

In conclusion, I would repeat my conviction that in the employment and in the selection of a hypnotic sleeplessness is perhaps the least important factor to be considered, although it may be the sole symptom of which complaint is made. The cause must be ascertained, together with any indications of idiosyncrasy. The co-existence of other diseases must influence the selection of the hypnotic and even when, for the individual case, a suitable hypnotic has been found, risks of repeating moderate doses must be borne in mind. Generally the dose has to be gradually increased, especially when the cause has not been ascertained or satisfactorily dealt with, but with some drugs—e.g., sulphonal, trional, and tetronal—the danger appears to lie in the total quantity taken, even though each dose may have been small. But perhaps the greatest danger of all is incurred when the patient is given a prescription for a hypnotic and this danger has certain analogies with the medicinal employment of alcohol. Many of us believe that at the height of fever or in conditions of collapse alcohol is often necessary, but it is never recommended to our patients for indefinite use, still less for increasing doses. Armed with a prescription for a hypnotic patients commonly go on taking the drug long after the relief of the special circumstances for which it was prescribed and the prescription may be used to facilitate the acquisition of large quantities of a dangerous drug obtained, perhaps, at several establishments in small amounts.

Notwithstanding the relief which many have derived from the use of hypnotics I am in favour of any step which tends to prevent their administration except by the medical man or under his immediate directions. I have seen so much of the dangers of hypnotics that I would prohibit their sale to the public or would allow them only to be dispensed to a freshly dated prescription, which should be retained by the druggist or returned to the prescriber.

Harley-street, W.

THE SURGICAL TREATMENT OF PUERPERAL PYÆMIA.

BY ERNST MICHELS, M.D. BERLIN, F.R.C.S. ENG.,
SURGEON TO THE GERMAN HOSPITAL, DALSTON, LONDON.

IN making this little contribution to the treatment of puerperal pyæmia I wish to limit myself to pyæmia in the narrower sense of the word—that is, to that form of puerperal infection which is propagated by way of the venous circulation, is characterised chiefly by more or less frequent rigors with sudden high rises of temperature, and almost invariably leads, after a more or less acute course, to a fatal termination by septic embolisms in the lungs or other internal organs. This form of puerperal infection is fortunately very rare now, but where it occurs it has lost nothing of its former terror, and I believe I am expressing the view of all those who have had to deal with these cases that all our efforts of medical and general treatment, including the injection of anti-streptococcic serum, have been disappointing and have seldom succeeded in averting the fatal termination in a fully-developed case.

Can surgery do anything in these hopeless cases? Within the last 10 or 12 years the treatment of pyæmia by ligature of the main venous trunks connecting the primary seat of the infection with the circulation has become an established method in surgery and especially in cases of pyæmia originating in infectious disease of the transverse sinus this method has given highly satisfactory results if only employed early enough. A few cases have also been recorded where pyæmia caused by some septic process in the extremities has been cut short by the timely ligature or excision of the main venous trunk of the limb and the question arises how far this mode of treatment could be applied to pyæmia originating from the uterus in its puerperal state. Undoubtedly the difficulties here are very great. It is known only too well that very often in these cases pyæmia is associated with other forms of septic infection, spreading along the lymphatic channels or leading to a direct absorption of toxins; but even in uncomplicated cases of pure pyæmia we have to deal, not with a single trunk, as in the case of the jugular or femoral veins, but with the large uterine plexus, the blood of which is collected by four deep-seated veins—the two internal iliac and the two ovarian veins—all of them difficult of access. Moreover, in exceptional cases only can it be

ascertained which of these four vessels are the channels of infection and would require ligature, so it is not astonishing that a few attempts made by Freund and Bumm to treat puerperal pyæmia by ligature of the efferent veins have not succeeded in saving the patient.

The whole subject has lately been treated in a masterly manner in a paper by Trendelenburg.¹ In this paper Trendelenburg gives a lucid *résumé* of the pathology and of the anatomical conditions associated with puerperal pyæmia and also discusses the frequency with which each of the two internal iliac and ovarian veins take part in the dissemination of the septic process. The route by which the surgeon may reach these vessels and the method by which they are dealt with are also clearly demonstrated. Unfortunately, most of Trendelenburg's patients came under his observation far too late and in four cases in which he had ligatured the veins he was unable to save the patient's life; but his fifth case—a case of more chronic character—improved after ligature of the right internal iliac vein and recovered completely when, after a relapse four weeks later, the right ovarian vein had also been ligatured. I am now able to add to Trendelenburg's case a second successful one and this time a case of rather acute character. As the subject is an important one I venture to give the full history of the case.

