The further progress of the case was uneventful. There was no recurrence of twitchings or of any unfavorable symptom, and the remaining edema rapidly disappeared. During the four or five days immediately following delivery a perfect deluge of urine, loaded with casts of all kinds and containing albumin in quantities varying between 0.05 and 0.6%, came down from the kidneys. The urine, mixed with blood and the lochial discharges, was not in favorable condition for satisfactory examination. Much of the urine also was lost with the fecal discharges which were abundant and frequent for some days. The exact daily amount of urine, therefore, could not be determined with anything like precision. Three days after operation, from Jan. 5 to 6, the amount of urine voided in twenty-four hours, as estimated by the nurse, was not less than 6,800 cc. One uncontaminated specimen of no less than 1,680 cc., obtained at a single catheterization on Jan. 6, was submitted to careful analysis with the following result: Specific gravity, 1.016; total solids in this one voiding, 62.63 gm.; urea, 1.3%; total urea, in one voiding, 21.84 gm.; albumin, 0.6%; numerous hyaline, epithelial, fine and coarse granular casts, many of the latter with fat droplets; a few waxy, epithelial, blood and mixed casts; numerous isolated red blood cells; moderately frequent leucocytes. Numerous renal cells.

The output of solids and of urea during the first days after operation was simply enormous. Presuming that the specific gravity and the urea per cent above noted for a single voiding apply to the entire quantity estimated to have been passed during the third day after operation, we have an output for the third twenty-four hours after operation of no less than 253.5 gm. of solids and of 88.4 gm. of urea. By the end of a week after operation the daily excretion of solids and urea had gradually returned to about the normal. Owing to the presence of the lochial discharges, and to unwillingness to draw all of the urine by catheter, a full and valid twenty-four-hour specimen of urine was not obtained for examination until Jan. 14. Prior examinations of single voidings obtained by catheter showed a steady diminution from day to day of the amount of albumin and of the number and variety of casts. Examination of a full twenty-four-hour specimen, made Jan. 14, 1904, gave the following result: Total quantity of urine, 5,000 cc.; specific gravity, 1.011; total solids, 128.15 gm.; urea, 0.3%; total urea, 15 gm.; albumin, a marked trace; sugar, none; casts: occasional hyaline and granular, rarely a waxy; red and white cells, due to contamination with lochia.

On Jan. 31, 1904, the total amount of urine was 1,700 cc.; specific gravity, 1.015; total solids, 59.42 gm.; total urea, 11.9 gm.; albumin, a faint trace; rarely a hyaline cast; a few mucous cylindroids; no renal elements; still some lochial cells. An examination, made April 9, 1904, showed the urine to be practically normal; no albumin, no casts, a few mucous cylindroids, no renal elements.

The progress of improvement in the patient's general condition kept pace with that of the urine. At no time after delivery was there any cause for anxiety. The puerperium ran a normal course. Both lumbar incisions healed by primary union throughout, in spite of much unavoidable disturbance of the dressings during labor and immediately afterward. Three weeks after operation the patient left her bed and a week later resumed her duties in life.

Last report, May 14, 1904, four and a half months after operation. Patient has nursed her child continuously from its birth to date of report. Mother and child are enjoying most excellent health; the

child weighs 9½ kg. Examination of the mother's urine gives the following results: Total quantity voided in twenty-four hours, 1,950 cc.; specific gravity, 1.012; total solids, 54.52 gm.; total urea, 21.45 gm.; no albumin; an occasional hyaline cast.

The case just narrated speaks for itself. Further comment appears unnecessary, and further valid deductions cannot be drawn from a single case. One fact stands forth prominently as absolutely proven and firmly established by the case, namely, that renal decapsulation can arrest the progress of uremia and of puerperal convulsions of renal origin in the *undelivered woman*. The deduction is self-evident. The production of abortion and the induction of premature labor, with all that those procedures imply for mother and child, need not henceforth be our only ultimate resources in the treatment of puerperal eclampsia.

A CASE OF TUBERCULOUS CONTAGION.

BY SARAH ELLEN PALMER, M.D., BOSTON,

Surgeon to the New England Hospital for Women and Children; Assistant Surgeon to the Women's Charity Club Hospital; Physician and Surgeon to the Pope Dispensary.

A. N., single; thirty-five. Came to my office in November of 1901, complaining of an uneasiness in the left axilla. I found the axillary glands slightly enlarged, and a faint line of redness and tenderness extending from a small abrasion on the wrist to be lost in the glands. The glands increased steadily in size, and at the instance of her family she consulted Dr. William Osler of Baltimore. He agreed with me that extirpation of the glands was the only treatment indicated, and early in February, I dissected out the axillary space. The more superficial glands, owing to the long delay, were about to break down and the deeper lymphatics were much engorged. Pathological report showed the glands to be tuberculous. Neither at the time nor subsequently has the patient shown evidence of general infection, and we are ready to hope that the tuberculous condition was limited to local manifestation. Investigation showed that my patient employed as maid a poor girl who had tuberculous glands in the neck which were suppurating. The wound was dressed daily, no special care being taken. This was the only direct exposure known.

After talking to Dr. Theobald Smith, I am confirmed in my idea that contagion is possible in just such a case as this reported, and that an unusual strain of bacteria might, though rarely, exist in a suppurating, tuberculous gland and thus communicate tuberculosis to others.

