cases some have died from the disease, some have so far improved that the dose could be lowered, and in the case of three or four I felt justified in discontinuing it at least for a time. But by far the larger majority have continued with the same dose, or have had it increased. The suggestion has been put forward that the giving of insulin allows the pancreas to rest and rehabilitate itself, thus tending towards cure and making the necessity of continuing insulin cease, but so far this has not been proved to be the case.

Some patients complain of headache and general lassitude and tiredness. A large number of these are suffering from an excess of acetone in the urine. In order to overcome that you must either reduce the intake of fat or increase the amount of the carbohydrate. The whole question of getting rid of the acetone is one of getting a readjustment of the diet on the lines I have indicated, together with a correct amount of insulin as well.

When these patients develop tuberculosis it is very difficult to do much for them. Certainly larger doses of insulin should be given them, and though in some cases it may not seem to be doing any traceable good it is advisable always to persist with the insulin. The amount of insulin must be increased in all cases where carbuncles, boils, or other complications appear.

Probably it is not possible to keep, in private practice, diabetic charts such as are kept in hospital, so I will describe them. The amount of carbohydrate given is shown in a yellow graph, the caloric value of the food is shown in black, the amount of the sugar in the urine is in red, and the amount of insulin the patient is taking is shown in green. These enable one to see how the case is progressing and how one factor counterbalances the other.

Having got your patient on to insulin treatment, and being sure he understands all the instructions, it is a good plan to have such patients periodically examined by a pathologist, to ascertain whether the blood-sugar has altered at all. MacLean's method, like many others, requires a good deal of experience before accurate readings can be made.

There are many little facts in connexion with diabetes which no one has explained. For instance, if you exclude the Jewish race you can be practically sure that 95 per cent. of your diabetic patients have got blue eyes. A large number of them come from the Eastern countries, and this may have a relation to this colour question. Another thing I have noted is that these patients are mentally more shrewd and astute at their work than the ordinary person. Sometimes one form of carbohydrate appears to suit better than others; thus oatmeal may be better borne than bread. In such a disease as this, and with the people themselves taking such an interest in their condition, it is essential to discuss every detail with them. At the same time do everything possible to avoid introspectiveness, and to correct the habit of ascribing every symptom of which they complain to diabetes.

ABDOMINAL PAIN IN PREGNANCY.

BY

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MANY cases of abdominal pain in pregnancy, pain that is often severe, sometimes continuous, at other times occurring in crises, show no physical signs of any kind.

Some people are undoubtedly sensitive to the stretching of the uterus and abdominal wall and to uterine contractions; but to the majority these gradual processes, with the incessant foetal movements, do not cause more than discomfort. Many women call for support of the pregnant abdomen, others cannot put up with any pressure on the skin. Parous women, however, generally need some form of corset or belt.

Constipation and flatulence are almost of universal occurrence during pregnancy, frequently giving rise to pain. In many, the stretching of the round ligaments, causing pain either in the groins or the sides of the uterus on one or both sides, is a matter of complaint between the twelfth and thirtieth weeks.

The commoner organic causes of abdominal pain in pregnancy are usually easily recognised, though sometimes the differential diagnosis may be difficult.

It may be suitable to consider them in three groups, those where the pain (1) appears limited to the uterus, (2) originates in the adnexa, (3) is that of associated conditions.

1. PAIN LIMITED TO THE UTERUS.

(a) *Undue stretching of the uterus*, in cases of dual pregnancy sometimes, always in acute hydramnios, gives rise to great pain, breathlessness, and palpitation. The sudden increase of amniotic fluid is simple of diagnosis, as it is rare, of sudden development, and may be associated with albuminuria and other toxæmic signs. The chronic or gradual cases of hydramnios may present more difficulty in their differential diagnosis from an ovarian cyst complicating pregnancy, or an associated ascites. In a case seen for the first time, it should be remembered that in some patients with ovarian tumours there may be a history of amenorrhœa, the breasts may be enlarged and secrete fluid, and the colour even of the vagina more congested than usual from pressure. In such cases chief reliance will be placed on the general contour of the swelling, the fluid thrill, and the absence of foetal parts. The ovarian cyst complicating pregnancy may give considerable trouble in diagnosis, but ascites should not, though it may co-exist with hydramnios.

(b) *Fibromyomata* are more common in pregnant women than is usually thought, a fact that proves

that they often cause no symptoms. Those that do give trouble usually fall into one of three groups, first, the subperitoneal pedunculated fibroids that may give rise to various mechanical changes, so causing pain. Secondly, the uterus may be distorted with fibroids, when one may be large and may cause pressure symptoms. Lastly, there may be only one fibroid present, which may be either a very big one, or may be of moderate size and may undergo some degeneration. The commonest in pregnancy is "red" degeneration, when there may be much pain and tenderness. Rest in bed usually brings about alleviation of symptoms, which seldom last for more than a few days. Operation is rarely called for, and should be avoided if possible, as these fibroids are usually deep-seated and a myomectomy much increases the chances of abortion.

