**On the treatment of uterine tumours / by Thomas More Madden.**

ON

# THE TREATMENT

OF

# UTERINE TUMOURS.

BY

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ON THE

# TREATMENT OF UTERINE TUMOURS.[a]

The prominence into which abdominal section has recently come in the treatment of uterine tumours by hysterectomy, oöphorectomy, and other intra-peritoneal operations, unquestionably deserves the special consideration of our division of the Academy of Medicine. I therefore submit the following observations on the treatment of myomata by those various methods, old and new, of which I had experience, mainly in the hope of inducing the discussion of a subject of as great practical importance as any that could engage our attention.

The progress of gynæcological surgery during the past decade is well exemplified not only in the improved treatment of intra-uterine tumours, but still more so in the bolder operations by which even the largest sub-peritoneal and intramural fibromata may now be removed, or arrested in their development.

These objects are attainable either *per vias naturales* or through abdominal section. In the former method are included removal by écrasement, thermo- and galvanic cautery, hemp saw, bistoury, polyptome, or curved scissors, enucleation, and traction, as well as vaginal hysterectomy, and oöphorectomy. Amongst the latter are abdominal hysterectomy, myotomy, or partial laparotomy and oöphorectomy.

The special applicability of these procedures, or of their various modifications, must be mainly determined by the physical character and position of the neoplasm, and the general condition of the patient in each case.

In the first place we shall refer to the curative results obtainable from some of the more generally indicated and safer intra-uterine methods of removing fibro-myomata. Secondly, the special

[a] Read in the Obstetrical Section of the Academy of Medicine in Ireland.

advantages and special risks of the treatment of these tumours by hysterectomy, myotomy, and oöphorectomy, will be considered.

As I am unable to illustrate these observations in the manner which has recently become popular, by referring to my cases in series of thousands, and as any lesser number would, I presume, be now regarded as beneath notice, I shall not attempt here a statistical summary of my experience. But I may venture to observe that it cannot be very slight, inasmuch as it extends over a period of nearly seventeen years, of actual gynæcological work, during each year of which I have almost daily had to deal with cases of fibro-myoma in a large hospital, dispensary, and private practice.

In the vast majority of instances the uterine tumours that come under our observation are submucous, and more frequently pedunculated, or semi-pedunculated fibro-myomata. The latter, whether intra-uterine or extending into the vagina—or, in other words, polypoidal—may be readily removed by the simplest of all operations—namely, the division of the pedicle, either by écraseur, polyptome, bistoury, or curved scissors, and subsequent extraction.

*Uterine Dilatation.*—Before, however, any intra-uterine surgical treatment can be attempted in such cases, whether by écrasement or by enucleation, the cervical canal and cavity of the uterus, if not already sufficiently patulous, must be first so expanded by mechanical means as to allow of the necessary local manipulations. For this purpose an ancient, but long disused, method of gradual dilatation with sponge tents was reintroduced into practice by Sir James Simpson, and down to the time of the late Dr. Marion Sims no better way of opening the uterine cavity for examination or treatment than the use of sponge, laminaria or other equally slowly expanding tents was known. So many, however, were the objections to all these that it must be admitted that few greater practical improvements have been effected in recent intra-uterine surgery than the method of rapid cervical dilatation now available either by the use of Hegar's or Lawson Tait's dilators, or by the skilled finger of the surgeon, which is, I believe, by far the best of all instruments for this purpose. Rapid dilatation is especially applicable in the case of intra-uterine tumours occurring in pluriparæ, whose uterine contractibility has been further diminished by the hæmorrhage, consequent on the neoplasm. In such cases the uterine cavity may generally be readily and rapidly laid open by putting the patient under the influence of anæsthetics, then firmly, but gently, intro-

ducing our right index into the cervical canal, and afterwards crowding in finger after finger until the canal is rendered completely patulous.

