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IN the section of Obstetrics and Gynæcology several important papers were presented, and some interesting discussions followed. The meetings were well attended, and the utmost harmony characterized all the proceedings. It would be well, however, if our Continental colleagues followed the adage that "brevity is the soul of wit," and at such international meetings where the time is so limited, it should be the rule that all papers be read in abstract, and that printed abstracts be furnished to those present at the meetings. The speakers, however, were kept to "the ten minutes' rule," which considerably facilitated the conduct of the business.

The subject of Obstetrical Nomenclature was discussed in a lengthy communication by Professor Karl Hennig, of Leipzig, and is already published in the first fasciculus.

Considerable interest centred around two important papers on the treatment of Uterine Myomata. The first was entitled "Bericht über die Behandlung der Uterus-Fibromyome," in which Professor August Martin, of Greifswald, traced the evolution of the treatment of uterine myomata since the year 1881, when the International Medical Congress was held in London. The extra-peritoneal treatment of the stump was soon displaced by the intra-peritoneal with separate ligation of the vessels, and by the method of enucleation introduced by Martin.

In more than 50 per cent. of the cases this conservative operation (enucleation) cannot be performed. The majority of cases occurring after the menopause do not call for a conservative operation. It is likewise contra-indicated where the uterine mucosa is the seat of histological change suggesting malignant disease, and where there are diseased uterine appendages.

In suitable cases, however, where the age of the patient is 40 or 45 the tumour should be removed and the uterus preserved.

The inflammatory troubles connected with the cervical stump,

and the occasional development of malignant disease, prompted the author to advocate panhysterectomy when enucleation was contra-indicated.

The two methods of operating—abdominal and vaginal—may be either conservative or radical.

The abdominal method, thanks to improved technique and more perfect asepsis, gives increasingly good results. The occurrence of post-operative hernia has been minimized by the adoption of suturing in layers, peritoneum, fascia, muscle, fascia and skin. Still better results are claimed after Pfannenstiel's transverse suprapubic incision. The skin and fascia are divided transversely and separated upwards from the underlying muscle, thus disclosing the linea alba. The latter is divided in the middle line and the abdominal cavity opened.

Martin, who now adopts this method, sutures peritoneum, posterior layer of fascia and anterior layer of fascia with continuous catgut. Then the transverse incision in the anterior fascia is sutured with aluminium bronze, which is buried, and the skin is also united with aluminium bronze, which is removed in 6—8 days. The primary healing has been good, but no definite facts can be given as to the after results, because the time test is not yet applicable.

Concerning the development of omental and intestinal adhesions after operation, every precaution should be taken to avoid peritoneal "insult." The intestines are covered with sterile towels, thus preventing their escape, and also chilling or drying of, or injury to the serous covering. The duration of the operation is shortened as much as possible, and the contents of any tumour, whether purulent or not, are carefully prevented from coming in contact with neighbouring structures. The unnecessary disturbance of the peritoneum with different solutions is also avoided. The abdominal cavity is carefully cleansed before it is closed. The stump, after removal of the tumour, is covered with peritoneum, and all wounds of the peritoneum are similarly treated.

Still, with all these precautions, an aseptic peritonitis may develop. In this relation early movement of the bowels and the avoidance of opium are important.

Even if we are in a position in many cases to avoid these dangers, the fact remains that any defect in our asepsis and any complications resulting from injury to the peritoneum during an operation may be attended with disaster.

The technique of the vaginal operation has been brought to a high state of excellence, and by means of the method of illumination

suggested by V. Ott the entire pelvic contents may be inspected. The indications for this operation are definitely limited :—Adhesions in relation to the upper boundary of the tumour, firm old intestinal adhesions, tumours whose soft crumbling condition tends to favour tearing of surrounding structures are all contra-indications. In the vaginal operation narrowness of the vagina is not regarded as a hindrance, for Schuchardt's operation can be performed. The primary mortality is under 5 per cent., and for the smaller circumscribed tumours it should be the method of choice. Martin holds that the vaginal operation is safer and the convalescence shorter and freer from complications, and that the scar very seldom causes trouble. Moreover there is the absence of an abdominal scar.

