Surgical.

ABDOMINO-PELVIC PAIN IN WOMEN.

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THE type of case here considered is that of the woman who says that she has pain, either in the back—usually over the lower lumbar and upper sacral vertebræ—or else in the lower abdomen, or sometimes in both places simultaneously. Very frequently the pain is most marked on the left side.

If, on examination, gross physical signs are found, the case presents, at any rate for the moment, few difficulties, and the treatment is usually obvious. Hence, further consideration is not necessary for cases of retroversion, pyosalpinx, ectopic pregnancy, prolapse, ovarian and uterine tumours, &c. The case that I am discussing is one in which no gross physical signs can be made out in an ordinary thorough routine examination. These cases are made more puzzling to us owing to the diversity of teaching that may be found in textbooks regarding the possible ætiology of these pains. At the present time, anyone who is sufficiently diligent to look up this subject in a large number of textbooks will find that he has the choice of the following alternatives:—

(1) It is due to too-frequent child-bearing and is typically seen in a woman who has not only borne but has also suckled several children in a few years, and is most marked in those who have had complications of pregnancy and parturition especially if these complications have been associated with bleeding. If this is correct it would seem probable that the pain is either part of a deficiency complex—for example, calcium—or else is due to some mechanical lesion following childbirth, such as a relaxation of some of the pelvic ligaments. Without going further into this, I might here interpolate that I think calcium is one of the very best tonics in these cases, and that the great majority of cases are in women who have had children.

(2) Conversely, we are told by others that it is caused by women employing various contraceptive means to limit the number of children they bear. It is alleged to be predisposed to by going out to social functions, and is found in its most virulent form among those who sit up late at night. It is said to be the revenge of Nature against the outraged maternal instinct. No very obvious pathology is laid bare by accepting these statements.

No doubt a woman who leads an unusually hectic and high-pressure life must be peculiarly strong and tough to stand it for long. I think we should all agree that she will be more liable to over-draw on her reserves of nervous energy than the placid wife of an agricultural labourer, but it is difficult to see why she should be supposed to be particularly liable to a localized pain in the lower part of her back or abdomen.

One must also remember that although the use of contraceptive methods has increased in recent years, especially since the War, the increase is probably more apparent than real, as now they are used quite openly and discussed without restraint, both in books and in the Press. The methods used now may be more cleanly and efficacious, but I think one may say that for very many years attempts have been made

more or less unsuccessfully, to limit the numbers of children. If one were perfectly sure that the use of contraceptives, &c., was the real cause of this pain and that a certain cure would result from discontinuing their use it would be our duty to inquire minutely into this point and urge our patients to reform. But it is worth considering that if a doctor tells a young woman of to-day that her pain is caused by these things and she gives up her previous mode of life and is not cured, she will lose all faith in him and will think he is "old fashioned," and is giving the advice from religious reasons. Hence I think that this theory is one to be accepted with caution as the logical consequences of accepting it may not result in the patient's cure and may lead the doctor into difficulties.

(3) It is caused by pelvic lesions of a quite minor kind and some of which require a super-expert to recognize them. Some American authorities are fond of this explanation. The slightest deviation in the uterine axis and most conditions of the cervix, from a bilateral split with ectropion to a pin-hole os, are cited as causal factors. On the Continent and in America these conditions have been operated on in hundreds of thousands of cases, but the patients in the enormous majority of cases refuse to be cured by the operation, and so they have quite rightly been given up to a very large extent.

Minor Pelvic Lesions.

(4) The pain is put down as neurasthenia. This is quite a popular explanation with certain authorities at the present time. Exactly what they mean by neurasthenia may not be explained, and how the pain can best be treated may be left fully unstated, but once a woman has a pain in her lower abdomen or back that is not accompanied by physical signs obvious to a first year dresser, it is called neurasthenia and there the matter apparently ends. I should like to suggest that as regards a single localized pain "neurasthenia" is hardly a diagnosis; it is more a confession that we have failed to find the cause with our imperfect methods of examination and investigation. Before transillumination of the maxillary antrum was practised, how often was an antral lesion put down to neuralgia? It is a different matter if there are pains in half a dozen places in the body and which are said to vary in intensity and position day by day.

Neurasthenia.

