up the lungs or larynx. In the fatal syncope of chloroform, all is over in a moment; artificial respiration or anything else is of little or no avail. But, in the asphyxia of ether, by pulling the patient's tongue forward, rolling him over on his side, and, lastly, by artificial respiration, we can almost always restore him. And this constitutes the only, though great, advantage of ether over chloroform in ordinary cases. But these arguments do not hold in labour, for it is now well known that chloroform has but little tendency to the production of fatal syncope in pregnant women; a fact which may be accounted for, partly by the cardiac hypertrophy that always accompanies pregnancy, and partly by the absence of anything like terror in the excitement of the moment. On the other hand, the disagreeable irritation of the lungs which ether produces, and the struggling and length of time it takes to produce anaesthesia (especially in unaccustomed hands) constitute very great objections to its use in parturition. Some, however, still prefer it, and no doubt it is of much value when for some reason chloroform cannot be given. Methylene dichloride has been tried, and found wanting; and you will find the merits of nitrous oxide expounded by Dr. Macan in the JOURNAL for February 2nd of this year. Chloral is useful during the first stage—at which time chloroform is not advisable—and is warmly supported by Dr. Playfair.* Its action is the same as chloroform, and it is safer, but it is also much less speedy and efficacious.

The method of administration of chloroform must differ according to the purpose we have in view. If the relief of pain be our only object, its partial administration may be effected either by giving the crude drug in small quantities, or by diluting it to the appropriate strength with alcohol.† This latter method has the advantages of being safer and more exact. The alcohol, also, in some degree, counteracts the depressing influence of the chloroform. I believe the most convenient proportions to be equal parts by measure of chloroform and rectified spirit; and there are two small practical points worth note: (1) the addition of some aromatic serves to make the mixture more agreeable, perhaps to prevent sickness, and to avoid confusion with pure chloroform; (2) add the chloroform to the spirit, so as not to get a precipitate.

Concerning the inhaler, the simplest is the best. A perforated box with a pad of lint inside, or handkerchief folded will do, or Skinner's inhaler and drop-bottle are convenient. There is no need for a special administrator in these cases; the patient can give it to herself. Direct her to take half a dozen deep inhalations, and then, as she becomes drowsy, the inhaler drops off, and the administration ceases. An useful test of the effect produced is her power of conversation.

In normal cases, chloroform should not be given in the first stage, when it materially interferes with the mechanical dilatation of the os. In the second stage, it may be given at any time, and becomes especially necessary towards the end, as the head passes the vulva. Much of the success, or the reverse, depends on the precise moment at which the administration is stopped. If too early, the patient is unrelieved during the most painful period of the whole labour; if continued too long, you run the risk of hæmorrhage. In the third stage, it is not called for at all, except, perhaps, in some cases of retained placenta from hour-glass contraction.

In abnormal cases, where it is desirable to produce complete anaesthesia, the crude drug must be administered; and it is of the utmost importance for one person to devote his attention entirely to the anæsthetic. The mode of administration differs in no way from ordinary cases, except, perhaps, for the length of time it may be given.

In conclusion, allow me to indicate, by way of summary, what I believe to be the main precautions, whose observance would render the use of chloroform perfectly justifiable.

1. There are certain women who have a tendency to flood at every confinement, and others in whom there seems an already too great relaxation of fibre—weak anæmic females in their eighth or tenth confinement; and to these it would be unadvisable to give chloroform, except for necessity. Happily, it is not these women who suffer the most pain, but rather those strong healthy primiparæ whose pelves and general build approximate to the masculine type.

2. We should not give it when labour is complicated with severe vomiting, or with acute disease of the heart or lung, unless there be imperative call for it.

3. It should not be given to the full extent, except for operation, convulsions, or spasm of the cervix; and then it is most necessary that one person should devote his entire attention to it.

4. The inhalation should be stopped directly we find the pulse becoming very weak, or the respiration irregular.

5. Anything which makes us suspect a fatty or enfeebled cardiac wall should make us cautious in the use of chloroform. Here, as in cases other than those of labour, it is not the most extensive valvular disease (so long as it be attended by compensating hypertrophy), but the atrophied or degenerate wall that constitutes the source of danger. Unfortunately, the signs of these conditions are subtle and uncertain; but a fatty heart may be suspected by an exceedingly feeble cardiac impulse, combined with an almost inaudible first sound; or attacks of dyspnoea, vertigo, and syncope, in the absence of anæmia, or valvular lesion; or the copious deposit of fat in other parts of the body, and the occurrence of dropsy without adequate cause. A dilated heart may be suspected by increased area of præcordial dulness, combined with epigastric and venous pulsation, and a want of correspondence between the violence of the cardiac impulse and the strength of the pulse. Pericardial adhesions also form a great source of danger. They may be suspected when the heart's apex is fixed above its normal position, and does not shift with respiration; or when there is depression instead of protrusion of intercostal spaces over the position of the apex, giving a wavy character to the cardiac impulse.