In supra-vaginal hysterectomy a variety of methods has been suggested for treating the cervical stump, but the two chief methods now adopted are the retro-peritoneal treatment of the pedicle (Hofmeier, Chrobak), and the method of Zweifel, where interlocking ligatures are employed and a larger portion of the cervix is left; for both of which, especially the latter, excellent results are claimed.

The radical method (panhysterectomy) is not complicated by any inflammatory trouble connected with the stump, and, thanks to the experience gained in the operation of total extirpation of the cancerous uterus, panhysterectomy is now adopted by those operators who advocate radical methods for all myomata. The primary mortality of the radical operation, as given in the statistics of Hofmeier and Döderlein, is 5 per cent.

The climacteric phenomena which follow these operations are subject to considerable variation in different individuals. It sometimes happens that young patients suffer less than older patients, and badly-nourished individuals more than the well-nourished. Moreover, for the first few years the patients may be only slightly affected, then for three or four years badly, and symptoms may continue for years.

The retention of one or both ovaries or a portion of the ovary has not, in Martin's opinion, given better results. The administration of "ovarian tablets" has not proved satisfactory, and may cause dyspepsia.

Olshausen has recommended the application of the ligatures as near the uterus as possible, in order to minimize the subsequent shrinking of the ovary, while Werth has suggested covering the ovary with peritoneum. Further extended observations are required before definite statements can be made.

The conservative operation (enucleation) has made slow progress

in Germany, but is now advocated by Olshausen. Pozzi limits the indications to small easily-accessible tumours in young women. Martin does not advise this operation in elderly women or where there is disease of the uterine appendages or suspicion of malignant disease, or where there is not sufficient uterine structure left after enucleation, or where numerous fibroid nodules are scattered throughout the uterine substance. During the last six years Martin has performed 147 enucleations and 134 radical operations. The advantages of enucleation are that menstruation is continued, pregnancy is possible, and climacteric phenomena do not result. Winter, however, emphasizes the danger of a return of the myomatous disease, and questions the advantages of the continuance of menstruation, while laying stress on the rarity of subsequent pregnancy. He considers, further, that the general condition of the patient is not so good as after the radical operation.

In 4 per cent. of Martin's and 6 per cent. of Winter's patients a return of the myomata was noted. Concerning the rarity of subsequent pregnancy, the married patients are frequently of an age when conception does not occur, or only rarely occurs. Further, Martin suggests that in at least 50 per cent. of the cases the male is at fault.

Reference is made to an observation by Döderlein, where rupture of the scar left after enucleation occurred at birth, but this also may occur after Cæsarean section; yet Porro's operation is not always recommended. In the event of subsequent pregnancy the patient should be kept under observation.

In 32 per cent. of Winter's cases where the general condition was not satisfactory, uterine discharge and profuse menstruation had persisted. Martin claims that these symptoms are not seen after his method of operation. He first cures the uterine cavity, and after enucleation opens into the cavity through the bed of the tumour. If the mucosa is swollen it is resected and sutured, and then the tumour bed is approximated in layers. In appraising after results a distinction must be drawn between "pure myoma cases" and "mixed cases" where there are complications connected with the ovaries, tubes or peritoneum, in which convalescence is more prolonged.

Martin claims that 97 per cent. of the cases treated by enucleation are well. He concludes by stating that the after results are better in the vaginal and conservative operations than the abdominal and radical operations, but that they all fully justify the operative treatment of uterine myomata.

