She lived in the country, was fond of outdoor life, had the best hygienic surroundings and a liberal diet. On examining her, the only abnormality I could find (other than that afforded by the condition of the uterus) was a slight speck on the corner of one eye, and on being told that this had happened when she was quite a little child I rather hastily inferred that this had been the result of an accident. At the operation some placental remains were removed (which were not adherent), and the uterus was curetted. The patient made a good recovery and returned home. Finding no reason for any persistent treatment I did not recommend anything beyond some *viburnum prunifolium* (if I remember rightly) to be given during any subsequent pregnancy. The next year a seven-months baby was born, which lived nine weeks, and the following year (1901) a miscarriage occurred at five months.

Some time after this, in December, 1901, the patient consulted me again, but with sadly deteriorated health, broken down, disappointed and hopeless of ever becoming a happy mother. In addition to the troubles due to her past abortions she had now active corneal ulceration and conjunctivitis (for which she was consulting Mr. Lloyd Owen), and was, as she feared, just beginning with her fifth pregnancy. The corneal ulceration was, I found, a recurrence of what had happened in early childhood, and this—and no accident—had been responsible for the opacity which I had already noticed. The discovery of this, together with the fact that her husband's history was not free from suspicion—one of his brothers having died of phthisis—afforded me the clue which I was quite ready to have seized some years previously could I but then have found it. I wrote to Mr. Lloyd Owen (who kindly gave up the whole of the general treatment into my hands) and felt justified in assuring the patient that in spite of her ill-health if she persevered with the treatment I was prescribing I believed she would have a better chance than she had ever had before of bearing a living child. The result you know; she was confined last August of a healthy child—the first to live after eight years of married life and unsuccessful labour.

The history of this patient leads me to speak of the clinical history of the cases of recurrent abortion I am now considering as contrasted with those which are due to syphilis.

First the general characters of the recurrences are different: In the syphilitic class the natural tendency (even apart from treatment) is rather of an upward character. Each succeeding abortion, if the patient's general condition remain satisfactory, tends to occur at a later period until the pregnancy goes to term. At this stage dead children are usually born, but finally living children may be expected. The following list of abortions taken from the notes of a syphilitic patient who attended my out-patient room two weeks ago forms a good illustration. This patient was married four years ago and has had five consecutive miscarriages, the first at 10 weeks, the second at 3 months, the third at 3 months, the fourth at 4½ months, and the fifth at 6 months (fetus dead at birth). There can be no reasonable doubt, I think, that the miscarriages in this case are due to syphilis.

The patient is at the present pregnant again for the sixth time, and is taking the red iodide of mercury. She will now probably go longer—7 or 8 months—and have another dead child, or may, perhaps, have a living child at term. In the "strumous" class—if I may call it so—the natural tendency is rather of a "downward" character. Unless something is done to improve the general health, each abortion tends to further weaken the patient, each succeeding abortion tends to occur at an earlier period, and finally in some untreated cases I think the power of conception is lost. But although this is the "type" the cause of the pregnancies is by no means a constant one. Anything which improves the health and nutrition—prolonged residence at the seaside, a better dietary, less hard work, any and all of these may to a very large extent modify the "downward" tendency. So in the patient whose case I have just reported and whom I curetted, the rest and extra care following the operation was not without its effect for good, and the next pregnancy resulted in the birth of a seven-months child which lived nine weeks. The result, however, bears no comparison to that obtained by the treatment I adopted later.

Secondly, the clinical history of the miscarriages themselves are different. In syphilis, while abortion may occur spontaneously and without difficulty, as in some cases of general infection of the mother and fetus, in quite a large proportion of cases there is some definite difficulty connected with the abortion. The products are retained, occasionally

become septic and need operative removal. In such cases the placenta is often found adherent to the uterine wall, is only fully detached after careful curetting, and the operation may have to be repeated over and over again with each succeeding abortion. In the "strumous" class such a history is unknown. With the solitary exception of the miscarriage in case No. 2, after which I removed some retained but non-adherent placenta, all the 60 abortions referred to in my table appear to have taken place easily, and, I believe, without any manual interference.