In some instances, however—more particularly in the case of sterile patients, in whom the cervix has not been taken up by the development of the tumour—immediate dilatation may be quite impossible; in such cases, therefore, we must still avail ourselves of expansion by the simultaneous use of a number of sea-tangle bougies.

*Écrasement.*—Any submucous fibro-myoma which has either become pedunculated, or which protrudes so far into the uterine cavity as to afford possibility of encirclement at its point of projection from the uterine wall, may be removed by écrasement with a strong steel or piano wire—the superiority of which over any form of chain or wire rope, or other method of dividing the pedicle, has been demonstraded by Dr. Kidd, whose procedure in this respect I have followed in many instances.

*Enucleation.*—This operation, although usually restricted to submucous tumours, is, in my opinion, applicable to all fibro-myomata, whether submucous or more deeply imbedded in the uterine parenchyma, which, from the position and size of the neoplasm, are accessible and capable of extraction *per vias naturales.* If this view should be accepted, it would obviously provide an alternative and, as I believe, probably a safer operation in some of the cases in which hysterectomy and other intra-peritoneal operations are now advocated. Every myoma is primarily at least histologically undistinguishable from the uterine structure in which it originates, and is converted into a fibro-myoma or fibroid only by the gradual development of its connective or fibrous tissue. Before this process is accomplished—and we are seldom consulted sooner—the tumour also, as a general rule (to this, however, there are many exceptions) becomes encapsuled, or distinctly separated by an intervening layer of cellular tissue from the uterine parenchyma in which, as already said, it originated, and from which, however deeply imbedded, it can in most cases be shelled out and removed, or enucleated.

The operation by which this may be accomplished is a very simple matter. In the first place, as for écrasement, the cervical canal must be previously dilated, the patient placed in a semi-prone lateral position and etherised. Next, the uterus should be washed out with a warm carbolised solution, so as to diminish its

vascularity as well as to render it as aseptic as possible. Then a free incision may be made through the endo-uterine mucous membrane and capsule into the most prominent part of the tumour. This is now seized with a strong vulsellum, by which firm traction is made downwards in the direction of the pelvic outlet, whilst at the same time with the operator's finger—or where this cannot reach, then with either a curved silver spatula or with Thomas's spoon forceps—all adhesions around the tumour are broken up. Lastly, the fibroid by traction with the vulsellum from below, aided by firm pressure from above, is forced out of its bed and extracted either with the forceps or by splitting into sections that may readily pass through the vulva at outlet. By this operation I have repeatedly removed not only large submucous fibro-myomata, but also interstitial, or in some instances partially subserous, tumours. As, however, the feasibility of this procedure in the treatment of any deep-seated mural or partially sub-peritoneal fibroid is not generally recognised, I may here cite a somewhat remarkable instance of this kind in proof of the occasional curability of such cases, even, under very untoward circumstances, without either abdominal section or vaginal hysterectomy.

An unmarried woman, aged thirty-eight, who, until the day of her reception into the hospital, had been able to follow her avocation as cook in a large hotel, was admitted under my care. For the preceding two years she had been complaining of continual pain in the back and sense of pelvic weight, debility, leucorrhœa, and slight menorrhagia. These symptoms had gradually increased, but at no time was the menorrhagia very urgent, the changes merely lasting five or six days, and returning every three weeks; nor was there any hæmorrhagic discharge in the interval. On admission her chief suffering was from distressing dysuria—so great that she had been obliged for some time to visit a medical practitioner every day to have a catheter passed. She also suffered from frequently-repeated and generally futile calls to defecation; and, in addition to tenesmus, had slight prolapsus ani. Her feet and legs were œdematous, and she complained of great pain along the course of the left sciatic nerve.