The patient, aged 28 years, was admitted into the German Hospital on Dec. 15th, 1902, with the following history. She had had three children and was pregnant, for the fourth time, since August, 1902. The pregnancy had taken a normal course till four days before admission, when she had a great deal of pain in the abdomen and lost much blood. Rest in bed and medical treatment did not bring relief. On admission the patient looked very ill, had a temperature of 101.2° F., and was losing blood rather profusely. Shortly afterwards a five-months foetus was expelled. As the after-birth did not follow and as there was considerable hæmorrhage the placenta was detached manually (under strict antiseptic precautions) and the uterus was washed out with a hot solution of lysol; the uterus contracted well and all hæmorrhage ceased. When I saw the patient next morning she was in a satisfactory condition, but soon afterwards the temperature began to rise and the discharge became foetid. On the 19th there was a severe rigor, the temperature rising to 105.4°. Uterine douches, cold baths, and injections of anti-streptococcic serum were without avail and the temperature remained high (104° in the evening) till the 23rd. On that day I put the patient under an anæsthetic, dilated the womb, and scraped away a few shreds of decomposed placental tissue; this was followed by considerable improvement, the temperature remaining much lower and the general strength of the patient distinctly increasing, but on the 30th with a fresh rigor the temperature rose to 105°. From that date the rigors occurred every day, the temperature rising as high as 106.4° and the patient's strength gave way visibly; anti-streptococcic serum and subcutaneous saline injections were used without any effect and the case assumed a very hopeless aspect. While the patient's general state gave cause for the greatest anxiety the local condition of the pelvic organs was distinctly improving, the uterus had contracted, there was no more foetid discharge, and no exudation or accumulation of pus could be detected in the pelvis. On Jan. 2nd, 1903, an indistinct fulness was noticed in the left inguinal region on a level slightly below the navel. It was at first attributed to an accumulation of faecal matter in the sigmoid flexure, but it remained unaltered after thorough evacuation of the bowels. During the next few days it seemed to increase and became slightly tender on pressure. The possibility of this fulness being due to thrombosis of the ovarian vein was discussed but it was impossible to be certain on that point. On the 5th the patient had two rigors, the temperature rising to 105.2° and 104.4° respectively. On the 6th, the patient being then in a quite desperate state, I examined her once more under an anæsthetic and made sure that there was nothing within the pelvis to account for her condition. I then carried out the following operation.

An incision was made from the tip of the eleventh left rib to the anterior iliac spine and thence forwards and downwards parallel to Poupart's ligament. The muscles and transverse fascia were divided and the peritoneum was stripped off from the underlying structures; this was easy enough at first, but nearer the middle line the peritoneum

¹ Münchener Medizinische Wochenschrift, 1902, No. 13th.

was more adherent. Before proceeding any further a small incision was made into the peritoneum at the lower angle of the wound to ascertain the condition of the left appendages, which were found to be perfectly healthy. The process of stripping off the peritoneum was then continued till the swelling or rather fulness which had been felt was fully exposed. It proved to be the considerably thickened and dilated ovarian vein. By very gentle manipulation the vein was separated from the ureter to which it was firmly adherent and traced upwards to its entrance into the renal vein; about half an inch below the renal vein two ligatures were passed round the ovarian vein and the vessel was divided between them. The vein was then cleared in the lower part of the wound till its whole course was fully exposed from its exit from the broad ligament to the point of division. The vein was now slit open and a foetid mass of softened thrombus was removed from its interior; several small accumulations of pus which had formed in the thrombotic mass were evacuated. There was hardly any bleeding. The large wound was then well washed out with sterilised water, a few sutures were put in at the lower and at the upper angle, and the rest of the cavity was lightly plugged with iodoform gauze.

The effect of the operation was quite surprising. No more rigors occurred. On the evening of the operation and on the following evening the temperature was still 101°, but from that time it remained normal. The large wound healed slowly but without any mishap and the general condition improved very rapidly. From Feb 5th she was able to leave her bed and early in March, the wound having completely healed, she left hospital strong and well.

I will admit at once that it was an exceptional circumstance in this case that only one of the four large venous trunks coming from the uterus was affected, and it is hardly to be expected that many cases will be equally favourable. In my case I did not expose and tie the internal iliac vein, since a careful examination under an anæsthetic had failed to detect thrombosis or accumulation of pus in the pelvis; but if I had thought it desirable to ligature the internal iliac vein it would have been easily accessible from the wound which would only have required some prolongation in a downward and inward direction. Another favourable coincidence was the slight fulness which was noticed in the left inguinal region by which the site of the lesion was indicated. Where this symptom is absent I would not hesitate to expose the ovarian vein on both sides.

The operation itself should offer no particular difficulties, except perhaps in very stout women; if only the incision is of sufficient length the ovarian vein can easily be reached; in clearing the vein great gentleness is necessary, so that no fresh thrombi may become detached and carried away into the circulation. The ligature of the central end should be done first and should be applied as high up as possible. The most radical treatment would then be the excision of the whole venous trunk, but where this is difficult on account of adhesions to the surrounding structures it is sufficient to incise the vein in its full length and to clear away all pus and decomposed thrombi; in this case the wound would naturally have to be left open to heal by second intention. Where total excision has been feasible and the septic material from the vein has not come into contact with the surface exposed there is, of course, no reason why the wound should not be closed completely.

