intervals, ten to fourteen days before the expected date of confinement.

The sensitized vaccine is preferable to the ordinary vaccine because of the absence of reaction and the more rapid immunization.

Appended is a table showing particulars of the cases in this series treated to date. The inclusion of Cases 9, 10, 11, which were all severely ill on admission to hospital, has lowered the recovery-rate in the small series of cases available during the last year.

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TREATMENT OF A UTERINE ABSCESS BY SENSITIZED BACILLI PROTEI.

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THE following case is of interest pathologically since a localized uterine abscess due to the *Bacillus proteus* is comparatively rare, and therapeutically on account of the excellent results which followed use of the double method of applying autogenous bacilli in treatment.

The patient was a married woman aged 55 who complained of a long-continued vaginal discharge of pus. Three years previously she had undergone subtotal hysterectomy for fibroma, an umbilical hernia being replaced at the same time. For six months subsequent to this operation the patient had trouble with her bladder, and then became subject to a vaginal discharge. This was found to be due to escape of pus from the cervix, and though active measures, such as dilatation of the cervix and its washing out and drainage, were long carried out in a hospital, the discharge never ceased.

On November 12th, 1913, the patient presented herself for treatment in Dr. Darier's service at the St. Louis Hospital, and on examination the vagina was found to be full of yellowish, thick, tenacious pus, without marked smell; it was seen to be exuding from the cervix, and a probe passed into the latter led into an abscess cavity a little under $1\frac{1}{2}$ in. in diameter. Some pus withdrawn from this cavity was submitted after microscopic examination to culture, and colonies of pure *B. proteus* resulted.

It was decided to treat the case by the double method described by me at the International Congress in London, 1913, and in order not to obscure the results, to prescribe nothing except prolonged daily vaginal douches. The first part of the treatment consisted in giving, at intervals of three or four days, seven injections of a culture of the bacilli derived from the pus; the doses gradually increased in amount, the first being equal to 100 million bacilli, and the last to 2,000 million. The bacilli were heated to 60° C. for an hour before administration. A very slight local and general reaction followed each injection.

On the eighth day after the last injection of these dead bacilli 20 c.cm. of blood was taken from the patient and used for the preparation of an autogenous vaccine consisting of living bacilli, sensitized by contact with the serum of the patient's blood, which was rich in amboceptor and specific agglutinating properties. At this date a vaginal examination was again made, and the abscess found to be still secreting, though in lessened quantity, pus containing the *B. proteus* in pure culture.

On the tenth day after the last injection of dead bacilli injection of the sensitized autogenous vaccine was commenced, one injection being given weekly for four weeks, and the dose increased from 400 million at the beginning to 1,000 million at the end. Again very slight reactions followed the injections. At the same time the abscess cavity was washed out with a dilute antiseptic solution.

By the time the fourth injection had been given the discharge of pus had entirely ceased, but to render the

cure more secure four further injections were subsequently given. At the date of writing six months have elapsed since the treatment was completed, and the surgeon who originally transferred the case to Dr. Darier's service as being intractable to surgical treatment has admitted it to be cured.

The result in this case falls into line with many other successful cases that I have seen since I first introduced this "double method" of using dead and then living and sensitized micro-organisms in treatment. It is based on the principle of sensitization devised by Professor Besredka, and is most convenient in practice.

EXCISION OF THE BLADDER FOR MALIGNANT DISEASE.

WITH RECORDS OF A CASE OF COMPLETE EXCISION AND SOME CASES OF PARTIAL EXCISION.

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IN operating for the removal of tumours of the bladder, resection of the portion of the bladder wall which is infiltrated by a malignant growth, or complete removal of the bladder, is the only treatment (other than palliative measures) which can be adopted with advantage. Whenever, therefore, a surgeon makes a suprapubic examination of the bladder in cases in which a growth is seen with the cystoscope, or suspected to be present from the symptoms, he must be prepared to excise the portion of the bladder wall on which it is growing if it is infiltrating the wall. The following cases may, therefore, prove of interest to the general surgeon. I will first record them, and then make some remarks on the operative procedure.

CASE I.—Complete Excision of the Bladder for Extensive Epithelioma.

I was asked to see H. J. P., aged 59, early in November, 1913, in one of the medical wards of the General Hospital, where he had been for several weeks. He had been passing urine every hour night and day with much difficulty, and with pain either at the end of the penis or above the pubes. There had been a deposit of pus and blood in his urine, and usually an evening rise of temperature to 100°. He said that the first trouble he had with micturition was two years before I saw him, when he had had to have a catheter passed for retention, and that he had had retention several times since, and on one occasion since admission. The history pointed to enlarged prostate with cystitis. A No. 10 soft, bulbous-ended catheter passed easily, and withdrew one ounce. On rectal examination he seemed to have an enormous prostate. I could not reach behind it, but it felt smooth and not very hard. I decided to remove it, after the bladder had been washed out for a short time.

Exploratory Operation.

On March 14th, I opened the bladder above the pubes, and found almost the entire wall infiltrated by an ulcerating growth. Only a narrow strip of healthy bladder wall remained on the left lateral wall and the left side of the base. The cavity of the bladder was much reduced in size by the growth, which was of considerable thickness. It was evident that it was the malignant infiltration of its wall at the base which I had mistaken for an enlarged prostate. Clearly the only radical operation that could be done was complete excision. A large drainage tube was left in the bladder. The risk of complete excision was explained to the patient, and the need for a preliminary operation to establish urinary fistulae, and he wished that the excision should be undertaken.

Ureterostomy.

The bladder was kept empty by means of Cathcart's apparatus and washed out daily, and pyrexia ceased. On March 28th I brought both ureters out on the loin and fixed them to the skin. I made the usual loin incision to reach the kidney, and divided the ureters as low down as I could; I tied the distal ends with catgut and brought the proximal ends out on to the loin. Into the divided end of each ureter I passed a No. 1 bulbous-ended catheter, and tied the end of the ureter on to the