enlargement is merely a consequence is almost certain. The changes in the cervical ganglia of the sympathetic are also probably secondary. What it is that produces the central lesion still remains in the region of hypothesis. Someone may some day discover a bacillus. At present severe mental strain or nerve shock is credited with its production. As bearing upon the title of this paper and the object I have had in writing it, I would point to the significant fact that the ratio of males to females affected is almost identical in both Graves' disease and myxoedema—that is, about one to six. Of six cases of myxoedema which I have seen since 1884 three had histories of previous thyroid enlargement and concomitant symptoms. The first two I have just related; of the third I have no notes, and it is consequently valueless. In the remaining cases no history of exophthalmic goitre was obtained. However, from the facts already mentioned and from others which the compass of this paper will not permit me to discuss, from the sequence of events in the two cases detailed, and from the study of the pathology and histology of both diseases, I am led to believe that myxoedema is certainly a possible, and may even be a probable result of antecedent Graves' disease.

Treatment.—My experience is limited to five of the six cases just alluded to. The first case recovered under tonic and diuretic treatment alone, possibly because some part of the gland escaped destruction and, subsequently becoming hypertrophied, sufficed for the needs of the body. The most recent case is still under treatment with the "extract," and already shows some improvement. In three of the cases the result of the treatment by thyroid extract savours of the miraculous. Snatched from a life of unloveliness and suffering, the patients have been restored to health, beauty, and vigour. Surely their gratitude is due to those members of our profession whose acumen led them to the discovery of a remedy the therapeutic value of which is as yet but very imperfectly gauged, and which has opened up a field of research full of brilliant promise for the future.

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CASE OF

LARGE POLYPOID GROWTH IN THE UTERUS BECOMING SARCOMATOUS;

UTERUS AND GROWTH REMOVED BY COMBINED ABDOMINAL AND VAGINAL HYSTERECTOMY; RECOVERY.

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THERE are few cases that come under the notice of a gynaecologist which cause him more anxiety than cases of fibro-myoma of the uterus, and when these tumours become sarcomatous, as they occasionally do, the difficulty in dealing with them is very much increased; in fact, the only hope of eradicating the disease from the system rests on the total removal of the organ with its disease. Such removal is always attended by considerable difficulty. If the uterus is not much enlarged they may be removed per vaginam; but if the growths have attained considerable size this proceeding is impossible, and it becomes necessary to consider what is the best method of removing the organ—whether to remove it through the abdomen by Freund's operation or to adopt Martin's operation of combined vaginal and abdominal operation, and finally, the uterus with its growth being removed, to consider what is the best plan to adopt in dealing with the peritoneum. The following case is one, I think, of very considerable interest and importance in connexion with these questions.

On April, 9th, 1894, I was asked by Mr. J. R. Walker of Hamilton-terrace to see with him a widow fifty-seven years of age. She had three children, the youngest being about thirty years of age. She had enjoyed good health until about three or four years ago, when she had some violent floodings, for which her medical man, at that time, took her to see Dr. Braxton Hicks. She has had a great deal of worry and anxiety. There is no history of cancer in the family. In answer to a letter I wrote to Dr. Braxton Hicks as to her condition when he saw her, he most courteously sent me the following particulars: "About two years ago I saw the patient in question. She had then a sloughing fibroid; the greater portion of the mass came away, but some remained. She gradually