Finally, the general character of the aborted product is different in the two classes. In syphilitic cases whenever there is disease of the placenta, this is larger, thicker, more fleshy, patchy, and paler than normal. It often bears evidence, too, of adhesion and of tearing. In the class I have been chiefly describing it is difficult to say (so far as my experience goes) that there is anything very definitely characteristic in the earlier miscarriages, the ovum is often apoplectic, and there is a hæmorrhagic mole with little or no trace of a fetus, but these differ but little—at all events macroscopically—from other abortions which are the result of accidental bleeding. In later abortions the child is often dead, but I am not aware of any distinguishing feature characterizing either fetus or placenta. It is only right, however, to add that my observations are mainly clinical, that I have had but very occasional opportunities of examining the aborted products in these cases, and that medical literature at present appears to be wanting in any reliable and well-illustrated study of the placenta. Estimation, therefore, of disease in microscopical sections is especially difficult. Winckel describes a "tuberculous placentitis," but further observations are needed in order to establish the presence or not of pathological changes in the placenta accompanying these recurrent abortions not due to syphilis.

The cases which form the basis of this paper are not the only ones which I have met with, as I am conscious of a few others but cannot recall the names of the patients or obtain the notes of their cases. There has, however, been no selection of cases. I have collected all I could in the time at my disposal, and they must, I think, faithfully represent the result of my experience during the last sixteen years. Some critics may be disposed to question the value of any effort to bring living children into the world with such a parentage, arguing that untimely abortions were better than a weakly progeny. Apart from special reasons, I can only say that several doctors have assured me that the children born have been quite strong and healthy, and in one or two which I have seen myself I could discover no sign or trace of disease. This touches of course on another important question, that of the general treatment of the mother during pregnancy. As my title implies I am inclined to attach chief importance to the defective vitality of the mother in these cases of recurrent abortion and everything which tends to improve the general health of the mother and child, including the persistent administration of lime salts and easily-digested fat, is evidently of the utmost importance in successful treatment.

ECLAMPSIA OF PREGNANCY, WITH NOTES ON THE USE OF BOSSI'S DILATOR.*

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F.R.S.E.,

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ECLAMPSIA is still a fruitful source of anxiety to the practitioner and to the obstetrician. Treatment is empirical, because we know not the pathology or the cause. The whole subject is enwrapped in the clouds of ignorance and uncertainty, and we are fain to take a slippery hold on theory.

For a time the kidney was looked upon as the *fons et origo mali*. Eclampsia was found to be frequently associated with albuminuria, and it was hastily assumed that the eclamptic seizure was due to a state of uræmia or toxæmia dependent on disease of the kidney. Further observation, however, showed that (1) albuminuria occurs without eclampsia (only perhaps 25 per cent. of albuminurics develop eclampsia); (2) eclampsia occurs without albuminuria.

Further, experimental occlusion of the ureters in animals

* Read before the North of England Obstetrical and Gynaecological Society.

and accidental occlusion in gynaecological operations would show that failure to excrete on the part of the kidneys is not of itself sufficient to produce the eclamptic state.

Recently, however, the importance of interference with the ureters by pressure of the gravid uterus has again been urged as at any rate a not uncommon coincidence.

The kidney being abandoned as the primary cause, another explanation was looked for, and the liver was the organ next impressed to do the service of solution. The part played by this organ in the destruction and elimination of poisons and in transforming albuminoid bodies into urea suggested the possibility that eclampsia was the result of an auto-intoxication due to hepatic insufficiency. This was supported by the fact that, as a rule, in eclampsia there is a marked diminution in the output of urea; and experimental observations on the relative toxicity of the blood and urine of pregnant and non-pregnant and eclamptic women seemed to lend support, whilst necropsies have shown important lesions in the liver as well as other organs.

Others have turned to the thyroid gland to supply the missing link, and thyroid insufficiency is suggested as the cause, but evidence as yet is wanting.

There is a general tendency to accept the idea that in eclampsia there is a toxic state of the blood; but whether this is due to increased production of normal toxins or deficient or diminished destruction or excretion from inadequacy of one or all the emunctories does not appear. Another suggestion offered is that the toxæmia is of bacillary origin, due to a special toxin elaborated by microbes in the uterus itself—a fascinating and compact theory; but, though observations have been made, the suggestion is far from proved.

Schmorl has advanced a placental theory, namely, that the eclamptic state is brought about by the presence in the maternal blood of a toxin which has coagulating properties, and which is derived from the placenta. Schmorl examined a large number *post mortem*. He found lesions in the brain, liver, kidneys, and elsewhere, lesions due to a process of thrombosis, hæmorrhage, and necrosis; and he found in the pulmonary thrombi giant cells, which he believes to be of placental origin, as he also found them free among the placental villi and in the uterine veins.