(c) In cases of the type of antepartum hæmorrhage called *concealed accidental hæmorrhage*, usually occurring in multigravida between the thirty-fourth and thirty-eighth week, pain may be a very prominent feature. Such a case may become one of the most serious catastrophes of pregnancy; even the mildest should be fully investigated at the onset of the first hæmorrhage. In a typical severe case, the patient may feel off colour for a day or so beforehand; then, perhaps during some exertion, she suddenly feels severe abdominal pain. This may be described as of something giving way, a bursting sensation; or as if some tight band of constriction were being tied round the abdomen; or indescribably bad, with no alleviation at all, so that the patient rolls about in agony. She may then faint or vomit.

All degrees of concealed hæmorrhage occur; some accompany or follow a revealed hæmorrhage, and in others the external hæmorrhage appears later. All such cases need immediate treatment and very careful nursing and watching.

(d) A *hydatidiform mole*, when it causes sudden stretching of the uterus, may give great pain, which is apt to be most severe when hæmorrhage has occurred in some of the attachments of the mole to the uterine wall. Such cases usually closely simulate a concealed hæmorrhage, for in both the uterus is usually of a hard, board-like consistence, with marked tenderness, and no foetal parts can be felt or foetal heart heard. Hydatidiform moles usually occur in the earlier months of pregnancy, when the differential diagnosis is not so difficult.

(e) *Rupture of the uterus* in pregnancy is a rare calamity; but with the large number of Cæsarean sections performed, of which it is found that the scar ruptures in about 4 per cent., such cases need watching where there is any unusual abdominal pain before or at term. The rupture may be partial or complete, and is usually ushered in by abdominal pain or vomiting. Surgical attention is needed at once, and should not be delayed. Those cases where the placenta is attached to the scar may have very little pain, yet may have a fatal hæmorrhage in a very short time.

Spontaneous rupture of the uterus may occur in a pregnancy in one horn of a bicornuate uterus, the accident being analogous to the rupture of the tube in a tubal gestation. Cases have been reported of the spontaneous rupture of the uterus during the latter months for no apparent reason, and is said to be due to some weakness of the uterine musculature. These cases are associated with marked abdominal pain and shock due to the escape of liquor amnii and blood into the peritoneal cavity.

Though rupture of the uterus during pregnancy is a very serious accident, unless it is of a cornual pregnancy or interstitial pregnancy, when the hæmorrhage may prove fatal in a few minutes, it is not attended by the same degree of shock and danger as in the case of rupture of the uterus during labour. Traumatic rupture of the uterus is always the result of direct violence, when there is much shock due to pain and hæmorrhage.

2. PAIN ORIGINATING IN THE ADNEXA.

The cases where the cause originates in the adnexa form an important group, of which the rupture of an extra-uterine pregnancy will be considered elsewhere. Salpingitis or salpingo-oophoritis rarely lights up in pregnancy.

Ovarian tumours and their bearing on pregnancy deserve attention here. Those that cause pain usually do so either from pressure or from some axial rotation or degeneration. Rupture of the cyst may occur with incarceration in the pelvis, infection of the cyst with the bowel with acute abdominal symptoms, or hæmorrhage into a cyst. In most cases of ovarian tumours complicating pregnancy it is agreed surgical treatment is called for, and more certainly when there is abdominal pain and any tenderness.

The abdominal pain may be due to free blood in the peritoneal cavity and may with advantage be considered here. This may be due to (a) rupture of a tubal or ovarian pregnancy, (b) an interstitial pregnancy, or rupture of a cornual pregnancy in a bicornuate uterus, (c) rupture of a uterine scar, from Cæsarean section or myomectomy, (d) rupture of a uterine vein. All these are severe cases, owing to the amount of blood lost, and in some the hæmorrhage may prove fatal very quickly. The cases of ruptured tubal pregnancy are by far the commonest in this group.

Abdominal pain in such cases is of many varieties owing to the differing events that may happen to a tubal pregnancy, and forms really a subject by itself. Rare though they are, the secondary abdominal and broad ligament pregnancies must not be forgotten, as they may prove formidable tasks at operation.

