had been seen by patient some three months before her own marriage.

IV. *Professor Simpson* showed a BRONZE PLACQUE struck in commemoration of the fiftieth anniversary of the foundation of the Leipzig Obstetrical Society, which was celebrated on the 23rd of April. The placque had been designed by a young member of the profession who was also a brilliant artist, and a copy of it in silver had been presented to Professor Hennig, the only survivor from among the original members. He (Professor Simpson) had the gratification of being present at the celebration as an Honorary Fellow of long-standing. There had been a large representation of the various German Obstetrical Schools and Societies to offer congratulations, and he had been given the opportunity at this festival dinner to express the good wishes of their Scottish brethren for the continued prosperity of their Society. He could do this the more heartily, that among the few foreign obstetricians whom they had added to their roll, a special place was given to two of their own Fellows, Drs Berry Hart and Freeland Barbour.

V. *Dr Fordyce* showed FIBROID AND PAROVARIAN TUMOURS, removed from the same patient.

VI. MALIGNANT UTERINE COMPLICATIONS OF FIBRO-MYOMATA OF THE UTERUS.

By F. W. N. HAULTAIN, M.D., F.R.C.P.E., Assistant Gynæcologist to Royal Infirmary, Edinburgh.

THE association of fibro-myomata of the uterus with malignant changes in the same organ, is a subject of considerable interest and importance.

Until recently not only was their coincidence considered rare, but it was actually thought that the mere presence of a fibro-myoma prevented the development of cancer. Now, on the other hand, some observers, such a Richelot, assert that fibroids really predispose to malignancy.

The reason for these contrary beliefs is not far to seek—"The wish is father to the thought." In earlier days the removal of fibro-myomata was such a dangerous proceeding that it was satisfying to the physician to think that though his patient was invalided by a fibroid, she would not become the subject of the infinitely more dangerous condition of cancer. Now, however, the intrepid gynæcologist, glorying in the success of modern surgical technique, loves to believe that fibroids pre-eminently predispose to malignancy, and must without exception be removed, as their presence, even without symptoms, is a constant menace to the future welfare of the individual.

As is usual with such divergent views, mature deliberation tends to direct us midway between the two extremes, and from experience and investigation there seems to be little doubt that the two conditions of malignancy and fibro-myomata have an almost entirely independent origin, and but slightly affect one another. The exception to this statement, *i.e.*, where they may be said to actually depend on one another, is the malignant degeneration of the fibroid itself, which is an extremely rare occurrence.

The subject of malignancy and fibroids may be considered from the following standpoints:—

1*st.* Malignant degeneration of fibro-myomata.

2*nd.* The coincidence of carcinoma or sarcoma of the uterine mucosa with fibro-myomata.

3*rd.* Malignant changes in the cervix after supra-vaginal hysterectomy.

Malignant Degeneration of Fibro-myomata.

That fibro-myomata may become secondarily malignant is generally admitted, though it is by no means so common as might be inferred. Authentic, thoroughly proved cases of sarcomatous change in a pre-existing fibroid are few, yet it is probable that all cases of encapsulated sarcomata are degenerated fibro-myomata. The following case shows clinically and pathologically the main features of such a transition, and is therefore worthy of detailed description:—

Miss B., age 71 (recommended to me by Dr Helm, of Carlisle), suffered from great abdominal pain, hæmorrhage and fœtid discharge associated with rapid abdominal enlargement. Menstruation ceased at the age of 52, but for twelve years previously to this the flow had been profuse and exhausting, and was accompanied by considerable abdominal distension, and the presence of a hard swelling.

After the climacteric, the swelling subsided and she was in excellent health until six months previous to her visit to me. On examination the uterus was found to be enlarged to the size of a six months pregnancy, and there protruded into the cervix a large rounded mass involving the entire posterior wall of the uterus, which thinned the anterior cervical lip over it. Panhysterectomy was performed with excellent immediate results, but the disease returned in the vaginal cicatrix with a fatal issue after some months.

The uterus was found to contain a large interstitial growth involving the entire posterior wall, encapsulated throughout, except at the external os. Upon miscroscopic examination it showed fibro-muscular tissue infiltrated by numerous large round cells, actively proliferating, and evidently sarcomatous in nature.

In the majority of cases the sarcomatous growth is of the

small spindle-cell variety, and seems to arise from the connective tissue stroma, although a small round-celled variety arising from the muscle fibres has been described. Writers vary exceedingly as regards the frequency of sarcomatous degeneration. Thus, Von Franqué [1] states it to occur in between 3 and 4 per cent. of all cases, while Cullingworth met with one case of myxosarcoma in 300 examples of fibroid, and Noble only two in 258 cases. Personally I have only observed one undoubted example out of over 400 cases, while on consulting the case-books statistics of Professor Simpson's ward in the Edinburgh Royal Infirmary, no instance occurred in the last 300 cases of fibro-myoma. In taking these statistics *en masse*, in only four cases out of 1250 fibro-myomata has sarcomatous change occurred.

As a rule sarcomatous change occurs after or about the menopause, and is perhaps the most common, but by no means the only cause of increase in size of a fibro-myoma after the climacteric.