improved in health and got about. I saw her about four months ago. She was then without offensive discharge; there was leucorrhoea, and the uterine tumour was about the size it was when I saw her before. There was nothing then to indicate change of growth or operation." Since then the patient had complained of pain in the back; she could not walk without a good deal of distress. She had had attacks of bleeding and some badly smelling discharge. The jolting of cabs and omnibuses caused her great pain. She had had two attacks of intestinal obstruction, one a very severe attack. By abdominal examination there was discovered to be a well-marked tumour situated somewhat deeply in the pelvis; the parietes were flaccid and admitted of ready examination. The patient was well nourished, although she had lost flesh of late. The tumour appeared to extend somewhat along the left broad ligament. A boss was also felt about the size of a Tangerine orange apparently in the right broad ligament. Per vaginam the os felt healthy; there was no erosion or ulceration. The uterus was readily movable; the tumour appeared to be in the body of the uterus; there was a good deal of thickening of the left broad ligament. A sanious, blood-stained, badly smelling discharge was seen escaping from the os; this discharge was sero-purulent in character and caused a good deal of irritation of the labia. The sound passed readily for four inches and a half; slight bleeding followed its introduction. Bi-manually the uterus presented a soft, doughy sensation; it was freely movable excepting on the left side, where it seemed to be slightly held down. The diagnosis arrived at was that there had been a fibroid growth in the uterus; but taking into account the age, the offensive discharge with hæmorrhage, and the fact that it had been growing of late, I was of opinion that we had to deal with a growth of a sarcomatous character and advised early removal, which, after consideration, was agreed to by the patient and her friends. On April 19th, with the assistance of Mr. Walker, Dr. Purcell, and Mr. West, Dr. Dudley Buxton administering the anæsthetic, I performed the following operation. From the size of the tumour it was recognised that considerable difficulty would be experienced in removing the uterus with its growth per vaginam, although I hoped to be able to do so. I was, therefore, prepared to open the abdomen in case such difficulty was experienced, which proved to be the case. For three days preceding the operation the vagina had been syringed out three or four times a day with carbolic lotion, and tampons of wool soaked in the lotion had been kept in the vagina. Before the patient was placed on the table she had an enema composed of two ounces each of beef-tea and brandy. The patient was placed in the lithotomy position and the vagina was well washed out with a 1 in 40 carbolic solution. The os uteri was then seized with vulsellum forceps and readily drawn down to the vulva. The mucous membrane was next divided round the whole circumference of the cervix and the anterior and posterior cul-de-sacs of the peritoneum opened. The uterine arteries were now secured and the uterus freed to a point above the arteries. I next endeavoured to tilt the uterus, both anteriorly and posteriorly, but from its size found it impossible to deliver it. I then discussed the advisability of opening up and dividing the uterus, but as I believed the tumour to be a sarcoma, and there was a risk of soiling the peritoneum extensively if I adopted this procedure, I determined to open the abdomen in the middle line and finish the operation from above. The patient still being retained in the same position, I, standing as before, after shaving the pubes and thoroughly cleansing the skin, made an incision some three inches long in the middle line and seized the fundus of the uterus with vulsellum forceps and readily drew it through the wound; I then found that the left ovary and tube were matted together to a loop of intestine. I detached this and ligatured the broad ligament from above downwards, first on the left and then on the right side, the lowest ligature meeting that which had been passed round the uterine arteries from the vagina. The broad ligaments now being divided between the ligatures and the uterus, the latter was easily lifted out. The abdomen was flushed out with warm water, being allowed to drain out through the vagina. All bleeding being arrested I caught the two flaps of peritoneum with curved pressure forceps through the vagina and drew them down, introduced a glass drainage-tube into the peritoneal cavity, and packed the vagina around the drainage-tube with strips of iodoform gauze. The patient, who was very exhausted, was now returned to bed. She rallied rapidly and in the evening was quite comfortable. The drainage-tube and gauze packing

were removed the next day, as the patient complained of a good deal of pain in the right side. Most of the ligatures were removed at the end of the week. There was a good deal of discharge, and pain was complained of in the right iliac region. On the tenth day there was a sudden rush of pus, which appeared to come from the right side rather high up; after this the temperature, which had been 102° and 103° F., dropped, and the patient was much easier. At the end of a fortnight the discharge had much decreased, and a large slough with some ligatures came away. The patient three weeks after the operation was lifted on to the sofa, and Mr. Walker writes to me that at the present time (Feb. 20th, 1895) she is in good health.

Remarks.—This case is one of interest, I think, from two points of view: one the fact of these large intra-uterine fibro-myomata becoming sarcomatous, and the other from the method in which the operation was performed. Sir John Williams has in his Harveian Lecture drawn attention to the way in which carcinomata occasionally assume a polypoid shape, while the uterine wall at their base may be healthy. These polypi, as Ruge and Veit and John Williams have explained, may break down and disappear, leaving a mass of cancer in the uterine walls. It is fully recognised that fibro-myomata of the uterus do undergo sarcomatous degeneration; thus, as Mr. Plimmer has drawn my attention to, Dr. Sims Woodhead¹ observes that portions of a fibroid tumour (of the uterus) undergo sarcomatous degeneration. Mr. Alban Doran² gives an account of a case of a fibroid becoming sarcomatous. Dr. Finlay³ showed a case at the Pathological Society of a large fibroid which had become sarcomatous, the patient dying from secondary deposits in other organs. Numerous other instances have been recorded by Playfair, Cornil, and Ravvier, Pozzi, and others; but in none of these do they, I think, describe just the condition which existed in this case—viz., an intra-uterine fibro-myoma assuming a polypoid form, being connected with the fundus of the uterus by a narrow pedicle, and then becoming sarcomatous. Mr. Plimmer has kindly furnished me with the following pathological report of the specimen. He says: "The tumour consists of non-striated muscular tissue and sarcomatous material in varying proportions. In the hard parts it is almost entirely of the ordinary 'uterine fibroid' structure, but in all but the very hardest parts there is some sarcomatous material with it. The softer parts are almost entirely sarcomatous, with bands of connective tissue, which are rich in fusiform cells with prolongations of various length between; these bands are large collections of round cells with well-marked nuclei closely packed together. In the superficial parts are bundles of fibrous and unstriated muscular tissue. The blood-supply is rich, and there are around the vessels some spots of hæmorrhage. No mucous membrane or glands found." The operation was conducted much in the same way as described by Martin (Berlin), although I have never seen this surgeon operate. The advantages I think are obvious: first, from the position the patient is placed in, the abdominal parietes are made quite lax, so that it is easier to withdraw a tumour through the abdominal wound; secondly, the surgeon has complete control of the vaginal and abdominal openings, and so is enabled much more accurately to ligature the broad ligament, and the peritoneum and vagina are more readily and thoroughly washed out and all clots removed; the final steps of the operation differed from Martin's method in that he laces the peritoneum across through the abdominal wound, thus closing the peritoneal sac. I prefer, as I have mentioned on many former occasions, to draw the two flaps of peritoneum down into the vagina and packing around these strips of iodoform gauze, passing for the first twenty-four hours a glass drainage-tube into the peritoneum. The specimen consisted of a large polypoid growth, lobulated, in some parts very hard, at others soft and cystic. It is attached to the fundus of the uterus by a narrow pedicle. The uterine walls are somewhat soft and thinned. The cervix and os appear to be quite healthy.