The second paper was entitled: "The Treatment of Uterine Myomata," by Tuffier (Paris) and de Rouville (Montpellier), and was arranged under the following headings:—

Medical Treatment. Medical treatment is symptomatic, and is directed to the relief of pain or the arrest of bleeding. Absolute rest for a prolonged period and very hot (50°) vaginal injections given in the horizontal position and frequently repeated, are both sedative and hæmostatic. The action of the *constant current* is held by these authors to favour arrest of bleeding, but diminution in size or relief from pain has rarely been noted. It is a method of treatment only to be used by experts, and an accurate diagnosis of the patient's condition should have been made. Electrical treatment is contra-indicated for myomata complicated by lesions of the uterine appendages (cystic, inflammatory or suppurative), for myomata growing rapidly (cysto-sarcomatous degeneration), for multiple tumours and pedunculated intra-uterine or subserous tumours, and in the hysterical and during pregnancy. It is useful where the myoma is single, small, interstitial, soft in consistence and causing hæmorrhage, in women near the menopause, or where surgical intervention is contra-indicated. Waters containing sodium chloride (Salins, Biarritz) are recommended both for their local and general action in definitely inoperable cases, and those cases in which preliminary treatment is advised before the patient is submitted to operation.

Palliative Surgical Treatment. Such treatment formerly occupied a position of importance, but now that the results of radical operations are so much better palliative treatment is reserved for special cases. Curettage as a palliative method is not favoured by the authors, although it may be required in cases of hæmorrhage where a radical operation is objected to or contra-indicated. It must be performed carefully and with strict attention to asepsis.

Ligature of the uterine arteries is easy, and without danger, and it arrests hæmorrhage. It is only applicable to cases where extirpation of the tumours is contra-indicated, or where a radical operation already commenced cannot be finished without serious risk. It may profitably be combined with curettage.

Oöphorectomy is, in the opinion of the authors, that method which will remain the longest in practice, but is less used owing to the success which now attends the performance of the radical operation. Oöphorectomy may, owing to the situation and relations of the ovary be an operation of considerable difficulty.

Curative Treatment. There exist two methods of curative treatment for fibro-myomata, namely, "hysterectomy," abdominal

and vaginal, and "enucleation," where the tumour is removed and the uterus left to subserve its functions. This may be accomplished both by the abdominal and vaginal routes. A detailed account of the methods of abdominal and vaginal hysterectomy is furnished by the authors, of which the conclusions are given at the end of this paper. As they strongly advocate enucleation a more detailed account may be given of the technique.

The vagina is disinfected, and the uterine cavity dilated and curetted, if required, the evening before operation. No special instrument is necessary, although a special spatula may be of service. The abdominal wall having been incised, an examination is made of the condition of the uterus and its appendages. The integrity of the uterine appendages is an indispensable condition, and it is further necessary to know exactly the number and situation of the fibroids and the position and condition of the uterus. This exploration is much easier if the uterus can be pulled out of the abdomen, but this last manœuvre is not indispensable and enucleation may be commenced with the uterus *in situ*.

Two conditions may be present:—

(1) The uterus forms a globular tumour, in the centre of which a harder body is felt more or less easily defined; sometimes only an enlarged uterine body is felt. The uterus is incised along the anterior wall as near as possible to the median "avascular" line, just below the fundus. The incision is deepened until the fibroid is seen. This incision should be large enough to permit easy exploration of the neoplasm, and is enlarged to allow the passage of the largest diameter of the tumour. The lips of the incision are separated, neither ligature nor forceps being necessary. With hooks and the spatula the fibroid is then easily extracted. If the fibroid is lateral the hysterotomy should be made as near as possible to the middle line, and the tumour attacked from within outwards. Securing the median situation of the uterine incision in the "avascular" line, and attacking the tumour from within outwards, appear to be the important points in this method of operating. On these depend the simplicity and ease of the operation, and they afford the best means of avoiding hæmorrhage.

(2) The intra-uterine tumours are multiple. Here the same principles are adopted, but the median "avascular" line of the normal uterus becomes lateral and sinuous. The fibroids are successively dealt with from within outwards, and as far as possible through the same median incision; even if there exist a fibroid of the posterior uterine wall it can be reached through the cavity. Where the tumours are far apart and are multiple, anterior or posterior

incisions are practised. The fibroids are successively enucleated without a single ligature being necessary. A simple tampon left during the operation as a rule suffices to arrest hæmorrhage; where veins bleed the application of forceps is enough.