I am well aware that the publication of one isolated successful case of this kind is of comparatively little value and that a great deal more practical experience is required before this method may claim an assured place in surgery. But puerperal pyæmia is rare now and a long time may pass before the individual surgeon has an opportunity to collect more experience in this operation. I therefore think that I am justified in publishing the details of this one case which may encourage surgeons to a more active treatment in this otherwise practically hopeless class of cases.

Finsbury-square, E.C.

AN EXAMPLE OF DIRECT INFECTION IN TYPHOID FEVER.

By P. HORTON-SMITH, M.D. CANTAB., F.R.C.P. LOND.,
ASSISTANT PHYSICIAN TO THE METROPOLITAN HOSPITAL AND TO THE
HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST,
BROMPTON.

THE part played by personal infection in the spread of typhoid fever has hardly yet received at the hands of the profession at large the attention which it deserves. Nevertheless, in our fever hospitals, as Dr. E. W. Goodall and Dr. F. Foord Caiger and others have shown, it is by no means infrequent for nurses thus to acquire the disease, while among our poor, where overcrowding is rife and where the mother has both to prepare the food for the family as well as to nurse the sick, direct infection is common. In his valuable Milroy Lecture on Typhoid Fever, delivered last year before the Royal College of Physicians of London, these points were insisted upon by Dr. W. H. Corfield,¹ and I may here therefore merely again recall the result obtained by Dr. Alfred Hill of Birmingham,² who in one year traced one-seventh of all the cases of typhoid fever in the city of Birmingham to this source. Dr. J. Niven of Manchester has also obtained a very similar result. Nevertheless, this factor in the spread of typhoid fever has hardly yet obtained general acceptance, and the publication of the following striking instances may not, therefore, be without value. Certain of the patients were under my care at the Metropolitan Hospital. For the notes of the other cases I am indebted to my colleagues on the staff of that hospital, and to Dr. H. E. Cuff, medical superintendent of the North-Eastern Fever Hospital, Dr. L. T. Fraser Bryett, medical officer of health of Shoreditch, and Dr. H. Meredith Richards, medical officer of health of the county borough of Croydon, I am also indebted for kindly information. To all I desire to express my hearty thanks.

The family in which the epidemic here dealt with originated consisted of father, mother, three daughters, and two sons. All were attacked and two of the daughters died. They occupied three rooms in a house not far from the Metropolitan Hospital, consisting of a kitchen and living room on the ground floor and two bedrooms above. The first case being undiagnosed, no attempt whatever was made at isolation and no precautions were taken to prevent the spread of the disease. As we shall see, the little epidemic was limited to this house and those connected with it, there being no typhoid fever in the immediately surrounding neighbourhood. The first person attacked was a daughter, aged 15 years, who sickened during the latter part of the second week in September. Her illness, which was thought to be tuberculous ulceration of the intestine, consisted in fever, prostration, vomiting, great diarrhoea, and towards the end delirium, the evacuations being passed under her. She died on Oct. 15th, and in the light of subsequent events there can be no doubt that her illness was typhoid fever. She was buried on the 20th. A few days before her death one of her sisters, a child aged eight years, who had been sleeping with her during a part of her illness and even towards the end was occasionally laid upon her bed, began to ail. On the 23rd this patient was taken to the Metropolitan Hospital and was found to be suffering from typhoid fever ("spots"). She was certified and was admitted into the North-Eastern Fever Hospital. At about the same time also the mother, aged 35 years, who had done most of the nursing, began to sicken. On the 28th she attended at the Metropolitan Hospital and Widal's reaction proving positive she was certified and was admitted into the Great Northern Central Hospital. On Oct. 19th one of the sons, aged 11 years, began to be languid and to have anorexia and headache. On the 25th "spots" were present and he was admitted into the Metropolitan Hospital. The next person attacked was an aunt, aged 23 years, who had gone early in October to

HEALTH OF ILFRACOMBE.—Dr. E. J. Slade-King, the medical officer of health of the Ilfracombe urban district, in his annual report for 1902, which has just been issued, states that during the year the general death-rate was 13·3 per 1000, but excluding non-residents it was 11·3 per 1000. The birth-rate was 16·22 per 1000. The infant mortality per 1000 births was 78·5.

¹ Milroy Lectures, 1902, pp. 133-135. At the commencement of his first lecture Dr. Corfield advances cogent reasons for retaining the term "typhoid fever" as opposed to the more modern term "enteric." With this desire I am in cordial agreement, and would recall that another argument for retaining the old name is the occurrence of instances of typhoid fever without intestinal lesion. In such cases the term "enteric" is a misnomer.

² See the writer's Goulstonian Lectures, p. 103. London: Churchill, 1900.