6. The sixth and last precaution I would mention is this. In all cases we should take extra care to prevent the occurrence of hæmorrhage after birth; by giving a full dose of ergot in a little warm water when the head reaches the perinæum; by ceasing the chloroform immediately it is born; and by rousing the patient from her lethargy as soon as possible.

A CASE OF GANGRENOUS VARICELLA.

By WARRINGTON HAWARD, F.R.C.S.

Surgeon to St. George's Hospital.

A. W., aged 1 year, was admitted under my care at St. George's Hospital, on March 14th, 1883, on account of a number of gangrenous patches upon the skin.

The child was miserably ill-nourished, very dirty, and very ill; it weighed only six pounds and a half. On the left side of the scalp was a large scab, which, on being removed, discovered a deep ulcer, evidently formed by the confluence of several circular sores. On other parts of the scalp, and also on the face, were numerous circular scabs varying in diameter from a quarter to half an inch, covering similar ulcers. On the chest, abdomen, and back, were a number of black gangrenous patches of circular outline, of from half an inch to an inch in diameter, which in some parts were just becoming confluent. The skin around these patches of gangrene was of a dusky red colour. The larger of the gangrenous spots were all upon the skin of the abdomen. Beside these patches, there were scattered over the trunk and limbs numerous small scabs like the ordinary varicella spots in the drying stage, and also a few small vesicles and papules. The child was frequently sick; the pulse rapid and feeble; temperature 104°; and there was dulness to percussion over the base of the left lung.

The history was as follows. The parents were healthy, I saw the mother, who looked in good health. She had had six children, of whom three were dead from infantile diseases. The two other children were said to be healthy. This child had been puny and sickly from birth, and had never thriven. It was vaccinated in January, and the vaccination-spots had, according to the mother's description, run a perfectly natural course, and healed well. A week before its admission to the hospital, a crop of small red spots, of the size of a pin's head, came out on the child's face, chest, and abdomen. These afterwards became small blisters, resembling, the mother said, "vaccination-spots at the end of a week from vaccination." The mother did not know of any other children in the house or among her friends having chicken-pox. The spots became black, and began to increase in size, about the fourth day of the eruption.

When I saw the child, I was at once struck by the resemblance of the eruption to that represented in the picture accompanying Mr. Hutchinson's paper on Gangrenous Eruptions in connection with Chicken-pox and Vaccination, in the *Medico-Chirurgical Transactions* (vol. lxx, p. 12); and this, with the history of the case, led to the diagnosis of gangrenous varicella.

The child died on the fourth day from admission, and at the post mortem examination I discovered that the child had been seen, as an out-patient on the third day of the eruption by the house-physician, who had recognised the case as one of ordinary varicella.

* *Prin. and Prac. of Med.* Second Edition, vol. 1, page 343.

† I believe originally suggested by Sanson (*Chloroform*, 1866.)

The examination (made by Mr. Ross, curator) showed that the gangrenous patches upon the abdomen had penetrated the entire thickness of the skin, exposing the muscles beneath; in other parts, the ulceration was of less depth. In each lung there were several small recent secondary abscesses, surrounded by a zone of hyperæmic tissue; on the left side there was also recent lymph on the surface of the pleura, and two ounces of purulent fluid in its cavity. A careful inspection of the brain, the other viscera, and the joints, revealed nothing unnatural.

In this case the diagnosis was made certain by the child having been seen by a competent observer, with the ordinary eruption of varicella before gangrene had commenced.

But to any one acquainted with Mr. Hutchinson's paper, the history and aspect of the eruption made the nature of the case sufficiently apparent. The gangrene in this instance set in suddenly and progressed with great rapidity; and a point of interest is the early occurrence of pyæmia, which was no doubt the immediate cause of death.

I am afraid the case does not throw any light upon the cause of this serious complication of what is usually a trifling disease. This child was very ill-nourished (probably from wrong feeding) and feeble, but other recorded instances of the disease have occurred in healthy children.

PEPTONES IN URINE.

By CHARLES HENRY RALFE, M.D., F.R.C.P.,

Assistant-Physician to the London Hospital.

SINCE my communication to the JOURNAL, April 7th, in which I alluded to the detection of peptones in urine, I have had three cases under observation at the London Hospital, in which the urine gave the reaction characteristic of these bodies with Fehling's solution. As the subject has again been brought forward in the interesting communication of Dr. Oliver (April 21st), and by Dr. George Johnson in last week's JOURNAL, I venture to think that brief notes of the cases may not prove uninteresting at the present time.

CASE I.—A lad aged 18, who had received, some days previously, a severe blow over the left flank, and for which he had been treated at the time in the receiving room of the hospital, applied with a letter at the out-patient department on April 9th. He stated that, since the accident, he had been feeling ill and weak, and that he still suffered much from pain in the left iliac region, passing down the groin into the thigh and hip; his bowels were much confined. The urine was examined for blood and albumen, and a small quantity of the latter was found. On testing the urine with Fehling's solution, a decided rosy red coloration was developed just above the junction of the two fluids. He was ordered to take an alkaline mixture, to which a few drops of tincture of opium were added, and a draught of sulphate of magnesia every other morning. On April 16th, he reported himself as much better, the urine was free from albumen, and no coloration was developed with Fehling's solution.

