certain that the uterus is not twisted upon itself, and this is done by inserting the finger and making out the position of the Fallopian tubes. One assistant then presses the uterus well forwards, so that there cannot be any escape of fluid or blood into the peritoneal cavity, and an incision of from 1 to 2 inches is made through the middle line of the uterus, commencing close to the fundus. The thickness of the uterine wall to be divided will be probably at least 1 inch, and the incision may be made to that depth with the first cut. As soon as the membrane is reached—and its appearance is unmistakable—the incision is to be extended downwards with scissors to the extent of about 4 inches, the exact length of the wound depending on the size of the child. When the uterine incision and the extraction of the child is done quickly—and a couple of minutes is ample to allow for the complete emptying of the uterus from the time of commencement of the making of the skin incision—it is of little moment whether the membranes are ruptured or not. If the incision has been completed without rupture, the head is to be grasped through the membranes, when they will rupture during the extraction of the child; should, on the other hand, the membranes be broken before the incision is finished, it is to be quickly completed and the hand passed into the uterus and made to grasp the head, when the child is extracted. As the child is withdrawn the collapsed uterus is pushed forwards by the assistant, who has been making steady pressure from the loins, and the upper and lower halves of the uterine incision are grasped by the right and left hands of the other assistant, as is recommended by Dr. Cameron, of Glasgow. Bleeding is thus entirely arrested. The cord is divided between two pairs of forceps, and the infant is handed over to the nurse, who ties the cord in the usual way. A large sponge is inserted into the upper part of the abdomen, so as to shut off the peritoneal cavity from all exposure; the hand is passed into the uterus, the assistant slightly relaxing the wall, and the placenta is removed.

Any sponging which may be necessary is now done. The uterus is now lying slightly outside of the abdominal cavity, and it is not necessary to draw it farther than is required for convenience in stitching; the plan of turning out the whole uterus before the child has been extracted is entirely unnecessary. The stitching of the uterus is begun, the peritoneal covering being turned inwards, and, if there be any difficulty in doing this, it may be slightly dissected off. Each stitch is tied as it is introduced, no clots being allowed to remain between the lips of the wound. About two or three deep stitches are required to the inch, and, if necessary, superficial ones may also be put in. Silk was used in my case. It was prepared by boiling in several waters, and was then soaked in a 1 in 20 solution of carbolic acid for twenty minutes. The stitches are to be passed deeply into the substance of the uterus without entering the cavity, and care must be taken to avoid the common mistake of tying them too tightly.

In this case the uterus contracted well, and after all the stitches had been introduced and tied, very little pressure was required to cause complete and firm contraction. The Fallopian tubes were ligatured, the ovaries not being interfered with. This is undoubtedly the proper course to pursue. The woman is thereby left exactly as she was before, and she also has not to undergo the disturbance which is entailed by the removal of the ovaries, and consequent change in her sexual life. The peritoneal cavity does not require to be sponged when the uterus has been kept properly forwards, the large sponge, which was introduced as soon as the uterus has been drawn forward, preventing any entrance of blood during the stitching of the uterine wound. The sponge is taken out, the uterus dried, and the abdominal wall closed; in my case nineteen deep sutures were introduced. By the time the patient was put back to bed one small clot, the size of a walnut, had passed from the vagina, and altogether the amount of blood lost was very much less than what is usual during a normal labour. The operation was completed in less than half an hour. The child weighed over 6½ pounds, and was well-developed. There was not any disturbance after the operation, the condition not varying from that of a natural birth.

When a child cannot be born on account of the want of pro-

portion between it and the maternal passages, and where there is not any disease of the uterus requiring the removal of that organ, it does not appear to me that the Porro operation is to be considered for one moment. It is evident that there cannot be any difficulty in the removal of a pregnant uterus to the surgeon, but to the woman the risk is incomparably greater, and the advantages really nothing at all when future impregnations can be so easily prevented by closing the tubes.

The question now does not seem so much to lie between the Porro and the Cæsarean operations, but between the latter and the division of the symphysis; but here the comparison is only in a limited number of cases—those in which there is not any very great deformity, for with a conjugate of less than 2½ or 2¾, symphysiotomy is entirely useless.

To anyone accustomed to perform abdominal operations, the Cæsarean section must be one of the most simple of all operative procedures, and I have not any doubt but that I could perform a second operation in twenty or twenty-five minutes, even without any skilled assistance. Cleanliness and rapidity in operating are the essentials to success.

TWO CASES OF POISONING BY THE SELF-ADMINISTRATION OF "DIACHYLON"—LEAD PLASTER—FOR THE PURPOSE OF PROCURING ABORTION.

By FRANK M. POPE, M.B., M.R.C.P.,
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Two cases have come under my notice of the use of this substance. Both terminated fatally, and as it is probable that a practice exists in some places of taking the drug for the above purpose, it seems desirable to give publicity to the facts with a view to the prevention of similar tragic results.

