at the bladder in this way. Of these three the first is the simplest and much the least severe operation. I tried this operation several times on the cadaver but found it exceedingly difficult to reach the vesicles by this method. I looked up some works on genito-urinary surgery to see what advice they gave as to the removal of tuberculous seminal vesicles. The information they contained was not altogether encouraging. Watson Cheyne says: "Some surgeons have performed elaborate operations for the removal of tubercular seminal vesicles before suppuration has taken place. It is doubtful, however, whether an operation of this kind should ever be performed as it must be very extensive and the affection is usually secondary and therefore does not warrant it." Lydston says: "Any of the radical operations performed on the prostate and seminal vesicles for malignant or tubercular disease are, in the author's opinion, absolutely unjustifiable. The operator displays brilliancy of technic and boldness of surgical enterprise, but no other ends are conserved." Taylor says: "In the vast majority of cases, operative treatment is not to be thought of, unless suppuration has occurred in the sac, when its contents must be evacuated through a perineal incision, the cavity cleaned and packed with iodoform gauze. These patients should be sent to a suitable climate and receive the regular treatment for tuberculous subjects."

In spite of these remarks I still felt that an attempt should be made to remove the disease from my patient. I decided to follow the steps of Young's operation for perineal prostatectomy, hoping by the use of his tractor to bring the vesicles well within reach. I do not intend to describe the steps of the operation, as this was admirably done by Dr. C. A. K. Ball at this Academy last session, a full account of which appears in last year's Transactions. The two dangers I feared were that in separating the adherent seminal vesicle from the bladder I might injure the ureter, the other that the veins surrounding the vesicles and prostate might cause dangerous hæmorrhage. As a precaution against the second I gave the patient drachm doses of chloride of calcium night and morning for three days before the operation. Whether this had any effect or not I cannot say, but the amount of blood lost during the operation was very slight. I removed the testicle and as much of the cord as I could from the front; then closing the inguinal wound I removed through the perineum the ends of both vasa deferentia, vesiculæ seminales, and the prostate. I had no great difficulty in separating the upper part of the right vesicle from the ureter, but the portion near the prostate was firmly attached to the bladder wall; either I used too much force with the tractor or had gone too deeply, for the blade of the instrument perforated the bladder wall where the vesicle had been attached to it. I made no attempt to close this opening but passed into the bladder two No. 12 catheters, one through the urethra and the second through the perineal wound and packed firmly round this perineal drain with iodoform gauze. The gauze plugs were removed on the second day, the perineal tube on the fourth day, and the urethral catheter on the seventh day. On the eighth day the patient was allowed up; he had then no difficulty in passing urine, had perfect control over the bladder, and there was no leakage from the perineal wound. On two occasions later some slight leakage occurred from this wound but did not last for more than a day and since then the wound has kept dry and has healed well.

Six months later I examined this patient. His bladder was quite healthy and the wound at the side of the trigone was firmly healed; the urine was normal. No return of the disease could be felt by the rectum. His general health was good; he had put on over a stone in weight since the operation. I hope that this case is cured.

CASE 6.—In August, 1905, another case of the same kind came under my care, with the exception that the patient was younger, only 19 years old, and that the one testicle was removed about a year before the disease appeared in the second. The cases were almost the same and I will not weary you with what would be almost a repetition of the one I have just described to you. The vesicles were not adherent to the same extent and came away without any injury to the bladder wall. The perineal wound was slower in closing. The boy was up on the eighth day and had perfect control of his bladder from this time onwards, yet for nearly a month there was a slight leakage of urine through the perineal wound every time he micturated. By the end of September he was able to resume his work and

has since kept quite well and is putting on weight. It is much too soon to say there will be no recurrence of the disease in this case but his condition leads me to hope that he also is cured. The entire operation did not exceed in either case 45 minutes. This time included the removal of the testicle and cord by an inguinal incision and the prostate and vesicles by the perineal. There was no shock in either case but each patient received a saline transfusion before he left the operating table.

In conclusion let me recall to you a few important points. 1. That infection may readily pass along a normal vas to the vesicle or prostate; the fact that the vas above a diseased testis feels healthy is no proof that the tubercle has not extended to the vesicles. 2. That when both testicles and seminal vesicles are infected radical treatment alone is likely to be followed by success. 3. That where the disease is confined to the seminal tract it can be completely removed and that without any great risk to the patient. 4. That in all probability the patient is functionally no worse after such an operation than he is after a partial operation on both testes.

My thanks are due to Mr. T. E. Gordon who assisted me at the first operation and to Mr. F. T. Heuston who helped me at the second and also to Professor A. F. Dixon for much help and advice in the anatomy of the seminal region.

Dublin.

A CASE OF ACUTE YELLOW ATROPHY OF THE LIVER.