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¹ Woodhead's Pathology, p. 526. ² THE LANCET, May 10th, 1890.

³ THE LANCET, March 10th, 1883.

A CONTRIBUTION TO THE PATHOLOGY OF CHLOROFORM SYNCOPE.

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THE extremely interesting paper by Mr. A. Wilson¹ and the notes and papers which have followed it have brought prominently before my mind the argument as to the causation of chloroform syncope which I have elsewhere given.^{2,3} My argument is that syncope following the administration of chloroform has an identical causation with those more common conditions of syncope seen in connexion with high and rising blood pressure, and that in all cases it is the high and rising blood pressure which overpowers the heart and produces the syncope. It is generally acknowledged that the effect of chloroform inhalation is to lower the blood pressure, and it follows from this that when the chloroform has been stopped and its effects are passing off there will be a rise of blood pressure. Now I have good reason to believe that this rise of blood pressure is a danger to the heart, and that this danger is increased the greater and more sudden the rise and the weaker the heart or the more imperfect its nutrition. Further, the very interesting experiments and observations of Dr. R. Kirk⁴ show that a similar irregularity of the heart and tendency to syncope is met with in animals after the last drop of chloroform has left the blood; and he has further pointed out that in the human subject these troubles often occur during a break in the administration or soon after it has been discontinued, and this is a point which several of the cases recently discussed in THE LANCET illustrate in a remarkable way. Thus in Mr. Wilson's Cases 1 and 2 we have, as he truly says, all the signs of primary failure of the circulation, and in his Case 6 we have this occurring as the patient is coming round and is sufficiently conscious to give a cry of pain; but whether in Cases 1 and 2 the syncope came on during slight breaks in the administration of the chloroform, as contended by Dr. Kirk, there is not sufficient evidence to show. With regard to Case 6 Mr. Wilson remarks that the syncope was due to the reflex inhibition of the heart by the pain, but that some blame must also be laid upon the semi-anæsthetic condition of the patient at the time, but I shall have to speak of these points again. It is interesting to note also that Mr. Wilson agrees with Dr. Kirk in looking upon a sudden quickening of the pulse as a danger signal.⁴ Dr. Kirk also mentions in the reference just given the case of a patient who died from "the reaction which ensued when he began to breathe fresh air."

Then in THE LANCET of Nov. 24th, 1894, there is the record of a case of syncope under chloroform in which nitrite of amyl averted a fatal result and its effect is said to have been "almost instantaneous." I have elsewhere suggested that this drug acts by reducing the blood pressure and thus freeing the heart from its overpowering effects (for another case in which it was used with success see THE LANCET of March 7th, 1885). And even in the same number of THE LANCET (Nov. 24th, 1894) there is the record of a case in which death ensued, and it is said with regard to the onset of the fatal signs that "the administration of the chloroform had been stopped," and in an annotation on the same case in the next number (p. 1291) further points of great interest are mentioned: (1) that she had taken chloroform with impunity on other occasions; (2) that she had been confined fifteen months previously and had recently lost a child, and was suffering from the depressing effects of grief; (3) that there was slight renal disease (and I note also that one of Mr. Wilson's cases suffered from chronic Bright's disease); and (4) that "before the dentist had touched the patient, although the chloroformist had taken away the chloroform from her face and pronounced her ready for operation, she suddenly became ashy pale, but respiration continued"; here, then, we have exactly the condition described and insisted upon by Dr. Kirk and Mr. Wilson.

Another death under chloroform—in which there was great difficulty in giving the anæsthetic owing to the nose being the point to be operated on, and where the patient, therefore,

¹ THE LANCET, Nov. 17th, 1894.

² Uric Acid as a Factor in the Causation of Disease, second edition, p. 166.

³ THE LANCET, Aug. 19th, 1893.

⁴ THE LANCET, June 23rd, 1894.

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