the perineum in the manner already referred to, and a five-eighths of an inch rubber tubing was pulled through the suprapubic opening into the perineal wound and fixed there. The patient left the private home with the wounds healed within a month.

CASE 3.—A man was admitted under my care at the Cardiff Infirmary during 1908. He had suffered from irritability of the bladder and pain extending down to his perineum. By cystoscopic examination after injecting indigo-carmin subcutaneously it was found that both kidneys were acting normally and no definite evidence of calculus was demonstrated. The persistence of his symptoms made me perform an exploratory suprapubic cystotomy, and after forcibly dilating the prostatic urethra with my forefinger I discovered a spiculated calculus imbedded in the prostate. After removing it I established perineal drainage and closed up the suprapubic wound. Recovery was uneventful.

The method which I have adopted for operating by the combined routes for some intravesical and prostatic troubles has special advantages of its own. They may be enumerated as follows. 1. The patient is lying in the dorsal position during the whole operation. 2. The additional time required for establishing perineal drainage by my method can be performed in a few seconds. 3. I believe that there is no risk of injuring the rectum as the scalpel is only used to divide the skin and the extruded urethral mucous membrane upon the blunt point of the forceps which is passed transvesically towards the perineum.

It is well known that damage to the rectum, except in the hands of highly skilful operators, is not a rare accident in operations performed upon the prostate and bladder by the perineal route, notwithstanding the attitude taken by some advocates and devotees of this method in touching lightly or wholly ignoring this all-important fact.

I have now performed the combined operations by the transvesical route on 21 consecutive and successful cases for prostatic and bladder trouble without endangering the rectum.

Cardiff.

CASE OF DOUBLE PNEUMONIA AFTER CHILDBIRTH; PULMONARY INFARCTS; INJECTIONS OF VACCINE OF MIXED PNEUMOCOCCI; RECOVERY.

BY GEORGE B. BATTEN, M.D. EDIN.

I ATTENDED a lady, aged 27 years, in April, 1908, with an attack of influenza followed by mild bronchitis and considerable prostration. Three weeks after the commencement, and before she had fully recovered from the effects, she was confined of a healthy male child. Labour was normal and lasted about 12 hours. This was her first child, though four years before she had a miscarriage in the early months. During the first four days her puerperium was quite ordinary; her temperature was normal and her pulse was good, 60 to 70 per minute. She suckled her infant. She had two or three vaginal douches of warm weak lysol. She had a slight cough due to her previous bronchial catarrh. In the evening, four complete days after the confinement, her temperature rose to 99.8° F. and her pulse to 76. On the morning of the fifth day her temperature was down to 99°, but I noticed she had expectorated some dark brown prune-juice sputum; she, however, seemed well and I could find no physical signs. In the evening her temperature rose to 100.8° and her pulse to 110. Within two days I found consolidation and pleurisy over an area on the left side of about the size of a saucer in the middle portion of her lung laterally. I got my partner, Mr. H. Blatherwick, to see her with me and suggested to him that the attack might be due to an infarct, but we agreed it was almost certainly a pneumococcic pneumonia. She had pain and swelling of the calf of her left leg, which I thought might be due to a thrombus in the deep vein. Her temperature varied from 99° to 101°, her pulse from 98 to 120, and her respirations from 19 to 30. She ceased to nurse her baby; belladonna, eau de Cologne, and castor-oil compresses were applied to her breasts, and belladonna and glycerine to her leg. She was doing very well and her pneumonia was resolving quietly, though the sputum remained very dark red and rather plentiful, and therefore a

specimen of her sputum was examined, with the result that pneumococci were found to be present but no tubercle bacilli could be detected.

At 3 A.M. on the fourteenth day after the confinement and the eleventh day after the first symptoms of her pneumonia the patient had a very sudden, most alarming attack of dyspnoea and collapse, which, despite strychnine injected and oxygen constantly given, lasted for quite three hours, during which time we all felt that she might die: her colour was grey and then cyanosed, but her pulse, though 130, was not very weak. I felt that she must have had a pulmonary embolus affecting a large area of lung somewhere, and Dr. W. Hale White, who saw her with me the same afternoon, agreed with this opinion, and said that she probably would have another pneumonia following the infarct or infarcts of the lung consequent on the embolus or emboli. He also thought that the pneumonia of the left lung and the swelling of the left leg had also been probably due to emboli or thrombi. He noticed then that the lochia were very offensive with a sour "bacillus coli communis" smell, and he suggested using the mild antiseptic vaginal douches again. This was, however, the only time during her whole illness that the lochia were noticed to be at all offensive. As the chart shows, her tem-

perature rose to 101° within 24 hours and remained between 101° and 102° for the next 60 hours, her pulse from 110 to 130, and her respirations from 30 to 36, and she remained dangerously ill. Pleuro-pneumonia soon developed on the right side, involving the whole of the lower lobes from front to back and the anterior part of the upper lobe. The sputum was increased in quantity, very sanious, but of a brighter colour. Strychnine by the mouth and hypodermically was used frequently as required and inhalations of oxygen were constantly kept up, in fact, the patient would not be without the oxygen. She also had much pleuritic pain, for which one injection of morphine was given with the strychnine with much benefit. She remained so desperately ill that after consultation with my partners, Mr. Blatherwick and Dr. C. E. Carpmal, we decided to try vaccine treatment controlled by the opsonic method. I accordingly sent a carefully taken specimen of sputum and a swab from the os uteri to Dr. J. W. H. Eyre at the Guy's Laboratory. He examined these and as rapidly as possible prepared vaccines from the organisms isolated, and as the patient's condition then seemed critical he came down at 10 P.M. on Wednesday, the fifteenth day (the fourth day of the fresh attack), and gave her an injection of vaccine consisting of 25 millions of mixed pneumococci made from equal parts of pure culture from her sputum and from her uterine swab. The temperature was then 102.4° and the pulse 120. By 2 A.M. the temperature fell to 101° and remained about that; the pulse, however, was as high as 139 and she was

