3. The morbid poison then pursues its course in a system which is less able to resist its injurious action. Abortion and a most dangerous form of puerperal fever are very likely to follow.

Against this certainly greater risk of taking small-pox, and certainly greater severity of the disease if taken, what, I ask again, is the special danger of vaccination or revaccination? The operation, we know, is not altogether free from danger in adults of either sex. Before resorting to it, it is wise to get the system into good condition. Do pregnant women run more risk than other adults? Probably they are at some disadvantage. But I believe that the special dread of abortion is exaggerated, if not altogether unfounded. The healthy ovum clings to a healthy uterus with wonderful tenacity. An ordinary illness, much less the slight febrile disturbance of vaccination, will not affect this relation. On the other hand, slighter causes may precipitate an abortion already imminent.

So far is vaccination from causing abortion, that cases are known in which the foetus has gone safely through the vaccine disease *in utero*, so that it has subsequently been proof against vaccination.

I think, then, we may conclude, in the absence of decisive evidence of special danger, that pregnant women are entitled to equal protection against small-pox with the rest of the community; and that vaccination or revaccination should be practised on pregnant women, in their own interest, as well as in that of the community of which they form a part.

The opportunity afforded by the present epidemic of settling this question by the evidence of facts on an extensive scale should not be lost. A Zymotic Committee will, I believe, be appointed by the Obstetrical Society. The relations of zymotics to pregnancy, including the influences of vaccination, is just one of those subjects which the collected experience of many practitioners can alone satisfactorily determine.

To show how urgently the particular question under discussion calls for determination, let me cite the contradictory views expressed to me by two of the most experienced and successful public vaccinators in London.

A. says: "I have never had the moral courage to try the effect, although I have very often been tempted to do so. There is a strong feeling in the minds of women against the practice; and the fear of an action in the Court of Queen's Bench has hitherto deterred me from trying the experiment. I have frequently asked the question you now put to me, but have never had a satisfactory answer."

B. says: "I have only vaccinated four pregnant women, and nothing unusual has occurred with either of them. I do without hesitation recommend it, and intend vaccinating all the pregnant women in the workhouse. I have at the present time two women in an advanced state of pregnancy in the infirmary, suffering from variola; and one convalescent from the disease, having gone through the semi-confluent form without aborting."

Is A. right? or is B. right?

CLINICAL RECORDS.

From the Practice of PROFESSOR ERICHSEN at University College Hospital.

II.—*Gum-elastic No. 4 Male Bougie removed from the Bladder of a pregnant Woman by Urethrotomy: Threatened Abortion: Cure.*

M. M., aged 21, was admitted December 15th, 1870, having been sent up by Mr. Swindell of Whetstone. The patient had been engaged as a housemaid up to one month before admission. She was in perfect health till about one month previously, when she commenced to have pain on passing urine, lasting a short time afterwards. The pain during micturition was of a pricking character, and after it she felt as if there were something more to come away. Lately, the urine had contained blood and matter. She passed it with considerable straining, and the pain remained the same. The pain was increased by movement. During the week before admission, she suffered from incontinence of urine, which escaped involuntarily every few minutes. She had occasionally passed fragments of grit. She said that she was quite regular in her periods up to two months before admission, since when she had seen nothing; but she was extremely reticent, and did not answer questions readily.

On admission, the patient was a fat anæmic girl. She was suffering from constant incontinence of urine, and the thighs and nates were slightly excoriated in consequence. Some of the urine which was collected was found to be alkaline, free from albumen, and depositing a considerable sediment composed of pus and triple phosphates. There was scarcely any blood. On December 16th, she passed a small gritty fragment, which was found to be composed entirely of phosphates.

Mr. Erichsen sounded her, under chloroform, and found a calculus. It gave a distinct click when struck with the sound. It seemed to be of considerable size, was evidently phosphatic, and could be felt with the finger through the anterior vaginal wall.

