons and medulla, with the remainder of the cerebellum, were healthy. On cutting into the brain the lateral ventricles were markedly distended and filled with clear fluid. Beyond this no other lesion was to be found. The mastoid cells and antrum were found to be free from pus; the incision wound was quite healed.

St. John's, Woking.

## REMOVAL OF A RAPIDLY GROWING OVARIAN CYST WHICH HAD BURROWED BETWEEN THE UTERUS AND THE BLADDER

IN A PATIENT WHO HAD BEEN RECENTLY CONFINED, AND  
ON WHOM OVARIOTOMY HAD BEEN PERFORMED  
EIGHTEEN MONTHS PREVIOUSLY.

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HOSPITAL FOR WOMEN AND CHILDREN.

A MARRIED woman aged twenty-four years consulted Dr. Seccombe of Terrington, Norfolk, in March, 1892, on account of pains in her stomach which were at first thought to be due to flatulence. On examination a tumour was discovered which was diagnosed, in consultation with Dr. Plowright of King's Lynn, to be an ovarian cyst. The patient was sent to the Samaritan Free Hospital and was admitted under my care on April 30th, 1892. The following history was elicited from her. Menstruation first appeared at twelve years of age, and since then the periods had been regular though scanty. She had been married two and a half years, but had not become pregnant. In June, 1891, she had influenza, and in the following August very nearly succumbed to an attack of measles which left her in a delicate state of health. Her first experience of abdominal pain occurred in February, 1892, and as it became worse she sought medical advice. On admission the patient, who was much emaciated, flushed, and feverish, complained of great tenderness in her abdomen and was evidently suffering from extreme distension, the circumference at the umbilicus being forty-eight inches. Her breathing was rapid and shallow, the pulse was 120, and the temperature was 101° F. The tongue was coated; the urine was acid, of specific gravity 1015, clear, and contained no trace of albumin. The abdomen was oedematous and the vulva and thighs were swollen. Her appetite was fair, but she had been losing flesh steadily for the last few months. Of late she could not lie on her right side because of a dragging pain in her abdomen to the left of the umbilicus. The abdomen was distended by a tense swelling which fluctuated freely. There was dulness up to the ensiform cartilage and in both flanks. The tumour was adherent to the parietes. Per vaginam the uterus was found to be behind the tumour, which almost filled the pelvis. The uterine cavity measured two and a half inches and the uterus could be moved laterally. On May 4th Mr. Stormont Murray administered ether, and assisted by my colleague Dr. Rutherford (Dr. Seccombe and other visitors and colleagues being present) I opened the patient's abdomen, separated the parietal adhesions and tapped the tumour, thirty-four pints of dark, viscid fluid being drawn off. After a tedious operation, owing to the universal adherence of the cyst in the abdomen and pelvis, I succeeded in removing the tumour, the pedicle of which was doubly twisted and adherent to the large intestine. The right ovary was then brought to the surface and carefully examined, and as it appeared to be healthy and was not enlarged it was returned into the abdomen. The peritoneal cavity was then washed out and a drainage-tube inserted and the wound closed with silkworm gut sutures. The patient made a good recovery, though the pulse was never less than 120 and the temperature kept above 100° till the end of the second week. She left the hospital on June 4th and went to her home, where she remained in good health up to November, 1892, when she became pregnant. Her health was excellent up to July 20th, 1893, at which date she was delivered of a still-born male child which weighed over 11 lb. The presentation was a breech one and the labour very tedious. The child was alive at the commencement of labour; but owing to the unusual size and the marked deficiency of expulsive power, notwithstanding the administration of ergot, it was impossible to save his life. The placenta came away easily and the patient went on well and got up on the eleventh day. It was remarked after delivery that the mother was as slight as ever she had been, and Dr. Seccombe is confident that no swelling other than the contracted uterus could be detected in her abdomen. On the fifteenth day, however, when up and about she had an attack of pain in her right

side which compelled her to go back to bed, where she remained a couple of days, when the pain passed off and she thought no more about it. A month after her delivery she noticed that her abdomen was rapidly becoming enlarged, and later she sent for Dr. Seccombe, who examined her and found a large cystic swelling on the right side of her abdomen. He wrote at once to me, and on Sept. 1st I saw the patient with him and confirmed his diagnosis. It was decided that the patient should wait till October, when she could go into the hospital. She was brought to town on Oct. 4th and re-admitted into the Samaritan Free Hospital, where I examined her and found that the tumour had increased so rapidly in the month as to double its size. There was also much free fluid in the peritoneal cavity, and the patient had again become emaciated and was even in a worse condition than when she came up for her first operation. On Oct. 6th she was put under chloroform by Mr. Murray, and assisted by my colleague, Dr. Bantock (Dr. Seccombe and others being present), I opened the abdomen and disclosed a dark-coloured swelling which was adherent to the abdominal parietes and covered by adherent omentum in its upper part. These adhesions were separated and the tumour tapped, thirty pints of dark thick fluid being withdrawn. It was then seen that the tumour had burrowed into the broad ligament and had passed across in front of the uterus between that organ and the bladder, completely stripping off the peritoneum from the anterior surface of the uterus. This portion of the tumour was enucleated and the broad sheet of peritoneum in front of it tied in four pieces, cut across, and dropped back into the peritoneal cavity. The rest of the cyst was then separated from the surrounding adherent intestine and the pedicle transixed and tied, and the tumour having been cut away the abdominal cavity was thoroughly washed out and drained. The peritoneum was then dissected off for about an inch round the incision and the scar tissue cut away. The wound was then closed with three layers of sutures, a continuous suture of thin catgut for the peritoneum, interrupted sutures of thick catgut for the aponeuroses, and silkworm gut for the skin. The patient made a rapid recovery and went out on Nov. 4th quite convalescent. Curiously enough, after the second operation the pulse and temperature kept above 120 and 100° respectively for the first fortnight, this condition being due to a small abscess in the lower angle of the wound where the tube had rested.