Another suggestion has been made that these noxious elements consist of fragments detached from villous buds. The theory is supported by observations that the urine of eclamptic women caused thrombosis in rabbits, and that the blood of eclampsics is especially rich in fibrino-plastic matter.

Another theory attributes the toxæmia to a fetal origin—to some poison generated in the fetus itself, for lesions have been found in the fetus identical with those in the mother, and in support of it, too, we may recall those cases where death of the fetus is followed by improvement in the maternal state. The functions of the placenta are not fully understood, but possibly it may have the power of destroying toxins formed by the fetus; and, if this power be deficient, the fetal toxins will gain access to the mother, whose organs are not capable of meeting the increased strain.

The etiology of eclampsia is evidently obscure, but, whatever may be the ultimate explanation of its cause, the fact remains that eclampsia is essentially associated with the pregnant state. Our present position seems to be simply this: That there are certain cases in which eclamptic seizures following certain premonitory signs are the result of some unknown conditions associated with the pregnant state.

When we come to the question of treatment we find a state of topsy-turvydom as striking as in the theories of causation. Whilst one condemns the administration of chloroform or obstetric interference of any sort, another eulogizes both: one says "empty the uterus," another cries out "don't." Whilst one pins his faith to morphine, another holds his hands in horror at the thought; one gives purgatives or croton oil, whilst another objects to their use; and still more extraordinary, whilst one administers thyroid juice, another gives adrenalin!

Before the advent of convulsions it is more or less generally agreed that, when the premonitory signs are advancing in importance and the state of the urine is becoming progressively worse, that is, the urea diminishing and the albumen (if present) increasing in spite of careful treatment, it is well to forestall the eclamptic state and put an end to the pregnancy. Perhaps this is the right course. I think it is, but I am inclined to think we sometimes give to our interference the credit of averting a catastrophe which might never have occurred. I have watched several patients, who

are the subjects of chronic renal disease, go through successive pregnancies with no toxæmic signs; one of these I have watched for many years, and she has had some twelve or thirteen children. On the other hand, it is not long ago that I saw a young primipara, who, in spite of careful dieting and rest in bed, showed a steady worsening of the renal excretion with increasing headaches and other untoward signs. I advised the induction of labour, and with this object introduced two flexible bougies. I had scarcely reached the railway station before I was hurriedly recalled to find the patient in violent convulsions; we dilated and delivered under chloroform and the patient did well.

Much more difficult is our position, and much less unanimity of opinion exists as to the course of treatment which we should adopt when called to a pregnant woman in convulsions, whom perhaps we have never seen before. Of recent years the recognized treatment has been to control the convulsions (if possible) by drugs, to get the bowels to act, to promote the action of the skin and kidneys, and at once to end the pregnancy by *accouchement forcé*, even with incision of the cervix or vaginal section of the uterus. Some writers even urge the Caesarean section.

The pendulum of fashion has, however, been swinging back again to the opposite extreme, so that now again we find advocates for a less heroic treatment. Of recent years the teaching of the Edinburgh and other important schools has been: To control the convulsions by drugs, especially by large doses of morphine, to assist the action of kidneys and skin by saline treatment and the exhibition of thyroid extract, and to leave the pregnancy to take care of itself.

Personally I find myself opposed to the extreme of either school. Looking upon the association with the pregnant state as a vital factor in the production of the eclamptic fit, it seems to me necessary and best to terminate the pregnancy, but not by too heroic means regardless of injury to the maternal parts; to control the fits by chloroform or morphine; to use all measures to excite the action of the emunctories. For rapid dilatation of the cervix I have used Pelzer's glycerine method with success, but as a rule have found the use of Barnes's bags, and especially manual dilatation under chloroform, sufficiently rapid and effective.

If to empty the uterus is a necessary part of treatment, anything which tends to simplify that operation is welcome, and recently for this purpose I have employed the uterine dilator of Bossi, a powerful instrument, which must be used with care, but which may be used with confidence and safety. With this instrument I found it possible in a recent case to dilate the cervix in twenty minutes, after which the seven-months child was delivered by forceps in ten minutes more.

The notes of this case are as follows:

The patient, aged 28, now in the eighth month of pregnancy, consulted Dr. S. Infield, of Hyde. She felt perfectly well, but noticed that her feet and labia were swollen. She was advised by a midwife that she ought to see a doctor. She had had one miscarriage about the third month some eleven months previously.