On December 21st, the patient being tied up in the lithotomy-position, Mr. Erichsen passed a full-sized male median lithotomy-staff, and opened the urethra at the vaginal aspect, dividing the under-surface for about one inch. A pair of small lithotomy-forceps were then passed into the bladder, and the foreign body was removed. On examination, it was found to be a No. 4 male gum-elastic bougie, coiled up, and coated with phosphates to the thickness of about one-sixteenth of an inch. The ivory head was not covered with any deposit, and had doubtless been the cause of the distinct click heard on sounding. The wound in the urethra was brought together with silver sutures, and a catheter tied in. The patient was then removed to bed, and an India-rubber tube attached to the catheter to carry off the urine.

The patient went on well till December 25th, when some hæmorrhage occurred from the vagina, which ceased after a slight loss of blood. This was repeated on the 26th and 27th, until the patient was much weakened by loss of blood. It was then found, on further examination, that she was in the fourth month of pregnancy, and that abortion was threatening. She was transferred to the care of Dr. Graily Hewitt, under whose treatment the progress of miscarriage was stayed; and she gradually recovered, leaving the hospital in about a month after the operation.

Mr. Erichsen stated that this case was extremely interesting in a medico-legal as well as in a surgical point of view. Here was an unmarried girl pregnant, with impending abortion, in whose bladder a male gum-elastic bougie was found. There could be no doubt in the minds of any conversant with the practices that were unfortunately notoriously rife in this country—though less so than in some others—that the bougie had been employed for the purpose of procuring abortion; that it had been used by an unskilled hand; that the urethral orifice had been mistaken for the os uteri; and that the instrument, having slipped in, had occasioned the symptoms of calculus for which she had been admitted. His suspicions as to the alleged calculus being, or having for a nucleus, a foreign body, had been aroused by the reticence of the girl; but he had thought, as is very common in such cases, that the foreign body, whatever it might be, had been introduced to gratify sensual feelings, rather than with a positively criminal intent. Stone in the bladder was so rare in young women, that, when a calculus mass was found, it was almost invariably found around some extraneous body, such as a hair-pin, a piece of pencil, etc., that had been accidentally slipped into the urethra. In this case, the mode of introduction was different; and there could be no doubt, from the nature of the foreign body and from the coexistence of pregnancy, as to the motives that had suggested its use. It had probably been in the bladder about two months, judging by the quantity of phosphates by which it was encrusted. The bougie, as usually happens, was coiled up into one mass; and the ivory handle, being free and uncoated, gave a clear and distinct click to the sound.

With respect to the operation, Mr. Erichsen performed urethrotomy instead of dilating the urethra, as he thought that, as the mass was rather large, the canal might be over-stretched, and incontinence would then result. The cut in the urethra was immediately closed by silver sutures.

CASE OF CIRRHOSIS OF THE LIVER: HÆMORRHAGE AND ASCITES: PARACENTESIS TWICE: TEMPORARY AMENDMENT FROM DIGITALIS: CLINICAL REMARKS.

By C. HANDFIELD JONES, M.B. Cantab., F.R.S.,
Physician to St. Mary's Hospital.

H. C., aged 34, was admitted July 11th, 1870. He was an emaciated, sallow-looking man, suffering from copious ascites, which, he stated, had not been preceded by any notable pain in the region of the liver. The last eight years he had been very temperate, but before that he took gin rather freely. Very soon after his admission, he had profuse hæmatemesis, and hæmorrhage *per rectum*. This ceased under the administration of lead. On July 16th, he was highly anæmic; pulse 105, weak; temperature 101.8. On the 29th, paracentesis was performed, and fourteen pints of fluid were drawn off. The night after the tapping, twenty minims of tincture of opium were given; and on the following day he was in fair case, and took his food well. Pulse 100, jerky. He was taking a drachm of liquor ferri murialis with mixture of acetate of