The vagina was small and the hymen unruptured. On recto-vaginal examination the uterus was apparently completely retroflexed, the hollow of the sacrum being occupied by a large globular tumour extending up as high as the finger could reach

and pressing downwards into Douglas's space. On examination with the sound, which passed in upwards of six inches anteriorly, it was evident that the double compression of the rectum and neck of the bladder was caused by a uterine tumour. To discover the position of this growth the cervix was packed with five sea-tangle tents. On the removal of these next morning the uterine cavity was fully laid open, and as the tumour was interstitial, it was necessary to dissect it out from the posterior wall, in which it was situated, and where it had developed outwards, so as to have become in great measure sub-peritoneal, the posterior surface of the growth being covered merely by a thin capsule of the uterine structure. In the separation of the tumour, the uterine tissue—which had become disorganised by the pressure of the morbid growth, and was, as usual in such cases, extremely soft and friable—was unavoidably lacerated. This rent extended downwards and backwards through the outstretched roof of the posterior vaginal *cul-de-sac*, and left a wide opening into the abdominal cavity. As soon as the tumour now shown (which, as may be seen, was as large as the fœtal head at the seventh month) was extricated, which had to be effected by the midwifery forceps, a large coil of intestines came down, filling the vagina. These were immediately returned, and the patient being then in such a condition of collapse that no attempt could be made to close the laceration by sutures, it was merely plugged with a large sponge, so as to prevent for the moment any further prolapse of the intestines. A drachm of ether was injected hypodermically, and a little brandy and tincture of opium thrown into the rectum. Her pulse, which had been almost imperceptible, became a little stronger, and she was removed to bed and there surrounded with hot jars, &c., with the faintest hope of reaction. This, however, took place, and a couple of hours later her pulse was fairly recognisable, and her aspect improved.

On the second day severe metro-peritonitis set in, and for seven or eight days afterwards her life hung in the balance. It is needless here to dwell on the treatment pursued, which consisted mainly of opium and small doses of mercury, hydrocyanic acid draughts, &c., with the usual local applications—namely, leeching on two occasions, and continual use of fomentations or anodyne poultices to the abdomen, together with warm antiseptic vaginal injections. The vagina was plugged with sponges wrung out of weak carbolic solution. The daily changes of these were effected

under carbolic spray, an atmosphere of which was maintained about her.

For some days she suffered from incessant retching and hiccough, which were controlled by hydrocyanic acid and ice. By the mouth she was allowed only iced champagne in very homœopathic doses, her nourishment for ten days being enemata of beef extract with a little brandy and arrowroot. It is unnecessary to follow the daily notes of the case further than to say that after the subsidence of the peritonitis, from which she was not free for many days, it was found requisite to continue the vaginal plugging for another week, when sufficient adhesion was formed to allow its discontinuance. After the operation her bowels were kept confined for as long as possible. At the end of three weeks she was able to sit up, and a week later was sent to the Convalescent Home at Stillorgan, whence she returned to her former occupation, and is now again employed at the hotel from which she was sent to the hospital.

It is hardly necessary to observe that the enucleation of any fibroid, especially of one deeply intra-mural, is never devoid of considerable danger. But this danger is, we believe, less than that of any other of the operations which are more generally sanctioned for the same purpose. The risks of enucleation are—firstly, that, as happened in the case referred to, the tumour may have so thinned out the uterine wall behind it that this may be ruptured during the operation, and thus probably cause immediate death from shock or hæmorrhage, or subsequently from metro-peritonitis or septicæmia. Even where the integrity of the uterine wall was not affected, I have seen death from the latter cause follow the enucleation of a large fibroid.

Hence, it would be impossible to lay too much stress on the necessity of strict antisepsis, not only during the operation itself, which should always be Listerian, but also in the after-treatment by carbolised injections, &c., until the uterine wound has become sealed. Nor, in my opinion, should the operation be ever undertaken by any surgeon who does not believe in the efficacy of the antiseptic system, and who has not time and patience for personally carrying out the subsequent treatment of the wounded uterus in accordance therewith.