Before going on to the associated diseases giving rise to abdominal pain, it would be well in passing to mention the epigastric pain which is such an important prodromal symptom in pre-eclamptic toxæmia. Various explanations have been suggested to account for this pain, which may be very severe, and probably the suggestion that in the worst

cases it may be due to the stretching of the peritoneum over the liver by the subcapsular hæmorrhage may only occasionally be correct. Epigastric pain is important, as it may show itself only shortly before the occurrence of an eclamptic fit, and at times may be the only prodromal symptom present.

Other upper abdominal pains do occur in heart cases where compensation is failing, and again in tabetics, though these cases are seldom seen out of infirmaries, with severe abdominal crises.

3. ASSOCIATED CONDITIONS.

In the large group of associated conditions causing abdominal pain in pregnancy it would be wise to consider—

1. *Pyelitis of pregnancy*, which is of very frequent occurrence. Clinically the cases can be grouped usually under one of the three following types:—

(a) The *renal* type—where the signs and symptoms point to one or other kidney. There is severe pain in the back and loin, one or other side, more often on the right side. The patient feels and looks ill, has a furred tongue, and often a shivering attack and rise of temperature. Headache is usually marked. On examination of the abdomen, the muscles over the painful area are rigid and the kidney is definitely tender. Urinary symptoms are seldom complained of. This is the type of case that with rest in bed and the usual careful treatment will improve in a few days, but is very liable to relapse with a recrudescence of all the symptoms.

(b) The *abdominal* type, where acute abdominal pain is complained of, so severe that there may be difficulty in deciding whether the case may not be one of appendicitis, cholecystitis, or intestinal obstruction, owing to the abdominal distension, rigidity, nausea, and perhaps vomiting with constipation. There may be several rigors, the temperature may rise to 103° or 104°, and the pain may be excruciating. Such cases may take a long time to improve, and may leave the patient very debilitated for the rest of her pregnancy.

(c) The *generalised* type, where there is not much abdominal pain, the signs and symptoms not being localised to the abdomen. This group will not be considered here; suffice it to say that the prognosis is a bad one both as regards the mother and the foetus.

2. *Acute Appendicitis*.—Pregnancy does not predispose to appendicitis, but the growing uterus may pull on and disturb adhesions formed from a previous attack, and so excite a renewal of the disease. It may be a very difficult condition to diagnose for certain in pregnancy, and in all suspect cases a careful examination of the urine and the blood should be made. The size of the uterus, it should be noted, tends to raise the cæcum and appendix in the later months higher in the abdomen. Up to the fourth month of pregnancy the signs are as easily recognisable as in the non-pregnant.

A rise of temperature with vomiting, constipation, and localised and well-marked rigidity in the

appendicular region, will usually point to the source of the trouble. The vomiting may present difficulty, from a case of vomiting of pregnancy, but the sudden onset, rapid pulse, and rise of temperature should prevent this mistake.

The later cases after perforation has occurred will always need operative treatment, though some cases of suppurative peritonitis may be quite difficult to tell from a concealed accidental hæmorrhage. In these it should be remembered, though there is generalised abdominal pain and rigidity, in the peritonitic cases there is a maximum of tenderness in the area not occupied by the uterus, the flanks and epigastrium. It is generally agreed that even the mild cases should be operated on, for pregnancy undoubtedly makes the outlook graver, pus formation being commoner, miscarriage likely to occur, and possibly very serious complications at term, during labour, or in the early puerperium.

3. *Intestinal obstruction* may give trouble in diagnosis in pregnancy. In this connexion it should be remembered that the vomiting of pregnancy if “pernicious” begins early and steadily gets worse; the onset is rarely acute, it is not associated with pain, distension of the intestines, or interference with the passage of flatus. Again it may be relieved by rectal feeding, and analysis of the urine should help the decision. Treatment of intestinal obstruction cases will always be surgical—if possible, without disturbing the pregnancy. The intestinal obstruction may be either due to the pregnancy, as in cases of adhesions, fibroid or ovarian neoplasm, even the pressure of the pregnant uterus. Or again it may be from a separate and associated condition, such as a strangulated hernia, a volvulus, or a pelvic abscess.

4. *Retroverted uterus*, with retention of urine, is of importance between the twelfth and sixteenth week of pregnancy. So many women in a normal pregnancy have backache and frequency of micturition at this stage that the condition of overflow incontinence resulting from incarceration of the retroverted pregnant uterus may be missed. There is great abdominal pain and the patient is in acute distress. With the onset of cystitis the temperature and pulse rise and the patient is acutely ill. In spite of characteristic physical signs, a retroverted gravid uterus may be easily mistaken for other conditions, which may lead to serious results—to mention an intra-pelvic ovarian cyst, frequently a dermoid tumour, a hæmatocele from a ruptured tubal pregnancy, and a retrouterine fibroid with pregnancy.