ammonia four times a day. Some of the evacuated fluid, which had been received into a test-glass, had deposited a film of fibrine at the bottom. This film consisted almost solely of corpuscles lying close together, imbedded in a basis-substance. The corpuscles varied much in size: some were smaller than red corpuscles; the majority were extremely like those of pus, and, on adding acetic acid, composite nuclei were brought into view; some were much larger than pus-globules; all had a granular aspect. Aug. 6th. He brought up some blood two days previously; the medicine nauseated him. He was ordered ice, and fifteen minims of tincture of opium in water three times a day. Aug. 17th. The circumference of the abdomen was 42 inches. Paracentesis was performed again, and fourteen pints of fluid were evacuated. The circumference was now 39½ inches. There was less anasarca of the thighs, but the feet were still notably swollen. The superficial abdominal veins were still very large. The liver could be felt below the ribs, distinctly indurated. The opium was omitted, and he was ordered an ounce of infusion of digitalis and a drachm of spirit of nitrous ether three times a day; the medicine to be omitted every third day. On September 3rd, the circumference was 37½ inches. The pulse was regular, weak. The urine was very pale and copious. There was much less distension of the lower limbs. On the 7th, the pulse was 88, very weak. The mixture was omitted. On the 10th, the pulse was 110, fuller. The circumference of the abdomen was 35½ inches. The mixture was resumed. On September 14th, the abdomen measured 35 inches. The pulse was very weak and toneless. He was ordered to take half an ounce of the mixture once daily. On the 17th, he was semi-delirious and strange at night, probably from chloral, which he had been taking. Camphor and henbane were substituted, and the mixture was given twice daily. With this he slept better. By October 12th, the abdominal measurement was 33½ inches; the dullness indicating the amount of fluid was less extensive. The lower edge of the liver was felt about two-finger-breadths above the umbilicus, and its left extremity reached to about the nipple-line. The spleen was also notably enlarged, and formed a tumour in the left hypochondrium. He took food well. The pulse was regular and soft. On October 29th, the size of the abdomen was the same. The quantity of urine in twenty-four hours was, as he estimated it, about three pints. He was now ordered fifteen minims of belladonna and copaiba, and twenty minims of compound tincture of lavender in an ounce of infusion of quassia three times a day. With this, he passed (he thought) a good deal more urine; but the size of the abdomen remained the same. On November 5th, he left the hospital in pretty good case, but weak and thin. Soon afterwards he went for a month to Walton, and came back much improved. When last seen, however, his abdomen was again enlarging.

REMARKS.—That this was a very grave case of cirrhosis of the liver, there can be no doubt. The patient's life was at one time in serious danger from profuse hæmorrhage; and subsequently the dropsical fluid accumulated, even after removal, with great rapidity, so as to threaten speedy death by exhaustion. I confess I thought his condition hopeless; for, with such evidence of obstruction to the portal vein-current, it seemed impossible to accomplish anything by the administration of medicines in the usual way. The congested capillaries of the intestinal surface could not be expected to imbibe an occasional dose of fluid passing over their investing epithelium: and that this fluid could penetrate the villi and enter the lacteals in their interior, seemed almost as improbable. So much has this difficulty been felt, that Dr. Christison (I think) has recommended the application of the infusion of digitalis as a fomentation to the abdomen, in order to procure its absorption into the general circulation. I believe that the method has occasionally proved serviceable; but, if I remember aright, it was of no benefit in one instance where I employed it. Yet, all this difficulty notwithstanding, very much was accomplished by ordinary medication. The girth of the abdomen was diminished four inches below what it had been just after the last tapping; and, instead of the fluid accumulating in prodigious quantity in about twenty days, no notable recurrence of enlargement took place for four months—no medicine having been taken during the last four or five weeks of that time. This is certainly encouraging. One lesson, then, which I take from the history, is that, even where very grave organic disease exists, we are not too readily to throw down our arms and accept defeat. Perseverance may carry the day, as it often has "in our rough island story". A second lesson may be, that remedies, especially edge-tools like digitalis, require careful handling. You see that the drug was given at first in full doses, but with the precaution to omit it every third day. This method answered well for eighteen days; then the heart's action became depressed, and we had to forbear the remedy awhile. In three days it was resumed again, one small daily dose being given at first; afterwards, two such doses daily; and, under this medication, the abdomen shrank two

inches more. Remember, then, that the dosage of a remedy may be quite as important as its selection.