*Remarks.*—This is the only instance in which I have met with an ovarian tumour burrowing in front of the uterus and displacing the peritoneum between that organ and the bladder—in other words, completely stripping off the peritoneum from the anterior surface of the body of the uterus. Tumours burrowing behind that organ and raising the peritoneum from its posterior surface are not infrequently met with, but the former condition is, I believe, uncommon. It is not often that the growth of an ovarian tumour can be dated with any degree of certainty, but in this case it is certain that, so far as one could judge by sight and touch, the right ovary was healthy on May 4th, 1892. Dr. Seccombe states that after the patient's delivery in July, 1893, no swelling other than the contracted uterus could be felt in her abdomen. A fortnight later the patient had severe pain in the right side, and about a month or six weeks after her confinement her abdomen began to get big, when on examination a cystic tumour was discovered, and this growth increased so rapidly that when seen a month later it was as large again. I presume the disease started during pregnancy, and that after delivery the pressure having been removed the growth rapidly developed, as such tumours usually do under similar circumstances. The first tumour was a large multi-locular growth with dermoid material in parts. The second tumour was very similar as regards size, fluid contents, and, so far as one could judge from the history, in the duration and rapidity of growth, but no dermoid material was observed in it. The patient was in excellent health on Feb. 23rd, 1896.

HIS ROYAL HIGHNESS THE DUKE OF YORK has consented to preside at a dinner in aid of the funds of the Association for the Oral Instruction of the Deaf and Dumb, 11, Fitzroy-square, W., on Wednesday, March 17th, 1897, at the Hôtel Métropole. An appeal is made for the £7000 required to free the association from debt and to purchase the freehold of the premises.

## THE INSIDIOUS MARROW-INFECTION OF MAMMARY CARCINOMA.

By HERBERT SNOW, M.D. LOND.,  
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*Prevalence.*—Secondary deposit within the bone-marrow is a pronounced event in 8 out of every 10 cases of carcinoma mammae passing to a fatal termination. Whether the remaining 2 are completely exempt to the end is at present doubtful. Of 150 seen in the out-patient room at an average duration of from ten to twelve months, 90 showed well-marked symptoms of this peculiar condition at their first visit, 22 showed symptoms in a slighter degree, and 8 developed them subsequently under observation; total 120, or 80 per cent. The physical signs were absent or doubtful in 30, which fall into two classes, those too recent to betray them, and “atrophic” cases. Thus 12 were of from six weeks to six months’ duration only and 4 from six to twelve months. Of the remainder, 12 were extremely chronic forms of the disease, which had already existed from two to sixteen years, 5 out of the 12 having grown slowly for more than nine years. It is these “atrophic” cases in women that alone show prolonged exemption from the marrow lesion; the breasts are previously scanty or shrivelled, approaching the male type; life is not terminated for a long term of years, sometimes for more than twenty or thirty, and the exemption aforesaid largely accounts for this peculiar chronicity.

*Mechanism of the infection.*—Average examples of mammary scirrhus in women infect the lymph glands within the corresponding axilla in from six to twelve weeks from inception. The malignant cells quickly block the lymph sinuses and diversion of the current takes place in abnormal directions. These glands receive lymph from the marrow of the adjoining humerus; when they become cancerous regurgitation ensues, and thus deposit takes place within this bone, ordinarily the first affected. Again, from the inner edge of the mamma a few lymphatics normally pierce the thoracic wall and convey lymph to the mediastinal lymph glands and also to the thymus, a lymphoid organ whose rudiments are never wholly obliterated, but persist through life as a fatty mass immediately behind the sternum at the junction of its upper and middle portions. Thus malignant cells reach the thymus, and, there proliferating, directly invade the sternum. In the third place, and usually after a considerable lapse of time, fragments of cell-protoplasm pass from the marrow into the blood-current and thence invade other bones, the opposite breast, or the viscera. The above is the ordinary route; but as the infection is a mechanical process it is to be noted that interference with the normal lymph-current (as by an operation and its resulting scar in the axilla) may preclude infection of the humerus, the flow then passing wholly to the mediastinum and thymus.

*Symptoms.*—The physical signs of marrow-infection are rarely evident until the disease has existed eighteen months and may be delayed much longer. They are threefold, and to be classified in relation to (a) the humerus, (b) the sternum, and (c) the quasi-rheumatic pains in the loins and scapulae. The upper third of the humerus becomes tender on pressure, apparently from irritation of the periosteum; the bone also feels slightly thickened in comparison with that on the opposite side. The sternum displays a very slow and gradual bulging forward at the junction of the upper and middle portions; it is painless and is seldom noticed by the patient until her attention is directed thereto. It proceeds only to the development of a sufficiently conspicuous prominence and then stops, resulting in actual tumour formation only in from 2 to 3 per cent. Lastly, the quasi-rheumatic pains are a late phenomenon and are referred to the lumbar region, scapulae, and arm of the same side as the lesion. They are deeply-seated, described as “gnawing” or “aching,” are, like ordinary rheumatism, worse at night and alleviated by salicylates, but, unlike that, do not affect the articulations. In advanced cases there is extreme physical weakness with emaciation, due seemingly to the cytogenic function of the marrow.

*Diagnosis.*—The sternal prominence may be simulated by