5. *Gall-bladder pain* occurs sometimes, more commonly in the later weeks of pregnancy, and calls for dietetic measures and medical treatment. Acute cholecystitis is rare, but in this condition the pain, which starts in the right epigastrium and hypochondrium, generally radiates to the right shoulder region. Unless operated on at an early stage, the gall-bladder is liable to rupture and cause a severe form of suppurative peritonitis.

6. *Acute pneumonia* may show itself by acute abdominal pain in the early stages, and rigidity, and may easily be missed.

7. *Calculi*, renal, ureteric, and vesical, do occur associated with pregnancy, and may cause acute abdominal pain and may need surgical treatment.

8. *Suppurative peritonitis*, pelvic or otherwise, may arise from many causes, as appendicitis, acute cholecystitis, perforation of the pouch of Douglas by an instrument, and rupture of a pelvic abscess, or of a pyosalpinx.

The above are some of the conditions that should be brought to mind in difficult cases of acute abdominal pain in pregnancy.

THE ENLARGED PROSTATE : ITS DIAGNOSIS AND TREATMENT.*

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DIAGNOSIS.

ENLARGEMENTS of the prostate gland may be divided into three groups: (1) benign growth or adenoma; (2) malignant growth; (3) chronic fibrotic change.

The symptoms may be divided into general and local.

Of the local variety, the first is usually an increased frequency of micturition. This at first is slight, and is produced by the irritation due to the presence of the enlarged gland. Later, the frequency becomes more marked and a new factor has now arisen—i.e., an intravesical infection. Whether this infection be carried from without or from the blood stream it is impossible to say, but it is a constant finding that in all cavities of the body where there is obstruction, and subsequent stagnation, infection inevitably follows.

With the increase in the frequency a little hæmaturia may occasionally occur. This is due to the rupture of one of the small dilated vessels on the bladder mucous membrane following straining.

A change also occurs in the early stages in the character of the urinary stream. This change may fall into three subdivisions; they are a difficulty of starting, of keeping going, and of stopping. Later, the patient may be seized with a sudden attack of acute retention, and this will frequently be the first symptom to drive him to his medical man. A warning should be sounded here—that similar trouble is frequently the first complaint in the earlier stages of *tabes dorsalis*, so that the knee-jerks, pupil reflexes, &c., should always be

examined in these cases. At this stage patients suffering from an enlarged prostate frequently complain of considerable suprapubic pain.

Following these symptoms general changes soon begin to occur. They are due to the decreased efficiency of the kidneys as a result of back pressure acting directly through the bladder and ureters, and in those cases with marked cystitis to a toxic absorption.

The general changes constitute a striking clinical picture, and are of the greatest importance in the choice of the one- or two-stage operation, quite apart from any laboratory findings. They are a feeling of general lassitude, a decreased power of mental concentration, headaches of increasing severity, loss of appetite, particularly for meat, slight rises of temperature, and a gradual raising of the blood pressure.

Passing on to clinical methods of diagnosis, one comes to those for both the local and general condition.

Locally the digital examination of the prostate per rectum is our first method. As regards this I would like to point out firstly the characters of the normal prostate. There are two lateral lobes which lie flush with the plane of the anterior rectal wall—i.e., not protruding—separated by a median groove with the mucous membrane moving freely over them. The consistency is fairly soft.

In the adenomatous type of prostate, the lateral lobes become enlarged and protrude into the rectum, the median groove becomes obliterated, the consistency harder than normal, but the gland still moves freely and the mucous membrane of the rectum is not attached to it.

It should be remembered here that if the adenoma is limited to the median lobe of the gland—i.e., that position lying between and above the common ejaculatory ducts—it will not be felt by rectal examination.

In the fibrotic type the gland will be harder and more resilient than normal, but its contour will be unchanged and its size may even be decreased.

In the malignant type the gland will be enlarged, less freely movable than normal, may be firmly fixed, and in late cases the rectal mucous membrane may become involved.

Digital percussion suprapubically will disclose the presence of a dilated bladder. The second method of local examination is by the use of the cystoscope. This I think should never be omitted. Firstly, the passage of a cystoscope will disclose the presence of a urethral stricture, which should always be treated before the prostatic enlargement is attacked. Before the passage of the instrument the patient should be instructed to pass his water, then that which is subsequently drawn off through the cystoscope will represent the degree of residual urine.

The subsequent examination of the interior of the bladder will disclose (1) the degree of intravesical prostatic enlargement, (2) the condition of the bladder mucosa—i.e., the degree of cystitis.

* A lecture delivered at the North-East London Post-Graduate College.