A remark may be made as to the sediment deposited from the ascitic effusion. It was essentially corpuscular fibrine; the corpuscles being, I suppose, white blood-cells and their developments, which had been pushed through the walls of the capillaries by the increased intravascular pressure. The resemblance of very many of the corpuscles to those of pus is noteworthy, and hints to us how we may have transitional states between passive mechanical effusions and so-called active, of which inflammation is the chief factor. Increased activity of formation of white corpuscles extruded from the vessels is perhaps the most important element of inflammation; and here we have some indications of its existence. Just in the same way, a sort of bronchial catarrh is apt to be set up when the pulmonary capillaries are engorged with blood in cases of insufficiency of the mitral valve.

Lastly, I may observe that the copaiba seemed to act very efficiently as a diuretic, and perhaps might have rendered as good or even better service than the digitalis, had it been employed earlier. In a recent case of Dr. Sieveking's, it was eminently useful.

NOTES OF A FATAL CASE OF TETANUS TREATED BY THE CALABAR BEAN.

By D. CAMPBELL BLACK, M.D., L.R.C.S. Edin., Glasgow.

SUFFERING as the science of medicine does periodically from the introduction of new drugs and their universal application, the recording of fatal cases under the influence of supposed specifics ought to be more the custom than obtains. In recording the following brief notes, I am not to be supposed as doing so with the view of throwing discredit upon the Calabar bean, but rather to encourage repeated trials of it, possibly in larger doses; and at least to indicate that general, and not specific treatment, ought to be relied upon in any given disease.

On the morning of September 29th, 1869, I was requested to visit J. R., an intelligent, somewhat precocious boy, aged 11 years, who had just sustained a severe accident to the right foot from a large slate or "flag" having fallen upon it while playing. A contused wound extended in an oblique direction from about the right malleolus to the ball of the great toe. The lips of the wound were wide apart. The wound having been carefully bathed, its lips were carefully placed in apposition by the introduction of about half a dozen wire sutures, and a cold-water dressing applied. With the exception of smart febrile symptoms for a day or two, there was nothing to call for particular attention till Friday, October 8th, when the patient complained of a slight stiffness about the jaws. The wound hitherto continued to look well; and, the sutures having given way, granulation was proceeding satisfactorily. The symptoms were not such as to call for special treatment, and accordingly a few general directions were given. On Saturday morning, the stiffness was more marked; and in the afternoon I was hurriedly sent for, in consequence of the patient having taken a severe fit, in every respect like an epileptic seizure. The nature of the case being now too manifest, my friend Dr. Morton was called in consultation. We resolved upon the application of linseed-meal poultices to the wound, the poultices being freely saturated with laudanum; and the internal administration of Calabar bean, as follows.

R Ext. physostigmatis venenosi gr. iv; aquæ ʒj. M. Twenty drops of the above to be given every hour. Thus one-sixth of a grain was administered at a time.

On the day following, the patient was much about the same. He had no return of such a violent fit as the first one till the fatal termination. At bedtime, fifteen minims of tincture of opium were administered, and wine and beef-tea as required.

Day by day, notwithstanding an unremitting perseverance in the bean, the administration of opium in increasing doses, and morphia suppositories at bedtime, with a careful general attendance to other symptoms, the patient continued in the same condition. The dose of the bean was gradually increased to thirty-two drops of the above hourly. Notwithstanding all this, the slightest excitement occasioned a decided paroxysm, though not nearly so severe as the first one. There was distinct opisthotonos. About the 13th, indications of gradually increasing weakness became apparent; little sleep was being obtained, and the fits were becoming more frequent; and on the 14th, sordes had collected in considerable quantity on the teeth. About nine o'clock of the same day, while he was drinking a little water, a violent fit occurred—so violent, indeed, that, to the patient's friends, death seemed imminent. From this, however, temporary recovery ensued; and about two o'clock on the morning of the 15th, death took place with comparative calmness, the patient retaining consciousness to the end.