After enucleation it might be imagined that a large cavity is left in the uterine parenchyma, but this is not so. The uterine muscle contracts and retracts, as in the Cæsarean operation, and the loss of substance is of little importance.

Except in the cases where a fibroid, partially interstitial and sub-peritoneal, is adherent to the serous surface of the uterus to a large extent, and where the serous covering is resected, the uterine shell is not touched, and the authors content themselves by obliterating any pocket which may exist.

Sometimes the uterine cavity is opened either deliberately—as in reaching a fibroid in the posterior wall—or accidentally in enucleating a tumour partially submucous and adherent. Boursier has advocated the systematic opening of the cavity in order to curette the uterine mucosa. The authors consider this practice unnecessary, and to a certain extent dangerous, because it affords some chance, even if slight, of contaminating the wound. They, however, consider it an accident of little importance when care is taken to disinfect the vagina and dilate the uterus; besides which it is easy to pass a tube for drainage.

The operation is different according to whether the uterine cavity is open or not. If not opened the operation is aseptic, but if opened there is always the chance of contamination, and it is necessary to drain the uterus. In cases where the operation has been very long, a gauze wick is placed in Douglas's pouch. The uterine wound is sutured in the same fashion in each. It will therefore only be necessary to indicate the principles:—namely, suture of the uterine parenchyma with buried catgut sutures as closely together as possible, and suture of the serous membrane with linen thread inserted with a round needle. If care be taken to obtain apposition and to avoid the mucous membrane, the sutures suffice to arrest hæmorrhage. In some exceptional cases it is necessary to ligature one or two bleeding vessels.

The authors insist on the importance of perfect hæmostasis in preventing untoward results after operation. It is necessary to make sure that all bleeding is arrested before closing the abdomen, and in doubtful cases to drain.

After a discussion of the indications and contra-indications, the authors conclude that enucleation is always applicable to small or

medium-sized fibroids not numerous and easily isolated, in women still far from the menopause, where the appendages are aseptic and the uterus not sclerotic. It may be adopted for fibroids of large size in women near the menopause, if the operation can be done easily.

The objections urged against the operation are:—

(1) That the uterus cannot afterwards fully carry out its functions. Subsequent examination can hardly indicate that an operation has been performed, and pregnancy and labour are both possible. Engström out of 180 cases noted 9 pregnancies. Two of the authors' patients became pregnant. Zvibel gives the proportion of pregnancies as 3 per cent., and Témoign out of 109 operations has observed 5 pregnancies terminating favourably. The menstrual functions are still maintained, which is of importance in young women.

(2) That the fibroid is only part of a wide-spread malady involving and altering the entire uterus, and that when a fibroid is enucleated others continue to develop. This is a most serious objection, but such recurrence appears to be very rare. Ferendinos found 3 out of 290 cases. Out of 562 enucleations Zvibel gives the proportion as 0.75 per cent. Nedler (Thèse de St. Petersburg, 1903) gives a little larger proportion, viz., 3 per cent. The results must depend on the degree of care with which the fibroids have been enucleated, and the authors state that they have not yet had a recurrence.

If a careful selection of cases be made, and all the fibroids be enucleated at the operation, the chances of recurrence must be reduced to a minimum.

CONCLUSIONS.

(1) Medical treatment of fibro-myomata of the uterus is purely symptomatic, and is only admissible when surgical treatment is temporarily or definitely contra-indicated.

(2) Palliative operations have been less frequently indicated owing to the improved results of radical intervention: they should be reserved for special cases. Oöphorectomy is no exception to this rule; but it is, in the authors' opinion, of all palliative methods that which will remain longest in practice.

(3) We are nearly in accord concerning the general indications for the curative treatment of fibro-myomata, and on the absolute contra-indications for such treatment. A careful study of the renal functions is necessary when albuminuria is present. Anæmia and septic infection are indications for rapid intervention, and so, frequently, are cardiac troubles. The importance to be attributed

to the menopause from the point of view of the opportuneness of operating is not always the same; it varies according to the case.