Dr. Osler of Baltimore, in a recent article on "Home Treatment of Tuberculosis," gives details of a plan in the city to investigate by house to house visits of trained workers the homes of the poor. They teach methods of precaution where tuberculosis is found in the family. Dr. John Russell of New York, in his School for Consumptives at the Post-Graduate Clinic of that city, has a plan of instructing the sick which is detailed in the reports of that Institution. In other cities the subject of prevention is agitated, as by the Society for the Relief and Control of Tuberculosis in Boston. It is, I believe, to the destruction of the sputa that attention is paid

most especially. In this instance reported, one of the most prominent physicians of Boston assured my patient that there was no danger to the other members of the family, although he knew the suppurating glands to be tuberculous. The belief in immunity from such a condition is evidently prevalent, because I am sure that infection from suppurating glands is rare. It is in the hope of adding an especial caution to the teachers of preventive methods, that this case is offered.

Medical Progress.

THE PROGRESS OF SURGERY.

BY HERBERT L. BURRILL, M.D., AND HAYWARD W. CUSHING, M.D.

(Concluded from No. 21, p. 570.)

TREATMENT OF EMBOLISM OF THE LIMBS BY IMMEDIATE AND PROLONGED MASSAGE.

M. PIERRE MERKLEN²⁵ has recently called attention to the treatment of embolism of the arteries of the limbs by massage, a method suggested to him by Prof. Paul Berger who thus successfully treated embolism of the posterior tibial artery. When an artery is obliterated by an embolus a proximal clot forms and extends as far as the nearest branch given off by the artery; a distal clot also forms which is more extensive. If it extends very far it helps to prevent the establishment of the collateral circulation. Hence the indication is to break up the embolus or to drive it towards the periphery and to prevent the formation of the secondary clots. This result may be achieved spontaneously. M. Merklen related the case of a man suffering from mitral regurgitation which had existed for twenty-two years. He was suddenly seized with severe pain in one of the lower limbs which became cold and anesthetic up to a distance of several centimeters above the knee. The pulsations of the dorsalis pedis artery were absent but those of the femoral artery were retained. For nearly two hours M. Merklen and a colleague, relieving one another so as to avoid interruption of the process, practiced energetic petrissage of the femoral, popliteal and posterior tibia arteries until the patient declared that he was relieved. The limb was then wrapped up in cotton-wool. On the following day the relief had remained permanent and heat and sensibility had returned to the limb. The circulation evidently was re-established, although there were numbness and formication and the pulsation of the dorsalis pedis could not be felt until several months later. The patient regained complete power in the limb. Probably the massage acted by breaking up as well as by moving the embolus which was driven towards the periphery to a point where arterial obstruction did not, thanks to the collateral circulation, interfere with the nutrition of the limb.

²⁵ Lancet, Nov. 28, 1903.

TREATMENT OF FACIAL PARALYSIS BY NERVE TRANSPLANTATION.

Dr. Hackenbruch,²⁶ Wiesbaden, reported the results of an implantation operation in which he had united the spinal accessory nerve into the facial. The patient was a girl, eight years of age, in whom facial paralysis had existed for seven and three-fourths years. He implanted two thirds of the spinal accessory nerve into a cleft in the facial. Improvement was noticed at the end of four and one-half months. After a period of nine months the angle of the mouth could be voluntarily drawn outward. He also reported a subsequent case in which he had implanted, on account of infantile spinal paralysis, one third of the tibial nerve into the paralyzed peroneus nerve. At the end of three months there was some improvement. This was particularly noticed as regards position of the foot. An additional case was reported by Körte, Berlin, who showed a patient in whom, one and one-half years before, he performed an anastomosis between the facial nerve and the hypoglossal. The result showed that the muscles of the cheek and the angle of the mouth were distinctly mobile. The orbicularis oculi could be moved feebly while the frontal muscles were without motion. It was stated that the accessory nerve was a better nerve to graft than the hypoglossal. Dollinger, Budapest, called attention to the danger of dividing the accessory nerve before it passes through the sternomastoid muscle causing an incurable paralysis and atrophy of that muscle. He recommends making the division of the nerve as distal as possible and then turning it upward to unite it with the facial.

REPLACEMENT OF THE RADIAL DIAPHYSIS BY IVORY.

K. Vogel,²⁷ Bonn, claims to have successfully replaced the diaphysis of the radius in a case of traumatic necrosis of that bone. The patient, a little girl, was injured by a fall. The diaphysis as a sequestrum was removed subperiosteally and was replaced by an ivory rod which was fitted into the epiphysis at either end. The result is stated as quite satisfactory. The child uses the hand as before and plays like other children. Pronation and supination are somewhat restricted. The other motions of the hand are normal. Radiographic examination after one year showed considerable proliferation from the periosteum and from the epiphyses. The slight functional disturbance had then entirely subsided. The author considers that the experience has thus been found a success.

THE SEMI-LUNAR CARTILAGES OF THE KNEE.

F. F. Burghard, in an interesting article,²⁸ while discussing the modern treatment of several injuries thus speaks of the dislocation of the semilunar cartilages in the knee. The symptoms occur when the cartilage is bruised, torn, free, or

²⁶ German Surgical Congress, 1903.

²⁷ Deutsche med. Wochenschrift, B. xxix, Heft 46.

²⁸ Lancet, Dec. 19, 1903, p. 1703.