*Removal by Traction.*—In the case of those deeply-imbedded myomata which are not encapsuled we may, in some instances, as shown by the specimen that I have exhibited, succeed in

their removal by the operation which is recommended by Dr. Emmet, not only in these cases but also in the treatment of other fibro-myomata, in which I would myself prefer to attempt enucleation. The object of Dr. Emmet's operation, which he terms "removal by traction," is the immediate conversion of the tumour by tractile force from an intra-mural, or sessile, into an intra-uterine pedunculated, or polypoidal, form. With this view, Dr. Emmet says:—"For the relief of these cases it has been my practice to excite uterine contraction by making traction on the growth in the direction of the uterine outlet. This action I have continued until the tumour becomes pedunculated, from being crowded out of its bed by muscular contraction closing in around and behind the mass.

"I recommend as a principle of practice to delay all surgical interference as long as possible. But so soon as the tumour presents at the os, and this begins to dilate, we then have proof that a reasonable amount of uterine muscular tissue remains to aid us. As soon as the vagina is occupied by a portion of the tumour, the operation for its removal cannot be long delayed, for it becomes then a question of but a few hours, as a rule, before blood-poisoning may supervene.

"Whenever the operation has been once commenced, there is but one course to follow, in removing the entire tumour, as the one attended with the least evil and risk to the patient. Whenever the tumour can be forced out by uterine contraction as rapidly as it can be removed at the vaginal cut, the operation will be attended with but little risk of life. In my experience, so far, there has been no greater disturbance than that attending any ordinary case of instrumental labour whenever the tumour has been brought down to a pedicle and then divided. Our purpose is at first to excite uterine contraction by traction on the tumour, and this stimulant is maintained as it is being removed piece by piece from the vagina. As there is no fear from hæmorrhage, since the supply of blood is cut off as soon as the uterus begins to contract, our best means for removing the tumour is by a pair of blunt-pointed scissors, curved somewhat on the flat side. The operation is best begun by passing a slip-knot high up around the mass, which is to be held by an assistant, to steady the uterus, and for making traction. After having removed the portion which first filled the vagina, it is best to follow afterwards, as far as possible, the course of the uterine canal. The advantage is twofold, since

the portion projecting into the canal, with the capsule-like covering, is firmer, and by removing first the tumour at the most distant point, the line of attachment becomes narrowed as the uterine cavity can be lessened.

"When the tumour has been removed, with all shreds or loose portions within reach, it is important to wash out the cavity thoroughly. It is best to use very hot water, for it is a prompt exciter of uterine action, and by prolonging the injection we can thoroughly empty all the capillaries within reach of its direct influence."

I have here quoted Dr. Emmet's account of his operation at some length, inasmuch as its results have been most successful in his own hands and in the practice of others who have closely followed his directions for its performance. Moreover, its results have been favourable in many instances in which the character or position of the tumour would render its removal by enucleation impracticable; but in the case of distinctly encapsuled fibro-myomata, more especially if submucous, I still think enucleation a more generally feasible and safer operation.

*Abdominal Hysterectomy—Myotomy—Oöphorectomy.*—Abdominal section has now come into such use in the treatment of uterine tumours, whether for their removal by hysterectomy and myotomy, or for the arrest of their development by oöphorectomy, as to require special consideration. The favour with which these intra-peritoneal operations are regarded by some surgeons has mainly arisen from the successful results of ovariotomy in modern practice; but whether the parity of treatment suggested in some instances by the symptomatic resemblances between uterine neoplasms, especially fibro-cystic tumours and ovarian growths, from which they are pathologically so dissimilar, is practically justified or not, is one of the most important questions that can engage our attention. Nor, whilst availing ourselves of the recent experience of those who may be regarded as pioneers in a still unsettled region of gynæcology, can we unhesitatingly adopt the too hasty generalisations founded on data so one-sided and as yet necessarily imperfect. We may therefore briefly consider the results of abdominal operations in the case of fibromata generally, and then refer more particularly to the various procedures included under this heading.