(5) These pains (and most others) are due to lesions of the spinal column associated with displacement of one of the vertebræ or to pressure on the nerves as they issue from the intervertebral foramina. They are, in fact, osteopathic in origin and must be handled by the osteopath. Many of these cases need not be taken too seriously, especially those where variable and radiating pains are said to be due to pressure on the nerves although

Lesions of Spinal Column.

radiograms show no change. All the same, it is idle to pretend that the skilled manipulative surgeon cannot cure pain in the back, especially those which come on after gross trauma, such as a car smash or a fall in the hunting field. By a "skilled manipulative surgeon" I mean a qualified medical practitioner who specializes in that work. A pain over the sacro-iliac joint, especially on the right side, is frequently met with, and this may be due to a slight displacement of the articular surfaces of the joint. This may result from the softening of the ligaments that occurs during pregnancy. An efficient radiographic examination should demonstrate the presence of this lesion, but sometimes fails to show any abnormality in cases of lumbo-sacral or sacro-iliac strain. A joint lesion is usually accompanied by muscular spasm and rigidity and there may be lordosis present.

The physiology of menstruation and ovulation involves such complicated processes that it is not surprising if some of them are attended by pain, and we should certainly expect pelvic pain to be more common in women than in men, and the fact that the important female genital organs are deep-seated and surrounded by other viscera that are themselves liable to ache, adds to our difficulties. But although the subject is so difficult, an attempt ought to be made to elucidate it and to classify the cases and so get away from the kind of treatment which might be summed up in an exaggerated form as "She said she had a pain ; I could feel nothing abnormal, and so I gave her bromides for three months, and then as she was no better she was put on Mammary gland extract, and later I put in a ring pessary, but she is still no better."

Ovulation and Menstruation.

Now, to go briefly over the methods that may be found convenient in tackling these cases. I think the most important points are the history of the case, the information gained by the physical examination of the patient, then the experience gained at laparotomy (the operation usually being performed for some quite different symptoms or disease). First, to consider the

Methods of Investigation.

history : if there is a history of various pains in all sorts of different places that cannot be definitely located and that tend to vary in position from day to day, the outlook is bad, and the final diagnosis of neurosis or neurasthenia is sadly probable, but one must be constantly on the look out so as not to miss an organic cause for a pelvic pain in a person who has other pains of a neuralgic type.

History.

If the pain is limited to the lower abdomen or back it is improbable that it is neurasthenic in origin, and I think that the next thing to do is to find out if it is fairly constant or intermittent. If intermittent, is it cyclic (i.e., menstrual or intermenstrual) or is it related to food or defæcation, or is it quite irregular. First, to consider pain that is fairly constant. Is it definitely worse at the end of the day, that is of the fatigue pain type ? If it is definitely worse at the end of the day it may be due to weak muscles or ligaments in the back, if it is situated in the back. This is typically seen in thin people with long spinal columns usually with some vertebræ prominent and occasionally with some slight scoliosis. The patients are frequently anæmic and sallow, but it is worth noting that if this patient gets a deposit of fat on the abdominal wall, the strain on the back caused by supporting the extra weight of fat will tend to increase this pain because of the leverage the fat exerts. Hence, fatigue pains are frequently seen in obese patients, and can be lessened by reducing the weight, as well as by getting them to do exercises to strengthen their muscles. Small hernias and hydroceles, both of the canal of Nuck and of hernial sacs, often seem to cause referred pain that is worse at the end of the day and so these things should be looked for.

Types of Pain.

Visceroptosis (with or without prolapse of the uterus) is another important cause of abdominal pain towards the end of the day. This diagnosis is confirmed if it is found that the pain is relieved by lying down, but not by sitting in a chair. Stretching of the abdominal wall with sagging of the abdominal contents is so common after parturition that it is worth going into this question carefully if the pain is thought to have commenced or become worse after childbirth, as otherwise some slight abnormality of the uterus may receive

Fatigue Pain.

too much attention. The patient should be stood up and the contour of the lower abdomen observed when she is standing at ease and then when at attention, and the alteration in shape noted. The patient should then be seen with her corset on, and its efficacy as a support to a sagging abdomen noted. It is important to inquire if the corset is done up from above downwards, or from below upwards, as if it is first tightened above it will force down the abdominal contents, and thus do more harm than good, whereas an efficient corset done up from below upwards may give considerable support, provided it is sufficiently short to leave the epigastrium unconstricted and free to expand. The patient may be told to put it on while lying on her back rather than while standing up, and it is essential that it should lace somewhere, as otherwise the elastic soon stretches and it ceases to give support. It is perhaps as well to refer to the garment as a corset, and not as a belt, as the latter may suggest a surgical appliance to the patient and further suggest that she has some serious disease that needs a surgical appliance to rectify it.

