possess these special details:—The point of the trocar is pen-shaped, with the tip turned up, in order to avoid the posterior wall of the vein operated on, which would most certainly be perforated by an ordinary trocar (as illustrated in the drawing). The cannula is one-and-one-eighth inches

FIG. 2.

in length, and is provided with a slight shoulder, so that when fairly inserted within the vein it will be in some measure self-retentive. The shield of the cannula is deficient below the aperture, for were the shield complete it would by pressure on the integument prevent the instrument from lying evenly within the vein. The inner cannula (attached to the branch tube of the syphon) is similar to the afferent cannula, save that the terminal inch and an eighth of its length is perfectly cylindrical and will accurately fit the outer tube, into which it can readily slide.

I must express my thanks to Messrs. Maw, Son, and Thompson for the great care they have bestowed on those minutiae on which the value of these instruments entirely depends.

The risk of fibrination is minimised by this method, for the blood after passing through the efferent cannula and branch tube (which is very short) immediately mingles with more than twice its bulk of a saline fluid. The continuity of the flow as regulated by the syphon is most equable, instead of being intermitted by the jerks of the artificial heart (in the shape of a rubber bag or receptacle, worked by the operator's hand) which belongs to most of the immediate transfusion apparatus in vogue. The substitution of a few drops of liquor ammoniæ for the alcohol, directed to be added to the saline fluid, would materially assist in retarding coagulation. Nor should it be forgotten that the blood of males is less prone to coagulate than that of females; pregnancy, too, increases greatly the coagulative property. These facts, added to other considerations, certainly indicate that, as a rule, a male should be selected as the donor whenever blood-transfusion is demanded.

Practically, however, blood-transfusion or the combined method is only applicable in the *minority* of cases where transfusion is indicated, and in the majority of such cases saline alcoholic intra-venous injections, which can always be readily administered, should be employed instead; and experience proves that this plan of treatment, which has been advocated by Dr. Barnes and others, is a successful one. Having myself transfused with an ordinary syringe (being provided with no better instrument), I am convinced that this method is open to the weighty objections that air may gain access to the vascular system whilst the instrument is being recharged (and if the capacity of the syringe be small this process must be repeated many times before the requisite quantity of fluid is injected), that the flow is interrupted, and that the fluid or blood is cooling during the proceeding. If the syringe employed be a metal one, its lack of transparency as well as its power of conduction of heat must be urged against it. It has been advanced that the addition of a cannula to the obstetric bag will provide the practitioner with the means for transfusion. Should his "obstetric bag" already contain the remaining instruments essential for the operation, the proposition holds good. But there are a few practitioners who attend midwifery armed only with a bottle of ergot or of laudanum, and possibly a pair of short forceps or a vectis. The nurse provides thread for the cord and scissors, whilst the catheter or stethoscope can be dispensed with. Of what use can a transfusion-cannula be to such a practitioner in the cottage of a pauper five miles from home? Whilst all must concur with Dr. Barnes as to the absolute and urgent necessity of checking the flow of blood in cases of post-partum hæmorrhage, I venture wholly to dissent from that eminent physician as to the *safety* of the "crowning remedy," and am sure that the use of the iron solution is only admissible in a few rare and exceptional cases, where other hæmostatic measures have failed; nor must it be forgotten that by transfusion the fluid, so introduced abruptly into the vascular system, which circulates amongst the uterine muscle-

fibres and thus stimulates them to *contraction*, is in itself a powerful hæmostatic as well as a restorative for the diastaltic function. Not only is the intra-uterine injection of the styptic sometimes *ineffectual* in arresting post-partum hæmorrhage, but there is abundant evidence which proves that the risk of procuring instant dissolution from embolism by this treatment is not at all chimerical.

CASES OF PUERPERAL SEPTICÆMIA.

By FRED. C. CORY, M.D. ST. AND., &c.

THE following cases with the remarks appended may interest the readers of THE LANCET.

Mrs. R—, aged twenty-three years, a healthy and fairly strong young woman, was confined after a few hours of active labour of a well-nourished male infant. She progressed favourably until the third day, when I found her feverish, pulse 120, temperature 103.5°; furred tongue, great pain in the head, intolerance of light, pain in and distension of abdomen, lochia scanty and fetid, bowels and bladder acting, with very little milk in her breasts. At this stage I observed the infant to have purulent ophthalmia of both eyes. The house was not well drained; the bath room adjoined the lying-in one; the waste pipe of the bath I found to be untrapped and in direct communication with a sewer from which an immense amount of sewer gas was escaping. This was forthwith plugged, and I gave directions to have it trapped effectually. Fortunately I had with me a Higginson and a full-sized gum-elastic male catheter. Removing the patient to the edge of the bed with the nates well over the side, a waterproof sheet under her to protect the bed, and a good sized foot bath at hand, and a large jug of warm water, temperature about 96°, with the addition of a small quantity of salt, I connected the catheter by a piece of elastic tubing with the bone pipe of the Higginson, then introducing the former quite up to the fundus of the uterus washed out the cavity of that viscus completely, to the great relief of my patient, she exclaiming, "My head is getting better." The stench was most offensive and abominable. This process was repeated daily for a few days combined with occasional warm turpentine flannels to relieve the abdominal distension. Bark with effervescing citrate of ammonia and a light nourishing diet soon put my patient on the convalescent list. The escape of sewer gas from the bath room was no doubt the cause of the uterine trouble, and probably added its quota as a factor to produce the purulent ophthalmia in the infant. No ergot was given in the labour. I mention this on account of a case I once saw where ergotine was subcutaneously injected in the arm for post-partum hæmorrhage. Erysipelas supervened, first around the needle puncture and then all over the limb, the patient suffering much from septic poisoning, and being in great peril for some time, although ultimately making a good recovery.