desperately ill until 48 hours after the injection, when she seemed to rally somewhat and was better. I gave her another injection of 25,000,000 of mixed vaccine on Saturday (the seventh day of new attack), and after a temporary rise to 102° her temperature fell in 15 hours to 100·4° and her respirations to 22. She seemed decidedly better, and we hoped that she was round the corner. She had, however, still considerable pleuritic pain, and another injection of morphine and strychnine was given that evening. Her left thigh and leg then swelled very greatly, though the previous swelling and pain in the left calf had ceased for nearly a week. This swelling went away gradually in four or five days. As I then went away for a previously arranged holiday my partner, Dr. H. M. Stewart, kindly took over the case, and he informed me that she steadily and gradually got better. He, acting under Dr. Eyre's advice, nevertheless gave the patient another injection of vaccine (dose, 50,000,000) on the next Sunday (the fifteenth day of the last attack); after this the temperature soon returned to normal and remained so. On my return a week after this I found the patient convalescent, but still weak and with a few physical signs of the pneumonia just discoverable, and she was expectorating some frothy white sputum, but these disappeared within a few days, and she seemed well eight weeks after the attack, being only bothered with slight swelling of both legs, the right, curiously enough, being the worst. Three months after she was quite well in every way, and has remained well. She took her liquid nourishment wonderfully well all through and was most carefully and efficiently nursed by two most excellent and capable nurses. Her baby also did and is doing very well. I here append Dr. Eyre's notes of the bacteriological aspect of the case, which I think are most interesting and suggestive.

Dr. EYRE'S report.—The sequence of events is somewhat as follows:—16th day after confinement: Specimen of sputum examined. Pneumococcus predominant organism present. Swabbing from uterus, contained mixture of pneumococcus and *B. coli communis*. 17th day: Opsonic index of blood to pneumococcus from uterus, 0·55. Index to pneumococcus from sputum, 0·49 (that is, practically identical). 18th day: Injected 25,000,000 mixed pneumococcus vaccine containing equal parts of the pneumococci from each source. 20th day: Blood index to pneumococcus, 1·43. 21st day: Injected 25,000,000 "mixed pneumococcus" vaccine. 24th day: Blood index to pneumococcus, 1·3. 29th day: Injected 50,000,000 "mixed pneumococcus" vaccine. 31st day: Blood index, 1·5. N.B.—On April 28th, 1908, blood index to patient's *B. coli* = 1·6. Therefore, it was not considered necessary to inject *B. coli* vaccine, which, however, was prepared and held in readiness. As the patient's efforts at immunisation against the *B. coli* were entirely successful the administration of coli vaccine was not found necessary at any time. The chief interest in the case to my mind lies in the fact that pneumococci were present in uterine swabbing as well as in sputum, and would seem to indicate a fairly extensive infection, and that the septic uterine discharge and the focus in the lung were part and parcel of the same infection.

The whole sequence of events seem to me (Dr. Batten) to be as follows. Attack of influenza with bronchitis and prostration probably breaking down the patient's resistance to other germs, especially pneumococci. Childbirth further decreasing this resistance and allowing pneumococci to greatly multiply. Probably emboli separating from uterine veins and passing into left lung and either carrying pneumococci there or setting up a condition of infarct in a lung already infected with pneumococci. Thrombus in the left popliteal vein due to the same cause. Almost ordinary course of this left-sided pleuro-pneumonia. Sudden attack due to large emboli blocking large areas in right lung, causing infarcts there with fresh infection by pneumococci on that side, with accompanying critical condition of the patient. Opsonic indices to the two pneumococci found to be 0·55 and 0·49 respectively, proving that lung and uterus were affected by the same pneumococcus. Injection of vaccine of these mixed pneumococci; general improvement in the patient within 48 hours and increase of the opsonic index to 1·43. Further injection of similar vaccine and great further improvement in the patient in 24 hours; opsonic index maintained at 1·30. Still further injection of double dose nine days after with opsonic index

increased to 1·50. Gradual convalescence and complete recovery of patient.

It may be argued that the patient may have had the second pneumonias following the first without any emboli and without any infarcts, but the very sudden attack of dyspnoea initiating the very large and curiously distributed right pneumonias, with existence of similar pneumococci in the womb, point most strongly to emboli. It may be urged also that she might have recovered without the injections and of course that is so, but it is not the opinion of the nurses and of those of us who watched her through it all. I myself believe that the injections helped her to turn the corner, though of course the good food-taking, the strychnine, the oxygen, and the most excellent nursing kept her going.

Dulwich, S.E.

DISAPPEARANCE OF A TUMOUR (? SARCOMA) FOLLOWING INJECTIONS OF COLEY'S FLUID.

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A MARRIED woman, aged 45 years, was admitted to the Metropolitan Hospital on April 23rd, 1908, with a swelling in the right arm, which she had first noticed seven weeks previously, and to which her attention had been drawn by pain and weakness when using it at her occupation.

FIG. 1.

Reproduction of skiagram of right arm on first examination.

On examination a fusiform swelling of regular outline and well defined limits could be felt in connexion with the lower part of the right humerus (Fig. 1). It felt firm throughout.