December 15th, 1902, 4 p.m. Upon examination Dr. Infield found oedema of the feet, legs, thighs, buttocks, and slightly in the lower part of the abdomen. He ordered complete rest in bed and milk diet, and a sample of urine to be sent up to the surgery. The urine was high coloured and was being passed in small quantities. The tongue was clean, vision normal, and no headache. The patient thought "it was silly staying in bed."

6.30 p.m. Urine loaded with albumen, becoming nearly solid on boiling.

8.30 p.m. Patient uncomfortable; had some pain in left chest.

10.0 p.m. Patient has vomited; no headache. Pain in chest worse. Dr. Infield advised delivery, and telephoned about midnight for Dr. Helme to come out by first train in the morning.

December 16th, 6 a.m. Word was sent about this time that the patient had had a fit. From 5.30 up to 10.30 there were seven severe convulsions, in the intervals between which the patient remained unconscious.

At 10.30 chloroform was administered and the cervix gradually dilated by means of Bossi's dilator; this took twenty minutes. On withdrawing the dilator there was some smart hæmorrhage, owing to a condition of marginal placenta prævia; axis-traction forceps were put on and the child delivered in ten minutes more. The patient's temperature was 102° F., and pulse varying about 120. In the afternoon the urine was drawn by catheter, and was almost pure blood. Next day the urine contained a little blood; the patient was very comfortable. Next day there was albumen in the urine, but no blood.

On December 19th there was no albuminuria, and the specific gravity of the urine was 1016. There were no convulsions after delivery, and the patient recovered well.

The child was born alive, but survived only thirty-six hours. It should be added that before the fits began Dr. Infield administered copious enemata of saline solution, and after delivery large quantities of water were given by the mouth.

In using Bossi's instrument for the first time I was im-

pressed by the ease and comfort with which it may be used without any laceration of the cervix; it afforded a marked and favourable contrast with the discomfort and cramp which often attend manual dilatation. Another advantage appeared to me to be the absence of friction between the skin of the hand and the vaginal walls; the substitution of an efficient instrument, which can be rendered absolutely aseptic by boiling, for the hand seems to me a very welcome one.

In addition to these points, there are two questions which I had especially wished to bring before this Society:

1. The advisability of ending pregnancy when once convulsions have occurred. Is the existence of pregnancy a vital factor in the production of the eclamptic state? And, if so, is not the termination of that pregnancy a vital factor in the treatment? It is urged that the shock of delivery may intensify the seriousness of the case, and turn into a fatal case one which might have ended otherwise. But I fail to see why there should be this fatal shock; under the influence of chloroform, with gentle manual dilatation, or careful dilatation by means of such an instrument as Bossi's dilator, delivery should not be accompanied by such shock.

2. Another question is the wisdom of administering large doses of morphine by the hypodermic method. Formerly it was taught that in renal disease morphine should be withheld. Present-day practice seems to be to administer morphine in acute and recent forms of nephritis, where there is not much destruction of the renal epithelium, but to withhold it in more chronic forms when degeneration has advanced. Does the same apply in eclampsia?

Until we know something of the etiology and pathology of the disease our treatment must of necessity be "in the dark." The elucidation of the subject in its scientific aspects must be largely left to the "schools," and this will probably take years of work. Meanwhile, is there no way of finding the safest lines on which the practitioner may direct his treatment?

The Clinical Society of Manchester, of which Society I have the honour to be President, is commencing a "collective investigation" with this object in view. If a sufficient number of cases are recorded, it may be possible to draw conclusions as to what lines of treatment in general practice would seem to hold out the greatest prospect of success, and this would serve until our extended knowledge leads to a more complete and rational system.

CASE OF DYSTOCIA DUE TO UTERINE MYOMA: CAESAREAN SECTION.

By GILBERT KEMPE, M.D.,
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WITH improved technique in abdominal operations the indications for Caesarean section are becoming more defined and the operation is attaining a larger scope. Formerly the results were so disastrous that it was only undertaken as a last resource when the mother was worn out from prolonged ineffectual efforts at expulsion and possibly other operative measures, and when the child was dead. With the present improved results Caesarean section becomes in many cases where the child is still living the operation of election. In the present case the pelvic canal was so blocked by the tumour that no alternative presented itself.