(4) Conservative treatment should be considered as the treatment of choice for fibro-miomata. Enucleation should be preferred to hysterectomy, whenever possible. It will be reserved for young women, and for small or medium sized fibroids, few in number.

(5) Vaginal enucleation should be reserved solely for fibroids projecting into the uterine cavity, and easily accessible by cervical incision.

(6) Transvaginal enucleation is only indicated for small fibroids of the anterior or posterior uterine walls easily accessible after incising the corresponding *cul-de-sac*.

(7) Abdominal enucleation should have, in the opinion of the authors, extended indications. The size of the fibroid is not by itself a contra-indication. It is not necessary to fear the *extensive separation* of the shell of the uterine muscle: the difficulty of suture depends more on *the thinness* of the walls of the pocket, than on its size. The localization of the tumour in the neighbourhood of the tube or at the postero-lateral part of the cervix, necessitates certain precautions to render the enucleation free from danger. The uterine incision should be made as far away as possible from the principal uterine vessels. The number of the fibroids cannot be determined. What is of importance is the close relationship of the tumours. If several incisions have to be made very close to one another, great care must be taken in placing and tying sutures. Enucleation should not be attempted if multiple fibroids project under the uterine mucosa, and are extensively adherent to it.

The relation of the fibroids to the uterine parenchyma is important; fibrous indurations (histologically fibromata) which are continuous on all sides with the uterine parenchyma without line of demarcation, require total hysterectomy. If there be a sclero-fibrous induration of the entire organ, enucleation of the tumour must give place to sub-total hysterectomy.

The state of the mucosa is to be considered, and it is indispensable in doubtful cases to curette the mucous membrane before operation, and to examine the fragments with the microscope. Total hysterectomy is indicated if there be any doubt.

(8) The immediate results of abdominal enucleation are encouraging. The general mortality is about 2.75 per cent. The study of the after results shows that recurrences are very rare and that pregnancy often follows.

Cases of dystocia after the operation are too few to constitute a contra-indication.

(9) Vaginal hysterectomy has only very limited indications. It should be had recourse to if, in the absence of all complications connected with the appendages, the fibroid uterus is small, movable, and easily accessible, the vagina large, and the vulva dilatable, and in the opinion of the authors, it should be preferred to abdominal hysterectomy if there exist well-marked adiposity of the abdominal walls.

(10) Sub-total abdominal hysterectomy should be preferred in most cases to total hysterectomy. It is an easier, quicker, and less serious operation. Total hysterectomy is indicated when the cervix is diseased, when there exists any doubt as to the degeneration of a fibro-myoma, and when in the course of a sub-total hysterectomy there has been rupture of a collection of pus requiring free vaginal drainage.

(11) The choice of the method of abdominal hysterectomy is a matter of indifference. It is regulated by the conditions found after opening the abdomen, and simple surgical good sense suffices to guide the operator, who will dislodge the fibroids out of the pelvis to prevent the pelvic manœuvres being blind or dangerous. The chief object is to reach at the side and by the easiest route the four principal vessels, and it is of little importance in what order they are secured. The accompanying lesions of the uterine appendages will be dealt with before, during, or after the hysterectomy, according to their situation, their adhesions, and their contents.

(12) The conservation of the ovaries is debatable. It is well to leave them if the woman is young or neuropathic, or if the ovaries are healthy.

(13) Certain positions of the fibro-myoma, malignant degeneration, infection, gangrene, the co-existence of an epithelial tumour of the body or neck of the uterus, and, lastly, intestinal obstruction which they may cause, are indications for particular operations that have been described.

(14) The co-existence of a fibroid with pregnancy is not an indication for operation. If the tumour is not situated at the periphery of the zone of the uterus which dilates, it does not generally give rise to any accident. Those which have already caused a premature labour should be operated on by enucleation, if possible, and when the uterus is empty. Fibroids which occupy the lower uterine segment can be reached by vaginal enucleation, but often labour occurs normally in spite of their presence. However, it is desirable frequently to examine women who have such tumours,

and not to interfere during labour if there be any chance of a normal termination. If delivery is impossible, Cæsarean section is indicated, and if there be a single fibroid its enucleation is to be preferred to immediate hysterectomy. In conclusion, the success of an operation does not justify in these circumstances its too early adoption, as facts prove the frequency of normal labour even in the case of large fibroids of the lower segment of the uterus.