In the first place, Mr. Lawson Tait's recent address on one thousand abdominal sections must be referred to; for, whether we agree or disagree with Mr. Tait's views, we must all recognise his

special experience and operative skill, as well as the unrivalled pertinacity with which he has maintained his convictions in spite of the disapproval of many other specialists in this branch of surgical practice.

Amongst the cases reported on by Mr. Tait are included the removal of the uterine appendages for myoma in 99 instances, with 7 deaths; hysterectomy, in 54 cases, with 19 deaths; and one enucleation of a myoma which proved fatal. Thus we have in all 124 completed abdominal operations bearing immediately on our present subject. From the same statistics it may be gathered that Mr. Tait has, moreover, had no less than 30 incomplete operations of this kind—17 of which were in cases of uterine, or unspecified but non-ovarian, tumours, which, after the opening of the abdominal cavity, further procedure had to be abandoned. Of these incompleted operations Mr. Lawosn Tait thinks that he "may speak with a certain amount of satisfaction," though from what he derives this contentment I am at a loss to understand, as his mortality in them was 50 per cent.:—"This mortality," he naively observes, "is of course heavy, and the results in the great majority of those who survived the operation were very unsatisfactory, though in some the disease has been arrested apparently for an indefinite time. I have no doubt now that in many of those cases I might have finished the operation—in fact, I know I could, but I always had a horror of a patient dying on the operating table, and from that distressing incident I have hitherto been entirely free. I now think that it would have been better even to have had such a disaster, and to have finished a large number of these operations."

The journal from which I have just quoted contains other evidence of the spreading cacoethes operandi, prevalent amongst abdominal sectionists, by the Birmingham School. Thus Dr. Savage, in reporting upwards of a hundred cases of abdominal section, undertaken within a year, boasts that he performs this operation in every case which he has "the opportunity of operating on," without "the slightest attempt at the selection of cases, and as choosing the most suitable and rejecting those which did not seem to promise to be successful." Nor does he hesitate to admit that, had there been such selection of cases, he would have had fewer deaths of patients on whom he "operated with the idea of giving them the slight chance of life the operation afforded, knowing well beforehand how slight that chance was."

Dr. Keith has recently recorded thirty-eight hysterectomies with

only three deaths. In the *American Journal of Obstetrics*, Dr. Bigelow has, with great research, collected from all available sources 359 similar operations, of which 227 resulted successfully, whilst 132 patients died. With regard to this admitted mortality, greater than one in every three operated on, we may well ask ourselves the question, which was suggested to Dr. Keith by his far more successful practice, viz.:—"Does a mortality of 8 per cent. justify an operation for a disease that, as a rule, has only a limited active life, that torments simply, and that only for a time, though of itself it rarely kills? The mortality of an ordinary uterine fibroid, if left alone, is nothing approaching a death-rate of 8 per cent. Most of the cases on which I have operated were known to me for years before; only the extreme cases were done; in nearly all, the lives were useless, and the risk of operation was clearly understood. Considering the nature of the cases, it seems to me that these operations were, perhaps, justifiable; and, if these were barely justifiable, what can be said of those ghastly lists of hysterectomy where the mortality is one death in every two, one death in every three, or even one death in four or five."

Believing, as I do, that abdominal operations unquestionably afford the only possible method of saving life, or relieving otherwise irremediable suffering in some cases of uterine fibro-myomata, I trust that the voice of the profession will make itself heard in no uncertain tone in reprobation of the operative *furore* which has manifested itself in some quarters with regard to the performance of abdominal sections for uterine tumours, and which else may lead to a reaction against the legitimate employment of procedures so valuable in suitable cases. In my student days I was taught that a capital operation was justified only as a means of saving life or relieving suffering otherwise hopeless. It would now, however, appear that the gravest operations may be resorted to in every case in which the opportunity presents itself, and without any regard to their probable consequences. For my own part, I am unable to accept this doctrine, and am still old-fashioned enough to believe that no operation—especially one of such gravity as that under consideration—should be undertaken save as a matter of necessity, and with a reasonable prospect of a successful result. If the indiscriminate performance of gastrotomy now advocated by some eminent specialists be unfortunately ever generally adopted, then the sooner the better it will be that those suffering from any of the diseases in which abdominal section is thus abused should abandon surgical

aid and trust themselves, as formerly, to unassisted Nature's kindlier euthanasia.