Mrs. D—, married at sixteen, had always enjoyed good health and never required the doctor except for her confinements, of which she had had already four healthy children, but always with "after trouble," as she expressed it. The coming accouchement she greatly dreaded. I carefully inspected all the drains and traps in the house, and found them working well. In due course she had an ordinary labour, occupying only a few hours. A strong healthy boy was born. On the evening of the second day she was seized with shivering, headache, abdominal pain and tenderness, lochia scanty and offensive, bowels obstinate, urine full of deposits, skin moist, pulse 125, temperature 103.2°, much restlessness, was very depressed in spirits and hysterical, no milk in the breasts. Great and immediate relief was derived from the washing out of the uterus and vagina, so much so that she had some hours of refreshing sleep, and relieving all the other distressing symptoms. The other treatment was by tonics, light and nourishing diet, which soon completed a cure. I could discover no cause for her "after trouble," as she expressed it. Eighteen months having elapsed, I was again requested by Mrs. D— to attend her. I advised her to obtain every article required for her accouchement quite new, even to bedlinen, waterproof sheets, &c., having long suspected the enemy might lie concealed in the articles of clothing made use of at her confinement. A short time afterwards she was delivered of a healthy girl, and

made a rapid recovery, entirely free from any septic trouble whatever the surroundings being the same as in all the other confinements.

In thinking over this case I can come to no other conclusion than that the linen and bedclothes contained the fomites of disease. The above two cases are only types of a great many others having similar characteristics which I have met with in a large obstetric practice of some years' duration. Since I have adopted the plan of syringing out the vagina, and in some cases the uterus too, with warm water (a little salt added) on the second or third day, I have had no difficulty in preventing disease and procuring a rapid and complete recovery, saving the woman much suffering and much dosing with physic.

I have known the following cause post-partum septicæmia:—1. Bad drainage and escape of sewer-gas in the house—such as deficient closets, sinks, and waste water-pipes in cisterns untrapped. 2. Open gully-holes near the house and bedroom. 3. Surface drainage from other houses passing in ditches or watercourses. 4. Closets placed over stagnant ponds near to the house, which are common enough all over the country, especially at farm-houses. (The farm stock always drink this pond water, and seem to prefer it.) 5. Dirty pig-styes near the dwellings of the poor. 6. Scarlet fever and erysipelas infections can be traced to have caused post-partum septicæmia. I have several times had to attend women in their confinements who up to that time had been constantly watching and nursing their children down with scarlet fever. Yet nearly all these women recovered without the slightest sign of after septic trouble.

During the epidemics of scarlet fever this fact is well known to every practitioner of medicine. I once had a case of severe traumatic erysipelas of head and face, with great constitutional disturbance and delirium, in a patient who was confined at the height of the disease. I dreaded the post-partum consequences, for she was a very valuable life. However, she had a good delivery, and made a rapid recovery, without any symptoms of uterine trouble. I do not infer from the above fact that the obstetrician should be careless in exposing his patients to unnecessary infection. He cannot be too careful in cleanliness, and in changing his clothing as often as needs be.

Buckhurst-hill, Essex.

ON A CASE OF PUERPERAL SEPTICÆMIA.

BY ARTHUR PRICE, M.R.C.S.E., &c.