CASE I.—A. A., aged 33, a machinist, was admitted into the Leicester Infirmary on September 10th, 1890. She complained of pains in the bowels and loins. She was married, had four children, and had had no miscarriages. She had had similar attacks three times in the last twelve months. The present illness commenced with very sharp pain in the right iliac region, constipation, and vomiting after food. She was treated medically for this and the pain got better, but a feeling of soreness remained in the abdomen. The skin and conjunctivæ were yellowish; the tongue furred; the bowels confined. The catamenia had been absent six weeks. There was a distinct blue line round the gums; the hands were tremulous and the wrists very weak. There was pain in the abdomen and tenderness on pressure over the left iliac region. The legs ached; the reflexes were weak but normal. Sensation was normal; grasp was equal, and not sensibly diminished. She drank tap water from a constant service. A diagnosis of lead poisoning was made, and she was treated with iodide of potassium. Three days afterwards she became comatose, and died in a few hours without recovering consciousness.

Necropsy.—Beyond the fact that the intestines were contracted, no abnormal signs were discovered after a careful examination. The brain especially appeared quite healthy.

The coroner was communicated with and an inquest held. All efforts to trace the source of the lead poisoning failed. The water supply at the deceased's home was carefully examined. It was the usual excellent constant supply of the borough, and analysis failed to show any trace of lead. Information as to her usual diet did not indicate that she was in the habit of using substances liable to contamination with lead. The verdict of the jury was that the deceased died from lead poisoning, but that there was no evidence to show how the poison was taken. For my own satisfaction I incinerated a considerable portion of one kidney, and obtained unmistakable evidence of the presence of lead in the ash.

Many weeks afterwards the practitioner who had seen the deceased before her admission to the infirmary informed me that it had been reported to him in a roundabout and hearsay manner that the deceased had told someone that she had been advised to take diachylon, either to prevent conception or to procure abortion. This explained the case, if true, but as everybody concerned was extremely reticent, and as the coroner who had conducted the inquest had died in the interval, it was decided, rightly or wrongly, to take no steps to have the verdict of the jury revised. The above events were nearly forgotten, when in August, 1892, a patient was admitted who subsequently proved to be a victim to the same practice.

CASE II.—A. W., aged 22, married, hosiery hand, admitted August 2nd, 1892. She was anæmic; the skin and conjunctivæ were of a yellowish

tint. She seemed of weak intellect, though not formerly so; had a fatuous expression, and would not speak above a whisper. She complained of pain in abdomen, principally in the right iliac fossa, and attributed her symptoms to a miscarriage which occurred in May last. Her health before her marriage, three years since, was good. She had had two children, both of whom died in infancy, and two miscarriages. At the last in May, 1892, she lost a good deal of blood, and since that time had been suffering from pains, and had had no return of menstruation. There were no abnormal signs in the lungs, heart, or abdominal viscera, and no signs of syphilis. There was pain on pressure over the hypogastrium. The bladder was distended. On vaginal examination nothing abnormal was found. The rectum was loaded with feces. The urine (specific gravity 1015) was of a dark reddish colour, but contained no blood, albumen, bile, or sugar. The limbs were weak, but she could move them all; the deep reflexes absent; sensation was unimpaired. The bowels were relieved by enema, and the urine was then passed naturally. After remaining in about the same condition for a week, she had an epileptiform convulsion on the night of August 8th. The tongue was bitten; the bladder found again distended. On the morning of August 9th there was complete loss of power in the arms and legs, and feces were passed involuntarily. The condition was thought to be due either to tuberculous meningitis or a cerebral tumour. On August 10th she had several more convulsive attacks, was continually crying out, and rolling her head from side to side. The paralysis had extended to the diaphragm; this caused suspicion that her condition might be due to peripheral neuritis, and inquiry was made from the friends as to the possibility of diphtheritic poisoning, but no history of sore throat could be elicited. The faradic current was applied to the diaphragm, but she died at 8.45 A.M. on August 11th.

Necropsy.—The brain was carefully examined, and nothing abnormal could be found. All the organs of the body were found healthy, with the exception of the intestines, which were contracted and contained a yellowish sticky fluid in considerable quantity. The uterus was of normal size, the lining membrane healthy. There was no corpus luteum in either ovary. There was a well-marked blue line round the gums, which had been inconspicuous before death.

Death was considered to have been due to lead poisoning, and an inquest was held. An aunt of the deceased gave evidence that some weeks before her death the deceased had pointed out a chemist's shop and said "That's where I get the stuff I take," and in answer to a further question as to what stuff she meant, replied, "Diachylon." Witness said, "I thought that was poison," and deceased answered, "Well, it does not poison me. I get two pennyworth and make it into pills, so I can swallow them." She also gave witness to understand that she took it with a view of producing abortion. Under the direction of the coroner the verdict of *felu-de-se*, by taking a drug for a felonious purpose, was returned.