We may now briefly consider the circumstances under which abdominal section may be legitimately employed in the treatment of uterine tumours, and the operations which may by this procedure be resorted to in such cases.

*Hysterectomy.*—Abdominal hysterectomy, or the abstraction of the uterus by gastrotomy, was first successfully performed for the removal of a uterine tumour, forty years ago, by the late Dr. Clay, of Manchester, and shortly afterwards was again undertaken, in a similar case and with similar result, by Dr. Atlee, of Philadelphia. It was not, however, until long subsequently, when MM. Hardy and Pean, of Paris, in 1873, published their report of nine hysterectomies—seven of which were successful—that this procedure was recognised as a legitimate procedure. In the same year it was first brought before the profession in these countries by Mr. Lawson Tait, who, in a communication to the Medical and Chirurgical Society of London, narrated a case in which he successfully removed a uterine fibroma, weighing eleven pounds. From that time hysterectomy has gradually but surely come into yearly-increasing favour as a means of treating cases of fibromata otherwise beyond remedy. Of late, however, this operation has been extended far beyond this, and by some specialists has been recently pushed to an extent and applied to cases where no absolute necessity apparently exists for resorting to its performance, and which cannot, in my opinion, be justified by any statistical account of its success yet reported.

The removal of the uterus for fibro-myomata may be performed either by abdominal section or per vaginam. The former method being unquestionably the more feasible, and the best adapted in the case of those large fibroid or fibro-cystic growths in the treatment of which the ablation of the uterus may in some instances be necessitated, will alone be here referred to.

Abdominal hysterectomy is usually performed in the manner originally suggested by Dr. Freund, of Breslau, whose directions for its accomplishment, since somewhat modified by Dr. Bantock, Sir Spencer Wells, Mr. Lawson Tait, Dr. Agnew, of Philadelphia, and other recent operators, have been adopted in the cases that have come within my own observation.

*Myotomy.*—According to Professor Schroeder, any uterine fibro-myomata, however extensive or wherever situated, may be

removed abdominally by laparotomy or partial hysterectomy with the aid of the elastic ligature. The appalling mortality resulting from this operation should, however, I think, sufficiently prevent its repetition by other surgeons. Of those on whom Schroeder thus operated he lost in his first series of cases 30 per cent., and in his second series 22 per cent. of his patients.

*Oöphorectomy.*—The removal of the uterine appendages, as originally suggested by Blundell, and reintroduced into modern practice by Dr. Batty, of Georgia, whose name as well as that of Dr. Goodell, of Philadelphia, is now identified with this operation, has been largely employed within the past few years for preventing the development of fibromata, and for the prevention of uterine hæmorrhage, consequent on their existence.

If we merely compare the general results of oöphorectomy with those of hysterectomy in the treatment of fibro-myomata as established by the experience of Mr. Knowsly Thornton, Lawson Tait, or Keith, there can be no question of the greater advantages of the former in the case of small uterine tumours. These advantages have been thus urged by Mr. Thornton:—"I believe," he says, "that there is a great future before this operation of removal of the appendages for the cure of fibroid—-a future so free from mortality and so satisfactory in its after results that we shall eventually be justified in performing the operation in a far larger number of cases than we could ever have hoped to justify the more dangerous operations which we have been considering. I feel sure that, with a little more experience, we shall be justified in recommending the removal of the appendages in cases which are troublesome from hæmorrhage, pain, &c., before they grow large enough to raise the question of the more dangerous operations."