The second class of fairly constant pain includes those where its intensity is not increased in the evening and which, therefore, should not be a fatigue pain. It is often situated in the iliac fossæ and especially on the left side. There are two important classes of case—first, where adhesions and scarring are present following such diseases as appendicitis, diverticulitis (dysentery should be inquired about in patients from the tropics, salpingitis and old parametritis, if there is a scar in the lateral fornix running into the cervix.

Pain in Iliac Fossæ.

The second class is where there is raised tissue tension; this commonly exists in the ovary in the form of small cysts containing either clear liquor folliculi in a follicular cyst, or it may be blood in a corpus hæmorrhagicum. Quite rarely it is found in the uterus in the form of an endometrioma or hæmatometra. The idea that tissue tension is associated with pain is supported by the well-established fact that in cases of hæmatocolpos due to imperforate vaginal outlet, there is recurring monthly pain which lessens after sufficient time has elapsed to allow the vagina to stretch. Also for many years operators have been in the habit of pricking retention cysts of the ovary when found in the course of an operation with the idea of relieving pain.

Pain from Raised Tension.

Another example of this type, that is "pain from raised tissue tension," is the varicocele of the broad ligament. This is a lesion of the female pelvis comparable to the varicocele seen in the male and producing effects on the ovary similar to those produced on the testis. It differs in that this varicocele cannot be seen or felt by an ordinary examination but can only be seen during laparotomy. Further, if the patient is in the Trendelenburg position the varicocele will empty itself and so not be obvious even during laparotomy. This is rather an important point as those operators who always have their patients in the Trendelenburg position before opening the abdomen and examining the pelvis, do not see the condition as it is with the patient flat; and none of us, during operations, see it in as marked a form as it exists when the patient is standing up. Hence its very existence has been denied by some gynecologists.

Varicocele of Broad Ligament.

Regarding the causation of this varicocele a few anatomical points must be mentioned. The pampiniform plexus empties itself into the ovarian vein and the vein has no efficient valves. On the left side the ovarian vein joins the renal almost at right

angles and the pelvic colon lies across the ovarian vein at the brim of the pelvis. The weight pressing on the ovarian vein will be enormously increased if fæces are present in the pelvic colon. These facts will explain why it is difficult for the pampiniform plexus to empty itself and why it is easy to get engorgement from back pressure, especially on the left side. It has already been pointed out how the pain on the left side is frequently more marked than on the right and I personally believe that the existence of varicocele of the left broad ligament explains some of these cases. Further, it is probable that some of the patients who in the past were cured of pain by the removal of an apparently normal ovary really received benefit from the ligation of the ovarian vein and not from the removal of the ovary itself. I also believe that constipation by itself can cause left-sided discomfort by the weighted sigmoid dragging on its attachments so that it tends to sag into the pouch of Douglas. Constipation is so very common in women and it is difficult to find out from them how marked it is. In going into

Constipation. this question with patients the usual thing is to ask them if their bowels act each day. But there is a trap here for many patients' bowels act daily but always a day late, hence there is always a fæcal collection in the bowel. This condition is very difficult to exclude and yet the patient will not be cured till the colon is completely emptied every day. An indication that this retarded action of the bowels is present may be obtained if the patient is instructed to eat a few charcoal biscuits and told to note whether the resulting slate-coloured motion is passed twenty-four hours or forty-eight hours later. If undue delay ensues before the charcoal is evacuated, a small dose (e.g., 1 drachm) of liquid paraffin may be given, and if necessary, given more than once a day. A large dose of liquid paraffin tends to pass through the bowel without always bringing the fæcal matter with it.

This condition of the action of the bowel being always a day late is well known to bacteriologists as the stale fæces contain a large number of the *Streptococcus faecalis* and are recognized as a cause of general ill-health. Connected with constipation hæmorrhoids may be mentioned as a cause of pain in the back. It is one of the serious criticisms of those who scoff at minor physical signs causing these pains in women that a healthy athletic male gets a pain in the back if he gets piles.

Continuing to consider examples of raised tissue tension, an unruptured corpus hæmorrhagicum and endometriomata of the genital tract also cause fairly constant pain, not worse at the end of the day, but as the pain caused by these lesions

Intermittent Pain.

is usually worse intermittently, it is best to consider them with the next class of pain, that is intermittent pain. This may be : (a) related to menstruation ; (b) related to food ; (c) irregular. First to consider those connected with menstruation, we have already gone into the varicocele of the broad ligament ; it is obvious that this will join in the general congestion associated with menstruation and I will now only take two other conditions. The first is a corpus hæmorrhagicum of unusual size caused by a thick tunica albuginea not allowing the ovum to rupture as easily as usual ; this forms a lump about $\frac{1}{2}$ in. in diameter on the ovary and therefore is not easily discoverable except under anæsthesia. It is associated with pain and this pain seems to be of two types : (1) that due to increased tissue tension, till it starts leaking ; and (2) the peritoneal irritation due to effused blood when it does leak. Usually the pain disappears within six weeks, but I have two specimens where the amount of blood leaking into the peritoneum was such that

laparotomy was necessary. Naturally until sections were cut, the cases were mistaken for ectopic gestations.