From the rapid increase in size of the tumour, severe pain is a very constant symptom. Thus, if after the menopause along with enlargement of a known fibroid there is pain and loss of strength, the diagnosis of sarcomatous change is almost certain.

Cystic and œdematous infiltration and degeneration of fibroids, with slight cellular proliferation resembling myxosarcoma, I have observed on two occasions. In one of these the intervening spaces were filled with blood clot which gave the appearance of the telangiectatic tumour described first by Cruveilhier. In these cases the cellular proliferation though assuming the embryonic type, is so scanty that one can hardly classify them as sarcomata. After removal there has been no sign of recurrence, as was to be expected.

Malignant epithelial infiltration of fibro-myomata is of extreme rarity, only one or two cases having been cited. In these instances

[1] *Encyclop. Geburtshülfe* Sänger and Herff.

the original tumour has probably been an adenomyoma, a tumour either due to changes in Wolffian relics or to infiltration of the muscularis of the uterus by glands from the endometrium.

Coincident Malignant Disease of the Uterine Mucosa with Fibro-myomata.

It is probable that malignant disease of the corpus uteri is more prone to develop in uteri, the seat of fibro-myomata. Out of nine cases of adeno-carcinoma I have operated upon, three were associated with fibroids of sufficient size to be noticed by the patients themselves, while in a fourth case a small fibroid nodule was present in the uterine wall. That this should be is only to be expected from the necessarily increased vascularity of the organ as a whole, and the endometrium in particular. In support of this is the frequency with which mucous polypi of the uterine body complicate fibroids. My own experience shows 11 cases out of 99 hysterectomies.

This association of endometric growths with fibro-myomata is of clinical importance in so far as they frequently give rise to severe hæmorrhage, in cases in which fibroids have been long known to be present, though quiescent. Where marked bleeding occurs with previously quiescent fibroids, the uterine cavity should in all cases be thoroughly explored by the finger and curetted at once so as to determine if any endometric change is present, and if so of what nature.

Malignant disease of the cervix, on the other hand, must be considered a rare complication of fibroids. From personal experience I have only on one occasion met this coincidence when the fibroid was large enough or situated in such a position as to give rise to symptoms; although on three occasions I have noted small unimportant nodules in uteri removed for cervical disease. The statistics of the Edinburgh Hospital which I have consulted agrees with this experience.

The comparative rarity of malignant cervix with fibro-myomata, is partially to be explained by the frequent association of sterility due to the fibroid, and thus the absence of the essential predisposing factor to its development is removed, viz., laceration of the cervix. That sterility is predisposed to by fibroids is denied by some authors, but personal experience leads me to believe it is one of the most striking clinical features connected with these growths.

It is probable, therefore, that fibro-myomata themselves in no way influence the development of cervical cancer, and the association is only to be considered a coincidence.

Malignant Degeneration of the Cervical Stump after Subtotal Hysterectomy.

This is considered by Richelot of sufficiently frequent occurrence to warrant panhysterectomy being performed in all cases. Curiously enough he has in his own experience had three cases out of a total of thirteen recorded. This is, however, contrary to the experience of the majority of other operators who, from the rarity of this complication, the rapidity of the subtotal operation, and the smaller mortality incurred, strongly favour this method. My own experience is thoroughly in accord with these advantages of this method. In 100 cases I have thus operated on, I have seen no malignant degeneration of the stump.

It seems probable that in two of Richelot's cases cancer was present before operation, otherwise it is difficult to account for this extraordinary percentage of malignancy. In this connection Bland Sutton records an interesting case where cancer was present though unsuspected in the cervix, and reappeared in the vaginal cicatrix after panhysterectomy.

From a general review of the literature and from personally

acquired statistics and experience, I can come to no other conclusion than that malignant uterine disease is but slightly predisposed to by fibro-myomata, and may be looked upon merely as a coincidence.

It cannot be claimed under any circumstances that the probability of malignant disease supervening is alone a valid reason for operative interference on fibro-myomata, or, on the other hand, that fibroids confer immunity from malignancy. Fibroids which give rise to no symptoms, either from their size or position should be considered as simple growths with no special tendency to malignancy, and demand no treatment which may risk the life of the individual. When symptoms occur to warrant interference, removal is the only treatment to be recommended, but, until such symptoms arise the woman should as far as possible be kept in ignorance of the presence of the growth. Her life is in no way menaced by its presence.

By keeping the tumour, at least so far as malignancy is concerned, she runs a risk of death in the distant future of infinitesimal proportions (1. 300). While radical operative treatment means an immediate risk of about 2 per cent. mortality, under the best operative conditions.

Under these circumstances it is evident that a "tumour in the uterus is worth two in the operator's museum," so far as the owner is concerned.