Before, however, we can accept oöphorectomy as the panacea that it has been claimed to be for uterine fibromata, it seems to me that further proof is still needed that it is either generally necessary, safe, or feasible in such cases. It would certainly, at least, be desirable to formulate, more distinctly than has been yet done, the cases of fibro-myomata in which oöphorectomy may be resorted to with a fair prospect of benefit, and to point out those in which no reasonable anticipation of success can be held out from its performance. In the first category should be placed generally all obviously actively increasing fibromata not atherwise removable, and more especially those occurring in young patients in

whom the prospect of reaching the period when any arrest of the tumour by the natural menopause might be hoped for, is remote, and who, if they survive till then, are meanwhile necessarily condemned to lives of useless suffering. Under these circumstances there can be no question of the propriety of attempting by oöphorectomy to anticipate the distant menopause in any case in which this is feasible. But the removal of the ovaries as a general rule of practice, as now advocated merely for the arrest of hæmorrhage consequent on fibromata, appears to me unjustifiable until other and safer methods of checking metrorrhagia have been fully and unsuccessfully employed. And I am convinced by my clinical experience that if we try these fairly we shall seldom find it impossible to arrest effectually and safely any uterine hæmorrhage thus caused without oöphorectomy. Secondly, I cannot think this operation generally advisable in the case of quiescent fibroids largely occupying the abdominal cavity in older patients. In such cases the removal of the uterine appendages is generally not merely difficult and hazardous, but even quite impossible in the instances in which, if practicable, it might be most useful. Thus in any large sub-peritoneal or interstitial fibroid lifting the uterus far above the pelvic cavity, and binding it to the adjoining parts by consequent inflammatory intra-peritoneal adhesions, it will be found utterly impossible to reach the ovaries by any abdominal section until the uterus by which they are overlaid and concealed is first detached from these adhesions and turned out of the abdominal cavity. In such a case, and it is no ideal one, having subjected our patient to all the risks of such an operation, are we to dissect out the uterine appendages and then replace the uterus and tumour *in situ*, or in the words of an eminent abdominal sectionist, Dr. Drysdell, of New York, would it not "be better practice to leave the uterine appendages untouched and remove the tumour itself?"

Case II.—*Recurrent Fibroid; Écrasement.*—K. N., aged twenty-eight, unmarried, was admitted January 4th. Two years previously she had been under my care in the hospital, suffering from menorrhagia. The uterine cavity was then dilated, and a small pedunculated myoma, growing from the anterior wall, removed. At the same time a second larger tumour was discovered deep within the posterior wall. It was not then considered advisable to interfere with this. The menorrhagia subsided in great measure, and she left the hospital. Some months later it again commenced, and for the past eighteen months she lost a considerable amount of blood, and when readmitted was in an extremely exhausted

condition. The os was dilated in the usual way, and on examination next day we were pleased to find that the tumour, now as large as a fœtal head, had developed into the uterine cavity, and become pedunculated. The pedicle, which, as may be seen, was extremely thick, was divided by écrasement, and the tumour extracted. She made a good recovery after this operation.

Case III.—*Submucous Fibro-Myoma removed by Écraseur.*—S. Q., a married woman, aged forty-four, who had repeated miscarriages but no family, was admitted into St. Monica's ward, January 14th, suffering from profuse metrorrhagia and frequent attacks of intense uterine colic. These symptoms had been first observed eighteen months before admission, and on examination a small tumour could be felt above the pubes. The uterus was enlarged and drawn up. The sound could not be passed in any direction more than an inch above the os internum, but on recto-abdominal examination the size and position of the uterus, which was slightly retroflexed, could readily be made out. Being placed under ether, rapid dilatation of the cervix was effected by Lawson Tait's dilators, and then by my fingers. The cavity of the uterus thus laid open was found distended by a large pedunculated submucous fibro-myoma, around which, as being tightly encircled by the uterine walls, the steel wire loop of the écraseur was with some difficulty slipped up to its attachment to the posterior wall, close to the fundus. The thick pedicle was then slowly divided, but with no amount of tractile force with two strong vulcella, in the hands of Mr. Kennedy and myself, could we succeed in extracting the freed tumour through the uterine outlet, until at last we were obliged to resort to a free bilateral division of the os and cervical zone, and in this way removed the tumour now shown. In doing so some disruption of the perinæum was necessarily produced. This was immediately treated by a couple of silver wire sutures. The after-treatment consisted mainly in hot antiseptic injections twice a day. Within a fortnight's time she was up and going about the ward, being perfectly convalescent after the operation. Subsequently, however, she was attacked by typhoid fever, of which she died.