CASE II.—A woman, aged 54, was admitted as an out-patient April 16th, with dyspeptic symptoms, apparently due to gastro-duodenal catarrh. As she stated, she was frequently disturbed in the night time to pass urine, and suffered from weakness and debility, the urine was examined for albumen; none, however, was found, but the red coloration with Fehling's solution was well marked. She was ordered a mixture of bismuth and nuxvomica three times daily, and a compound rhubarb pill, with belladonna, twice a week at bedtime. April 30th. The dyspepsia was much relieved; there was still a coloration with Fehling's solution, but fainter.

CASE III.—A woman, aged 55, but looking very much older, was first seen April 23rd, complaining of rheumatism, dyspepsia, and shortness of breath, with a frequent desire to pass urine; she was very weak and debilitated. The urine was examined for albumen, but none was found; an exceedingly distinct, rosy red coloration, however, was developed with Fehling. In this instance, the urine gave a precipitate with picric acid, which redissolved on the application of heat. This patient was ordered quinine. On April 30th, I saw her again; she felt a little stronger, but the coloration with Fehling's solution was still distinct.

In order to ensure the development of the characteristic reaction, the following mode of procedure must be adopted. A drachm of Fehling's solution is to be introduced into a test-tube, and then a drachm of urine is to be floated carefully on the surface. Where the urine comes into contact with the alkaline copper solution, a thick zone of phosphates will form, above which, if peptones be present,

a red halo will appear, not violet, as stated by Dr. George Johnson, but a decided claret, or ruby red. Indeed, as a matter of fact, it is laid down in works on physiological chemistry, that the violet tint is characteristic of albumins, while the red coloration distinguishes the peptones from these. Great care must be taken not to mix the urine with the Fehling's solution; otherwise the deposit of phosphates will be diffused, and the red coloration obscured. It is probable, owing to want of attention to these details, that Dr. George Johnson has failed hitherto to meet with a specimen of urine showing the reaction.

The urine, too, should be recently passed. In Case 3, the reaction was very distinct in the sample of urine passed by the patient in the out-patient room, and a few hours later it was well marked when I showed it to a friend; but by the next morning the urine lost the power of developing the coloration with Fehling's solution, yielding instead only a muddy cloud. The urine had evidently undergone putrefactive changes, for it smelt abominably. I have since thought the peptones in this case might have been derived from pancreatic digestion; the result of which, as is well known, if prolonged, is to lead to putrefactive changes in proteid substances.

In my first communication I stated my belief that the peptones found in the urine would probably consist of the "mixed" peptones, and not merely of "true" peptones. I find, on reference to Dr. Michael Foster's *Text-Book of Physiology*, that the proteid body observed by Dr. Bence Jones in a case of osteomalacia, closely resembles the A peptone of Meissner, or if the nomenclature of Kühne be adopted, hemi-albumose. This body, as I need hardly observe, is one of the initial products of both peptic and tryptic digestion.

In conclusion, I venture to think that a consideration of the conditions under which peptones appear in the urine is likely to furnish us with important information, not only as regards the physiology of these bodies, but with respect to many obscure derangements of digestion. The test is so easy of application, and the reaction so plainly marked, while the number of instances in which it is found to occur are far from being rare and exceptional, that we ought soon to be able to collect a sufficiency of facts from which some useful deductions may be drawn.

ON THE ACTION OF CANNABIS INDICA.

By JAMES OLIVER, M.B.,

House-Physician to the Hospital for Women, London.

INDIAN hemp for some time back has been vaunted as a medicine of some therapeutic value in cases of dysmenorrhœa; to me, however, its action seems so variable, and the preparation itself so unreliable, as to be hardly worthy of a place on our list of remedial agents at all.

Two preparations of this drug have been recommended for use, viz., the tincture and the extract; it should matter little which is used, the tincture being simply a spirituous solution of the extract. Much, however, as far as results obtained go, seems to depend upon its place of cultivation. Many of those persons who experienced unpleasant effects from one-grain doses had previously taken the same dose (different sample, however,) with almost no result at all.

It is usually said that cannabis Indica produces pleasurable symptoms; such, I regret to say, has not been my experience; in fact, the result has frequently been alarming to the friends of the patient, but more frequently still, from the comparative inertness of the drug, no result is obtained at all, even although three and four grains have been given as a dose. When unpleasant symptoms have been produced by the use of this drug, they do not readily pass off, but will often persist for a day or two, and the too early use of morphia will not uncommonly aggravate the condition.

The physiological effects of the drug usually manifest themselves about two hours after administration; this, however, varies, being hastened or retarded according to the condition of the stomach as regards food at the time of ingestion.

Cerebral symptoms are the first to develop, the patient experiencing peculiar indescribable sensations in the head, by no means pleasant in character; and although quite rational, knowing all that is going on, some have an irresistible desire to be always on the move. In some cases earlier, in others later on, the patient loses control over the muscles, being unable to move them at will; in one case, the muscles of the larynx were so affected, and the patient when interrogated was for the time being unable to respond.

Muscular anesthesia is often produced by the use of Indian hemp,