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THE patient whose illness is now described was a Pathan recruit of the 51st Sikhs frontier force and was admitted into the regimental hospital at Fort Lockhart on March 22nd, 1906, for "jaundice." He was a strong, healthy-looking man, aged 18 years, and had never been in hospital before. He did not come of his own accord to hospital but he was noticed to be jaundiced when a medical inspection of a company of Pathans was being held and accordingly was sent to hospital. He had come up to the fort on the preceding day from Hangoo, a small post 15 miles away, and stated that he had been of a yellow colour for two days. His condition on admission was as follows. He had marked jaundice, his conjunctivæ were yellow, and his skin was of a saffron yellow tint. His urine contained a considerable quantity of bile but no albumin. His fæces were quite white. His pulse-rate was not slow, being 80, quite regular, and of good volume. His temperature was normal. An examination of the chest revealed nothing abnormal. Liver dulness commenced at the upper border of the sixth rib in front on the right side and in the back the tenth and eleventh spaces were dull. In the axillary line dulness extended up to the eighth rib. The liver and spleen could not be felt by abdominal palpation. The tongue was clean and the appetite was fair. He did not complain of anything except that he felt a little weak and that he had a certain amount of pain and discomfort in the epigastric region. It was thought to be an ordinary case of catarrhal jaundice. He was ordered a purge of calomel, followed by magnesium sulphate in the morning and a mixture containing 10 grains each of bismuth subnitrate and sodium bicarbonate three times daily.

The following notes were made during the progress of the case. "March 24th.—Patient is in much the same condition; he does not complain of any special discomfort. Jaundice is somewhat increased. Two grains of calomel were ordered to be taken nightly. April 2nd.—Nothing of note happened till this date when his temperature rose to 103.6° F. in the evening. During the last few days he has been rather restless and disinclined to move. His pulse-rate for the week has averaged 68 and his temperature has been quite normal. His appetite has been fair. April 3rd.—His temperature this morning was 100° and his pulse-rate was 88. Ten grains of quinine were ordered thrice daily. April 4th.—His temperature after rising to 103° in the evening became normal this morning. He appears much weaker to-day. Neither the spleen nor liver is enlarged and both appear normal in size. He is now extremely

jaundiced, the tears and saliva are tinged with bile, and the mucous membranes and tongue have a yellow tinge. The tongue is slightly furred. There is slight tenderness on pressure in the epigastric region. The bowels have been open once daily since admission, the motions being quite white. April 6th.—There has been no more fever but patient is in a lethargic condition. He will not trouble to answer questions, objects to taking medicine, and is very irritable. His pulse-rate is somewhat higher, averaging 80. He has been put on a milk and farinaceous diet. April 7th.—He is bleeding slightly from the gums to-day but the latter look normal and are not spongy. Lime-juice in doses of two ounces daily was ordered. April 8th.—Patient is in much the same condition. The skin itches considerably, especially over the chest and back. There are patches of erythema on his chest. Yesterday and to-day there has been slight diarrhoea, yesterday six motions and to-day three. The nightly dose of calomel is stopped. April 10th.—Patient is delirious to-day. He is dirty, passing urine and and fæces in his bed. He sometimes stands upon his bed and urinates on the floor. He is very noisy at times and strongly objects to taking any medicine. He was singing during the night. Tongue dirty and covered with thick fur. His face has become sunken and he has vomited twice. The vomit is tinged with bile. His skin over the chest and back is peeling in large flakes and is apparently itching greatly, as he is continually scratching himself. The pulse-rate is sometimes now as high as 90. The diarrhoea has ceased. A mixture containing five minims of liquor strychninæ and ten grains of ammonium chloride was ordered thrice daily. April 11th.—Patient was more quiet during the night as he had been given a sleeping draught consisting of 20 grains each of chloral and potassium bromide. He is talking coherently this morning but has again passed urine on the floor. April 12th.—Patient not so noisy to-day. He has not again soiled his bed but has passed urine on the floor. April 13th.—The urine was examined again to-day. It has a specific gravity of 1020 and an acid reaction. It contains much bile and traces of albumin. Microscopically it contains a few granular casts, a few blood corpuscles, and some crystals of leucin. The liver dulness to-day is much diminished in area. In front dulness commences on the right side of the chest along the costal margin, that is to say, at the level of the lower border of the eighth rib. The sixth and seventh spaces are resonant; the eighth and ninth spaces are dull. There is no dulness below the costal margin, nor can the liver be felt. In the right axilla there is dulness in the ninth, tenth, and eleventh spaces and behind on the right side in the eleventh space. The spleen is not enlarged. Hæmorrhage from the gums still continues but there is no vomiting now. Patient is more sensible to-day but he is restless and very weak. Pulse feeble and rapid, its rate being 120. There is distinct tenderness on pressure over the left lobe of the liver in the epigastric region. April 14th.—The patient is more delirious to-day. He is passing urine in his bed. Last night he had a small rise of temperature to 99.4° . In the front of the chest the liver dulness has practically disappeared. There is only impaired resonance along the border of the ninth rib in front. The pulse-rate is 112. April 15th.—Patient is in a semi-comatose condition to-day. He is lying on his back with his eyes shut and occasionally murmurs. He cannot be roused. He is constantly expectorating in all directions. His pulse-rate is 134. He will not take any nourishment and has to be forcibly fed with milk. To-day there is some slight dulness in the sixth right space in front. The chest below this is resonant. His urine contained a trace of albumin. On evaporating some urine a few tyrosin crystals were found and leucin crystals as before. His head was shaved and cold compresses were applied. April 16th.—Patient was completely comatose to-day. His breathing was very shallow and his pulse feeble and rapid with a rate between 130 and 140. In the morning he was thought by the sick attendants to be dead. Both respirations and pulse became feebler and he died from exhaustion at mid-day." A post-mortem examination was asked for but was refused by his relatives.