ON Sept. 23rd last I was called to attend Mrs. D—, a primipara, aged thirty-eight years, a very tall, strong, healthy woman. I found that she had had some hæmorrhage for twenty-four hours, due to a partial placenta prævia, which was forthwith detached. The labour proceeded satisfactorily, and very soon a female child was born. The placenta followed without aid shortly afterwards; it was carefully examined, and found to be complete. Scarcely any post-partum hæmorrhage occurred. The whole time occupied by the labour from the first call was under two hours. The three following days the patient, though anæmic, did fairly well; but on the 27th (the fifth day) she complained of pain over the abdomen, especially referred to the right iliac region accompanied by slight nausea, for which a saline and opium mixture was prescribed.—28th: Pain was easier; patient anæmic; dusky in countenance; had been vomiting. Temperature 103°; pulse 112; respiration 28. The nurse who was engaged by the patient had been burning pastiles, which, however, did not hide the effluvium from fæcal matter. Asked if the bowels had been relieved, I was informed that such had not been the case, but that the nurse burnt the pastile to hide the smell from the water-closet. Upon inquiry, to my horror and surprise, I found that the following sanitary arrangements existed in apartments for which the patient paid £600 a year, and of which the nurse did not consider it necessary to inform me:—Separated from the general apartment by a thin match-board, but in the room, was a water-closet used by her attendants as well as herself, the window of which, although communicating with the outer air, could not be opened; there was also in the room a sink into which an overflow pipe was constantly discharging water. To complete the disasters, the nurse had actually stored up in pails the whole of the linen that had been used by the patient since the

day of the confinement, and from which, when the door was opened, a most disgusting odour arose. I ordered all the linen to be carbolised and removed immediately, drains flushed with carbolised water and not used, and the room sprinkled with the same. The window of the water-closet to be taken out and the door kept closed. The patient refused to allow herself to be removed. Medicine ordered: effervescing mixture and opium, vaginal injections of carbolic lotion (1 to 100).—29th: Vomiting continued, pallor increased. Temperature 102° A.M., 104° P.M.; pulse 120; respiration 30. Continued the mixture. Pill of one grain of opium to be given every four hours, and half an ounce of brandy every four hours alternated with the pills.—30th: Sickness continued. Temperature 103.2° A.M., 104.8° P.M. No pain. Lochia and other secretions fair in quantity. Child still sucking and well. Ordered two grains of quinine with one grain of opium every four hours. Ten ounces of champagne in twenty-four hours at equal intervals. The nurse, who was most incompetent, was now dismissed and her place taken by two trained nurses.

Oct. 1st.—Sickness continued. Slight diarrhoea. Pain in right iliac region. Temperature 104° A.M. Dr. Potter of Westminster Hospital, in consultation, ordered immediate removal from room, which was at once done. Continued pills. Medicine to be discontinued. Vaginal injections were used three times a day. Temperature 105° P.M., pulse 95.—2nd: Improvement after removal marked for a few hours, but towards evening temperature again rose. Lowest temperature 100.8°, highest 104.4°. Lochia profuse and offensive. Tenderness over abdomen. No tympanites. Milk, beef-tea, and chicken broth were given in small quantities every hour if awake, with half an ounce of brandy every four hours. Three motions very pale and clay coloured.—3rd: Was very much easier. Slept well. Temperature, highest 103°, lowest 100.2°.—4th: Bowels relieved twice. Slight return of pain. Temperature fell slowly to 96.6°, but rose again after brandy. In the evening a slight rigor occurred, but soon passed off. Temperature 101.2°.—5th: Bowels relieved three times, motions still clay coloured. Copious perspiration, with faintness; slight cough. Temperature: highest 100.4°, lowest 98.2°, pulse 120, respiration 42. Brandy essence and jelly were given frequently in small quantities. No pain.—6th: Great deal of pain in side. Tympanites over umbilical and right iliac regions. Temperature A.M. 99.2°, which during the afternoon steadily rose to 103.2°. A slight rigor again occurred at midnight. Pulse 122, respiration 36.—7th: In great pain; very restless. Again met Dr. Potter in consultation. A rigor had occurred just previous to his arrival. Temperature 104°, which fell in two hours to 96°. Fomentations for pain, hot water bottles &c., were ordered. Temperature again rose in two hours to 102.6°, and then fell to 98° at 7 P.M. Death occurred at 7.45 P.M. A post-mortem was refused.

Remarks.—In this case we have present all the elements necessary for the production of puerperal septicæmia. A woman coming rather late in life to the birth of her first child with a certain amount of mental anxiety is confined in a room which might be more correctly described as a large water-closet without ventilation. She is then badly nursed, and the effluvium of foul cloths soaked in lochia allowed to still further defile the atmosphere. The removal to a somewhat purer air caused the balance to turn in her favour for a moment, but the system was too charged with poison to render the case anything but hopeless. It is only another and very marked instance of the importance of the doctor inquiring for himself into the sanitary condition of the lying-in chamber, and his being aided at the time of his attendance by a skilfully trained nurse instead of an ignorant and incompetent one.

Parkhurst, Isle of Wight.

A RARE CASE IN MEDICAL PRACTICE.

BY H. E. SARGENT, M.D. EDIN., &c.

MRS. B—, Aged forty-five, weighing 17 st., on May 7th, 1882, fell on a zinc pail, its edge striking the abdomen two inches to the right of, and on a level with, the umbilicus. A day or two after the fall a tumour, semi-elastic, with distinct outline, could be traced at the seat of injury. It was only slightly tender, and appeared to have deep-seated attachment. About July 20th the skin over the tumour