The second is endometriomata (the old adeno-myomata) ; these tumours have now been transferred by histological research to include the chocolate blood cysts of the ovary, many cases of "chronic metritis," some unusual forms of chronic salpingitis and rare tumours in the recto-vaginal septum. They are characterized by the presence of aberrant portions of endometrial tissue that still have the power of secreting menstrual blood which cannot escape and so raises the tension in the part. The physical signs that they give rise to may be slight and difficult to make out, but their symptoms include constant abdomino-pelvic pain with exacerbations that roughly correspond to monthly intervals.

Another form of intermittent pain is that associated with hunger and the taking of food. The definite hunger pain of duodenal ulcer and the pain after food of gastric disease do not come in here, but I should like to draw attention to the frequency with which general flatulent distension of the whole gastrointestinal tract is associated with pain in the back. With pain in the back complained of, it is always worth while seeing if the teeth and especially the molars are deficient, and the fitting of an artificial denture and careful diet may (after some months) do a good deal to lessen an ache in the mid-lumbar region that has resisted other treatment.

There remain to be mentioned a few causes of pain coming on at irregular intervals, not associated with the taking of food or connected with the onset of menstruation. One that is sometimes puzzling is when a patient tells us that she has pain on sitting down and the ordinary causes such as hæmorrhoids cannot be found. In some of these, a caruncle is present on the urethra and when it is removed the pain disappears, but may come back again if the caruncle recurs.

Stone in the kidney is higher up than the pains that we are discussing, but a stone in the ureter is a possible cause of pain that has to be kept in mind or it may be missed.

Also patients get pain associated with changes in the urine that may be of ureteric origin. These women often drink too small a quantity of fluid for their needs and so pass urine that even when hot has a sediment, generally referred to as "gravel." Oxalates may be passed in large quantities by some patients, especially if rhubarb is being eaten. They get relief when persuaded to drink large quantities of clear fluid and so to pass large quantities of dilute urine. Some are passing *Bacillus coli* in large numbers and these again are easy to miss. They may date from a *B. coli* pyelitis which complicated a pregnancy. Of course it is well known that a lot of parous women pass a few coli and have perfect health, and so it is important to get a report from a bacteriologist of large experience who can say if the organisms in a centrifuged specimen are in large numbers or not.

There remains the appendix vermiformis, of which I can simply say that I only trust it is not a possible factor in causing pain when it is safely removed and in a bottle, and it should certainly be removed if a laparotomy is needed for some other reason—this I have done for many years.

I am not an advocate of indiscriminate operating on any woman who has a pain, and consider that "looking inside" without some definite indication is quite unjustifiable

unless the woman is an invalid and is willing to take the risk after it has been fully explained that the operation is purely exploratory. I am firmly convinced that the stress of a laparotomy and the discomfort attached thereto increase a patient's debility very seriously, and so if you do not do her definite good, you may do her a lot of harm. This is especially the case where a patient has already got the scar of one abdominal operation and is considering the question of having a second. To carry this point a little further, how many women do you know who are really fit and vigorous after three abdominal operations? Personally, excepting cases of Cæsarian section, I know very few. As another example, ventrisuspension for retroversion should not be performed unless it is known that replacement and a pessary cure the symptoms. Then, if the patient dislikes the pessary, operation may be indicated.

To sum up, pain in the back or in the lower abdomen of a woman is often associated with quite definite lesions that are very difficult to find. A diagnosis of neurasthenia in the case of a patient with a definite localized pain is probably not correct and is rather a confession that our methods of diagnosis are not efficient. Operative treatment is not usually indicated, but if the abdomen has to be opened for some coincident condition, such as a chronic or grumbling appendix, then the opportunity should be taken to examine the surrounding organs thoroughly.

If empirical treatment has to be advised, then for the back the best is exercises and massage (but especially exercises), and for the lower abdominal pain, laxatives to keep the bowel empty and not merely acting. If a tonic is desired then calcium will probably be found better than iron. Also indigestion and flatulence should be treated and the teeth looked at, and finally a corset that is done up from below upwards.

FOR NOTES.