It would appear, from the experience of both French and German operators, that enucleation in a certain well-defined group of cases is an operation which merits a more extended trial. If, however, unsuitable cases be thus treated, it will only discredit an otherwise useful and valuable method of treatment. In a certain percentage of myomata this operation can be done with success, especially those examples where the tumour is single and can be easily shelled out. The great gain to the patient in the preservation of her menstrual functions, as well as the power to conceive, must not be overlooked. The ultimate decision will rest upon the results obtained from a careful record of after histories, special attention being given to the all-important question of recurrence, as well as the general condition of the patient. The greater the care exercised in freeing the uterus from myomatous nodules the less is the likelihood of a return of the growths. Still it is questionable if multiple growths are not an important contra-indication. As previously said, the most suitable cases are where the growth is single.

The conclusions arrived at by Tuffier and Rouville concerning the treatment of fibroids during pregnancy are important. It cannot be too strongly urged that the co-existence of a fibroid with pregnancy is not always an indication for operation. The number of patients with uterine fibroids who pass successfully through pregnancy and labour is really most surprising.

If the mucosa is unaffected and the position occupied by the fibroid will not cause obstruction to the passage of the fœtus, pregnancy and labour are uninterrupted. Although it cannot be denied that the ideal treatment of obstructed labour due to a myoma would be Cæsarian section followed by enucleation of the tumour, yet experience teaches that the great majority of the tumours causing obstruction are so situated and of such a character as to render any attempt at enucleation hazardous, and for these hysterectomy is imperative.

There still appears to be considerable difference of opinion as to the method of abdominal hysterectomy which gives the best results;

whether, in fact, a portion of the cervix should be retained or the complete operation (panhysterectomy) adopted. Martin laid stress on the inflammatory troubles in and around the stump, which have been observed by himself and others. But are these not due to defective technique? With careful asepsis and perfect hæmostasis no such troubles arise, and it seems certain that many operators do not exercise sufficient care in arresting hæmorrhage from the stump, before closing it over with peritoneum. There is, further, an advantage claimed for the retention of the cervix, that the general well-being of the patient is better, and a monthly loss of blood may persist for some time if one or both ovaries be also retained. The removal of the cervix is said to shorten the vagina, but the amount of shortening, if any, is very small. Sometimes a painful cicatrix may exist after panhysterectomy, but this, too, must be very rare.

As to the greater rapidity and safety of the partial operation, much depends on the method adopted. If that advocated by Doyen be followed, the operation of panhysterectomy is safe and rapid.

If, then, both operations can be done rapidly and safely, the question must be decided by a study of after histories. An important contribution to this question has already been furnished by the writer's colleague, Mr. Alban Doran; but there is still wanting an account of the after history of a large series of cases treated by panhysterectomy. Until this is forthcoming, the question must remain *sub judice*. Meanwhile, the results obtained when the cervix is retained and where the requisite care has been exercised in the conduct of the operation are so good that this method bids fair to hold the field.

Another much debated question is the value of one or both ovaries or a portion of ovary after hysterectomy; and the opinion of Martin on this point is interesting. The prevailing view is that the retention of one or both ovaries, or even a portion of ovarian tissue, minimizes or even prevents the climacteric signs and symptoms which follow hysterectomy. But is this so? No series of carefully-recorded cases is known to the writer upon which this opinion can be founded, and for this reason it would be well to have an investigation to settle this all-important question. Moreover, there may be a disadvantage in leaving the ovaries, for the subsequent formation of cysts, necessitating a further operation, is far from uncommon.

Considerable discussion followed the reading of these papers. When the reports of the meetings are published, further reference may be made to the work of the section.