The President had listened with much pleasure to Dr Haultain's valuable paper, and he entirely agreed with the conclusions arrived at. Fibro-myomata and carcinomata of the uterus were met with most frequently during the same period of life, and were of such frequent occurrence, that we must expect from time to time to find them co-existing in the same uterus. A fibroid tumour rarely, if ever, undergoes carcinomatous degeneration. Carcinoma springs from the endometrium, and when a fibroid

becomes invaded it is simply through contiguity of tissue. With sarcoma, however, the case is different. Sarcomatous degeneration occurred in fibroid tumours, and Dr Brewis had met with, at least, three examples of it in his own practice. Fifteen years ago he showed the Society a large fibro-cystic tumour of the uterus which he had removed, and which Dr Sims Woodhead, who was then in charge of the College of Physicians' Laboratory, pronounced to have undergone myxo-sarcomatous degeneration. With regard to the question of total *versus* subtotal hysterectomy it was quite possible that cancer might develop in the stump after the latter operation, though he had never seen a case; but when it did occur it was not as a malignant degeneration of a fibro-myoma. The subtotal operation was the easier to perform, and was the one he preferred, but as cancer of the body may exist unsuspected in a uterus, the seat of fibro-myomata, it was his custom to lay open every uterus as soon as it was removed, to see if the endometrium was healthy, and if the latter was found to be at all suspicious he removed the cervix. Even when the endometrium was healthy he cut out the mucous lining of the cervix with a sharp knife, and cauterised the raw surface before covering over the stump with peritoneum.

Professor Simpson had listened with great interest to Dr Haultain's valuable communication, and gave examples which had come under his own observation of the various relations of fibroids to sarcoma and carcinoma described by Dr Haultain. He was unable to say that panhysterectomy had an advantage over the supra-vaginal operation as regards the tendency to degenerative tendencies in the patients afterwards. He had seen in one case where a patient had been subjected to panhysterectomy for a large fibroid uterus, that sarcomatous changes set in within two years, both in the abdominal scar and in the scar in the vaginal roof. It was important to keep in mind in discussions on this subject, that tendencies in one direction or another might be traceable to absence or disease of the ovaries.

Dr James Ritchie said that this very interesting paper demonstrated clearly, how unwise it was to accept what are nothing more than pious opinions, and, on the other hand, the advantage of submitting such questions to statistical investigation in a scientific spirit having regard to all the facts.

Dr Haig Ferguson thought the paper was an opportune one, laying down as it did very clearly the relationship of malignant disease to fibro-myomata. The conclusions were in accord with what most of them believed, but it was an advantage to have them definitely stated, especially as there seemed to be a tendency amongst some at the present time, to make too much of the possible malignant eventualities in such cases. No doubt an ordinary fibroid might occasionally undergo sarcomatous degeneration, and it was interesting to note Dr Haultain's observation that he considered an *encapsulated* sarcoma in the uterus to be a proof of its having originated in a previously existing fibroid. There was, on the other hand, but little doubt that there was no special liability to cancerous degeneration in fibroid uteri, which was indeed what one would have expected. If, therefore, a fibroid and a cancer existed in the same uterus they were usually quite independent of one another, and their presence together was of the nature of a coincidence. Dr Ferguson showed some years ago to the Society a specimen illustrating this. The specimen was a uterus he had removed by vaginal hysterectomy for cancer of the cervix, and where there was also a fibroid at the fundus.

Dr J. W. Ballantyne thought that Dr Haultain had rendered two services to women suffering from fibroids. He had, as the Society records showed, successfully operated upon and relieved many cases; but he had also, in his paper this evening, laid the spectre of the fear of malignant degeneration in such growths At any rate, the spectre, if not laid, was in retreat before the solid array of statistics marshalled in sight of it. His own experience of malignancy in fibroids was not extensive; but he remembered

a patient he had seen some years ago in whom a tumour was removed from the cervix, it was apparently a fibroid; it recurred and was again removed by Professor Simpson, when it was found to be partly fibroid and partly sarcoma; it recurred a third time, and on removal was discovered to show a much greater amount of sarcomatous tissue. He had published a record of the case in the *Transactions* (vol. ix., p. 185, 1884), twenty years ago.

VII. THE OBSTETRIC SATCHEL: A PROBLEM IN ASEPSIS.

By J. W. Ballantyne, M.D., F.R.C.P.E., Lecturer on Midwifery, School of Medicine, Edinburgh; Examiner in Midwifery in the University of Edinburgh, etc.

The speed of a fleet of ships is the rate at which the slowest vessel in that fleet can sail. The measure of the strength of a defence is found in its weakest point. The degree of immunity from septic infection in obstetric practice depends upon the completeness of the aseptic precautions adopted; the precaution which fails determines the quality of the success of the prophylaxis. If the fleet is to sail faster, it is useless to accelerate the swift cruisers and destroyers to thirty knots while the other vessels can only do fifteen or eighteen; if the defending wall is to stand sure, it is the weak part that requires to be strengthened and not the strong; and if obstetric asepsis is to be perfect, it is the defective detail that must be corrected. To condense this wide argument down to a single point, I am hesitating about the adoption of rubber gloves in obstetric practice because I am not sure about the state of my midwifery bag. The meaning of this somewhat cryptic statement will become clear as the discussion advances.

To understand the position of aseptic midwifery at the present time, it is necessary to cast a glance backward; it need