It is not my intention to enlarge on these cases from a symptomatic point of view. The symptoms in the first case were fairly characteristic of lead poisoning, and in the latter, though less so, they yet present no very novel features. The striking point about the two cases is the occurrence of two deaths in a period of less than two years from the self-administration of a drug not usually employed as an internal remedy. I consider that it is probable that these two unfortunate women are by no means the only ones who have availed themselves of this supposed ecboic, the presumption being that the occurrence of two such cases in one town points to a somewhat widespread superstition as to the powers of the drug, and from a public point of view chemists ought to be exceedingly careful in supplying this substance in future. It seems as reasonable indeed that all poisonous articles for whatever use intended should be labelled "poison," as that another class of commodities should be marked "made in Germany," and the sooner a regulation to that effect can be enforced the better for the public.

A more academic, but no less interesting, question raised by these cases is the following, How did diachylon come to have the reputation which led to its internal employment? For some time this appeared quite unanswerable. I am now, however, able to offer a suggestion on the point. The explanation does not seem to be entirely adequate, but it suggests a possible origin for the custom.

Diachylon is a plaster as old as Galen's time, and older, but it had not then its present simple constitution. It contained, in addition to litharge, marshmallow, linseed, and fenugreek, and may have had this composition till comparatively late times. Hippocrates recommends lint-seeds among other things as an emmenagogue, and Pliny and many others say that fenugreek is an ecboic. Old superstitions die hard. Is it possible that we are dealing with one dating from the time when diachylon contained these drugs, and that it then had a reputation as an ecboic which has been transferred to its successor in the *Pharmacopœia*? There is another plaster mentioned by Paulus Ægineta similar to diachylon, contain-

ing marshmallow, linseed, fenugreek, and in addition rosin, tears of ivy, and turpentine, but no litharge. Is it possible this was also known as diachylon, and, being comparatively harmless, was used as an emmenagogue?

I only desire that the publication of these sad cases shall lead to the recognition and exposure of this dangerous practice, and aid in preventing its continuance. I cannot believe that the unhappy victims had any idea of the extremely poisonous nature of the substance with which they were dealing; but I also fear that in this town, in common with other manufacturing places, the bringing on of premature labour is looked upon as a tolerably safe and easy procedure—a view too often followed by disastrous results.

THE CAUSATION OF ANÆMIA AND THE BLOOD CHANGES PRODUCED BY URIC ACID.

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THOSE who have read what I have written on this subject may remember that my clinical experience and researches have on several occasions suggested forcibly to my mind that an excess of uric acid in the blood was directly or indirectly the cause of such blood changes as might account on the one hand for paroxysmal hæmoglobinuria, and on the other for various forms of anæmia.¹

I have also said, with regard to the researches of Dr. Hunter, Dr. Wright, Horbaczewski, and others, that the excess of uric acid found by them in the blood and urine was not the result of the blood changes—but their cause.²

I now desire to point out that it can be demonstrated that uric acid does produce just such changes in the blood as I have all along been inclined to attribute to it.

Following out the very close clinical resemblance between a uric acid storm as seen in the uric acid headache (migraine) and the symptoms which precede and accompany a paroxysm of hæmoglobinuria, it occurred to me that I ought to be able, by producing a uric acid storm, to produce at least some blood changes; and I proceeded to test the point.

Then some nine months ago I discovered that uric acid taken by the mouth passes almost directly into the blood, and in due time proportionately increases the excretion of the substance in the urine, and is not, as was previously supposed, converted into urea. I cannot go into this matter here, but my facts with regard to it will be published shortly in the *Journal of Physiology*.

This placed me in a position to increase the uric acid in the blood and urine by the simple process of taking it by the mouth, and I began to apply this power to the investigation of anæmia.

I took the fraction $\frac{\text{Hæmoglobin}}{\text{Red Cells}}$ or rather the decimal representing this fraction, and with this I constructed curves which could easily be compared with the curves of urate excretion.

In my own case I found not only that by taking pure uric acid (gr. 2 to 4 ter) I could diminish the value of the blood fraction, and that it rose again when I left off the uric acid; but I also found that my blood responded in exactly the same way to the natural fluctuations in urate excretion, and the amount passing through the blood from day to day.

In chlorotic patients I first of all ran up the blood fraction by giving iron, and then after an interval gave them beef tea in which I estimated the uric acid.³ This produced a fall of the blood fraction, which again was followed by a rise when it was left off; and I have now repeated these observations in several cases with results that are practically identical with my results in myself, and apparently proportional to the amount of uric acid taken.

I hope to read a paper and show some of the curves I have obtained at the Newcastle Meeting of the Association; and I believe that my facts will go far to prove that uric acid may cause both paroxysmal hæmoglobinuria and anæmia, and will furnish at the same time a very simple explanation of many points in the causation of these diseases.

¹ BRITISH MEDICAL JOURNAL, vol. i, 1890, p. 67, and *Uric Acid*, p. 215.

² *Lancet*, vol. i, 1892, p. 663, and *Transactions of the Medical Society*,

vol. xv, p. 156.

³ *Uric Acid*, p. 51.