I have no doubt that this was a typical case of acute yellow atrophy of the liver but until the mental symptoms became marked and vomiting occurred I thought that it was a severe case of catarrhal jaundice. When the patient became delirious and vomiting and bleeding from the gums occurred it was evident that a simple jaundice could not account for all these symptoms. When it was found that the liver dulness which had previously been normal was greatly

diminished and that leucin crystals appeared in the urine there seemed little doubt of the diagnosis. I had no means at hand to determine the amount of urea in the urine and so I cannot say whether it was diminished or not. No tyrosin crystals were seen in the urine until the day before his death; the leucin crystals were, however, fairly numerous. Osler states that the total number of recorded cases is 240. About 70 per cent. of these have been women, so it appears to be a disease of extreme rarity in men. I could obtain no information as to the causation. Previously to this illness the man was perfectly healthy, there were no signs of syphilis, and being a Mahomedan he had probably never touched alcohol. The liver must have been greatly diminished in size, as it was only with very light percussion that even impaired resonance could be obtained over the hepatic area at the end of his illness. There was no great tendency to hæmorrhage; the only one that occurred was from the gums. No enlargement of the spleen was found, although this is generally stated to be the case. The jaundice was most intense but it did not show any tendency to increase with the advent of head symptoms; on the contrary, it appeared to be somewhat diminished towards the end. A peculiarity of the jaundice was that both the tears and saliva were tinged with bile. I much regret that no post-mortem examination could be held, as every case of this rare disease is worth recording.

Fort Lockhart, Samana, India.

ON DEEP ALCOHOL INJECTIONS IN FACIAL AND OTHER NEURALGIAS AND IN HISTRIONIC SPASM.

By DR. F. OSTWALT.

FOR some years past I have made a special study of the treatment of facial neuralgia. My aim has been to find a therapeutic method by which a serious surgical operation might be avoided, even in very rebellious and chronic cases of tic douloureux, the uncertainty of the final result being too great to warrant such dangerous operations as those recommended in such cases. In some not too severe cases of supraorbital neuralgia I succeeded in relieving the patients by giving them once or twice daily, during a couple of weeks, local baths, lasting half an hour each, of superheated dry air by means of a special apparatus called by me "Thermaërophore."¹ It was not until 1904 that I was put in possession of a method giving entirely satisfactory results in more than 90 per cent. of all cases. The principle of the method alluded to depends in the main on the injection of nerve-destroying substances upon the nerve trunk, a treatment suggested for the first time in 1887 by Pitres and Vaillard and practically applied, since three or four years only, by Schlösser. I believe that I have improved upon this method in some essential points. We are now enabled to reach by our injections not only the third but also the second and first branches of the fifth nerve at the very point where they emerge from the apertures at the base of the skull. Consequently, the number of cases to be cured by these deep injections has considerably increased. The addition of cocaine or stovaine to the alcohol seems also to be a slight improvement.

I now proceed in the following way. Let us suppose that we have to deal with what I believe is the most frequent condition in Fothergill's disease, neuralgia of the second and third divisions of the fifth nerve. I screw my bayonet-shaped needle on a syringe filled with about a fluid drachm of alcohol at 80 per cent., mixed with a sixth of a grain of cocaine or stovaine. After having previously disinfected the mouth and cocainised the mucous membrane at the point of the puncture I introduce my needle directly behind the alveolus of the wisdom tooth into the mucous membrane of the upper fornix of the vestibule of the affected side of the mouth and pass it through the, here rather thick, submucous tissue. I then push the needle through the external pterygoid muscle or around its lower border until it touches the external pterygoid plate. Then I move the needle in the zygomatic fossa slowly and carefully upwards along the external pterygoid plate until it comes in contact with the

¹ Annales d'Oculistique, vol. cxxxiii., p. 197.