Case IV.—*Intra-Mural Fibro-Myoma removed by Enucleation.*—L. B., an anæmic-looking woman, aged thirty-eight, unmarried, suffering from metrorrhagia, pelvic pain, and hæmorrhage, was admitted to St. Elizabeth's ward. Until two years previously she had been in good health. She then commenced to suffer from menorrhagia which gradually increased, and the intervals between the recurrence of the discharge became so diminished that for the past year she has seldom been a week free from hæmorrhage. On examination the uterus was found retroverted by a tumour in the posterior wall, and the uterine cavity greatly elongated.

The cervical canal was dilated by laminaria bougies, on the removal of which she was etherised, and a submucous tumour discovered occupying the posterior wall from the fundus to near the cervix, and bulging out into the uterine cavity. A free longitudinal incision was made through the thinned muscular structure into the capsule of the tumour, which was firmly seized with a strong vulsellum and drawn down by Mr. Kennedy towards the outlet, whilst with my finger I rapidly separated the loose adhesions around and behind the tumour. This was now forced out of its bed and extracted per vaginam. Immediately afterwards a hot carbolised water injection was thrown up to arrest the free oozing, a tampon of Lawson's cotton saturated in carbolised glycerine was introduced, and an anodyne suppository placed in the rectum. The hot water injection was continued twice daily for the next ten days, at the end of which the uterus, being still large, was brushed out at intervals with tincture of iodine until it had nearly regained its normal size, and three weeks after the operation she was enabled to leave the hospital.

Case V.—*Interstitial Myoma removed by Emmet's Operation.*—In this instance I regret I can exhibit only portions of a myoma removed from a multipara aged forty-two. This patient had enjoyed good health until the birth of her last child, four years previously. Shortly after she became a widow. She then began to suffer from menorrhagia, tenesmus, and bladder irritation, and bearing-down sensation, which increased. At last she was forced to give up her occupation as a farmer's servant. On admission the uterus was found completely retroverted, and on endo-uterine exploration a considerable sized tumour was found bulging out into the uterine cavity. This I attempted to remove by enucleation, but on making an incision for this purpose it became obvious that the tumour was not separated by any capsule from the uterine wall, with which it was continuous. Hence, I resolved on trying to effect its removal, if possible, by Dr. Emmet's traction operation. For this purpose the most prominent portion of the tumour was firmly grasped by a vulsellum and forcibly dragged down through the os as far as possible into the vagina. Here as much of the growth as could be reached was cut away with a strong curved scissors. The resulting hæmorrhage was checked by hot water injections, and the remaining portion of the tumour again similarly treated. In this way we had removed more than two-thirds of the growth, when the patient became so collapsed that I was reluctantly obliged to postpone its complete ablation. A hypodermic injection of ether was administered and she was put back to bed. For the two days following her condition was apparently satisfactory, her pulse fairly good, and temperature not rising above 100°. On the second night after the operation she again became collapsed, and, despite the efforts made to save her, she sank and died.

Case VI.—*Pedunculated Submucous Fibroid removed by Écrasement.*—A widow, aged fifty, who had had several children, was admitted, suffering from continual uterine hæmorrhage and offensive leucorrhœal discharge. On examination the uterus was found occupied by a tumour as large as the fœtal head at full term. The os was rapidly dilated, and this growth, which proved a semi-pedunculated submucous fibroid, was removed by écrasement in the usual way. After this she recovered rapidly.