M. G., aged 34, was sent to the Salisbury Infirmary in December, 1901, on account of retention of urine, which was said to be due to a tumour of the pelvis. On examination it was found that the cavity of the pelvis was almost completely blocked by a large solid tumour springing from the posterior uterine wall. The external os lay apparently high up above the pubes, but could not be reached by the examining finger. The patient was also found to be about four months pregnant. The tumour, which was thought to be a uterine fibromyoma, could not be pushed out of the pelvis. The question of induction of premature labour was considered and dismissed partly at the wish of the patient and partly because it was thought that even a four-months fetus could not be delivered *per vias naturales*.

The patient's medical man was communicated with, and she went home to await results. Pregnancy proceeded normally until May 8th, 1902, when slight labour pains came on and the membranes seem to have ruptured, since a large quantity of "water" suddenly came away. The pains continued, and a constant flow of bloody fluid oozed from the vulva. The tumour presented an insurmountable obstruction

to delivery, so the patient was brought to the Salisbury Infirmary on May 9th, at 11 p.m. When seen her general condition was good, but the pulse was rather quick (98). Examination of the abdomen showed a pregnant full-term uterus containing a living fetus whose heart sounds were heard in the right iliac region. The head of the fetus could be distinctly palpated lying above the pubes. No placental *bruit* could be made out. Per vaginam there was a constant oozing of blood. The vaginal walls were relaxed, and the external os could be felt slightly dilated, almost out of reach behind and above the pubes. Behind the cervix and almost entirely blocking the pelvic cavity a firm tumour of the size of a fetal head could be felt. It was impossible to displace this upwards.

After as thorough a preparation as time would admit of the patient and her abdomen, she was anaesthetised and a 6-in. incision was carried through the abdominal wall in the middle line. The uterus was partially withdrawn and surrounded by hot sterilized towels. The supra-vaginal cervix and broad ligaments were grasped by the hands of an assistant in order to control haemorrhage if necessary. A 5-in. incision was then commenced at the fundus uteri, and carried downwards and into its cavity. The child was extracted alive by a foot and given to an assistant after the cord had been tied and cut. The placenta, which was situated posteriorly, and the membranes came away entire. The uterus contracted well, and the incision into it was closed with silk sutures, involving the peritoneal and muscular coats only. Some small, hard tumours, apparently subperitoneal fibroids, were seen on the surface of the uterus. A large, hard fibromyoma was found on the posterior surface of the uterus and cervix, bulging into, and quite incarcerated in, the pelvic cavity. This had formed the obstruction to delivery. The uterus was cleansed with boric lotion and returned to the abdomen. The abdominal wound was closed with silkworm-gut sutures and dressed with sterilized gauze. During the operation the patient became collapsed, but was rallied by strychnine $\frac{1}{4}$ gr. and sub-mammmary infusion of $\frac{3}{4}$ xv normal saline. The child was a full-time female, and breathed from the time of extraction.

On the following morning (May 10th) the patient had quite recovered from the operation. She had been sick but once, and there was some abdominal pain. There was also some distension, but no tenderness. There was a free lochial discharge. The temperature was 99.4°, and pulse 120. During the day she was sick several times, and in the evening her pulse had fallen to 110, and her temperature was 99.6.

On May 12th she had improved considerably, and had a free evacuation of the bowels after a soap and turpentine enema. Her pulse varied between 90 and 98, and her temperature was not raised above 100° (98.4° to 99.8°). The infant was put to the breast several times, with the result that a large clot was expelled from the uterus. After this steady improvement was made. The stitches were removed on May 17th, and the abdominal wound was found to be soundly healed. On June 1st she was allowed up, and on the 14th left the hospital wearing an abdominal belt.

She refused any further operation.

I have seen her in the town several times since, and she and the baby are quite well. Up to the present she has not again become pregnant.

I am indebted for the notes on this case to Dr. David Ferrier, late House Surgeon at the Salisbury Infirmary.

The post-operative course of this case was but little different from that of any severe abdominal operation, and this, in my opinion, is largely due to the promptness with which Dr. Blackmore (the patient's medical attendant) recognized that natural delivery was impossible, since for this reason the patient was brought to operation in good condition and without having had her strength wasted by delay involving ineffectual uterine contractions, and perhaps by futile attempts to extract a mutilated fetus.

PREGNANCY COMPLICATED BY SUPPURATING HYDATID CYST OF THE LIVER.

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THIS case well illustrates the dangers of such a complication in parous women, more especially when suppuration and rupture of the cyst is delayed to the first few days after parturition.

A lady, aged 36, a primipara, residing at some distance in