the aditus. As soon as the antrum was opened a minute plug of gauze was inserted into the aditus to prevent blood or minute fragments of bone entering the tympanum during the subsequent stages of the operation. By proceeding in this way the tympanic cavity was not disturbed, and thus a considerable amount of trauma was avoided, and the risks of sepsis reduced. The prominence of the external semicircular canal was now distinctly seen in the depths of the wound and an opening made into it with a very narrow gouge. This is the most critical step of the operation and should be done slowly, with good

Drawing Illustrating the Operation: A, Arrow passing through aditus; B, Opening in external semicircular canal; C, Facial nerve; D, Bridge forming outer wall of aditus; E, Foramen ovale; F, Foramen rotundum.

illumination and a dry field. The facial nerve lies immediately below and in front (see drawing), so that the gouge must be very carefully applied in the first stroke of the mallet, as then the prominence of the canal is easily discernible and the landmarks undisturbed. The lumen of the canal is very small—about one-twenty-fifth of an inch—and lies very close to the surface. In order to make sure of striking it only very small scales of bone should be removed at a time and a strict adhesion to the original starting point observed.

When the canal was entered the opening was enlarged forwards and the conjoined ampullae of the external and superior canals opened up. A sufficient access to the vestibule was thus obtained to allow the introduction of the end of a piece of fine steel wire with which the membranous labyrinth was "pithed."

This method of destroying the labyrinth is, so far as I know, original, and was adopted as the one involving the simplest operative technique and the minimum of trauma. It presented less danger to the facial nerve than the usual superior vestibulotomy, and yet at the same time offered a very certain way of destroying the labyrinthine functions, for, even assuming that minute parts of the membranous labyrinth escaped direct destruction by the end of the wire, it is not to be supposed that such highly specialized sense organs could long survive the replacement of their normal endolymph medium by organizing blood clot.

The operation was concluded by stitching the pinna in position, and a small drainage tube was inserted into the lower end of the wound. The tube was removed in twenty-four hours, and healing occurred by first intention.

Subsequently to the operation the patient exhibited the typical clinical picture which results from traumatic destruction of the labyrinth. Vertigo was severe at first, and was accompanied by subjective sensations of rotation, photophobia, and defective accommodation. Nystagmus was marked to the right side, with a tendency to fall to the left side. He was able to sit up in bed in a week, and in fourteen days could walk about the room with support. The hearing on the left side was entirely absent and the tinnitus was greatly reduced. There was no reaction to the caloric test on the operated side, prolonged syringing with cold water producing no response. As time went on the vertigo and nystagmus steadily diminished, and the sense of balance became restored. Within three months of the operation he was able to do light work, but was obliged to avoid anything causing head congestion, such as stooping or lifting, which produced vertigo.

At the time of writing it is nearly a year and a half since the operation. The patient states that during the whole of this time he has never once vomited, nor had any return whatsoever of the old attacks of dizziness. His balance has so far improved that he can cycle with ease, while the tinnitus in the operated ear is much subdued. It is felt that sufficient time has now elapsed since the operation to justify the view that the patient is permanently cured of the Ménière attacks and that the operation has been entirely successful.

A CASE OF ACUTE YELLOW ATROPHY.

BY

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In view of the rarity of this disease in men, apart from those cases in which it follows the intravenous injection of arsenical compounds or trinitrotoluene poisoning, the following case, for permission to publish which I am indebted to Fleet Surgeon P. H. M. Star, R.N., seems worth putting on record:

C. H. S., aged 20, a stoker from a destroyer, was admitted to the Royal Naval Hospital, South Queensferry, on July 26th, 1918. There was no history of syphilis or other serious disease since he joined the service. In the latter part of May, 1918, he began to have pain in the left hypochondrium, which lasted until he came under observation. On June 27th he reported sick, complaining of abdominal pain, of passing very little urine, and of having passed blood in the urine on June 23rd. The urine had a specific gravity of 1030, but contained no albumin and no blood. On June 29th he returned to duty.

On July 2nd he reported sick again and was found to have influenza (which was then prevalent) and was noticed to be jaundiced. The influenza soon subsided but the jaundice remained. On July 9th he had pain in the right hypochondrium with dullness for two inches from the right costal margin towards the umbilicus, and tenderness on pressure over the region of the gall bladder. He vomited on this day, and on July 12th. He had been on full diet, but was now put on a milk diet with sodium bicarbonate, and given a mixture containing sodium salicylate and sodium bicarbonate.

On July 18th the jaundice appeared to be fading and he was allowed up, but on July 20th he was not so well, vomiting again and being more depressed. The sodium salicylate was discontinued and he was given grey powder and an acid mixture containing tincture of nuxvomica.

On July 25th he had an epileptiform seizure and was semi-conscious for some time afterwards. He became drowsy and was sometimes delirious. The jaundice was deepening, he had incontinence of urine, and the bowels were not open. The abdomen was flaccid and not tender.

When admitted to hospital, in the afternoon of July 26th, his temperature was 98.2°, pulse 92, and respirations 17. He was deeply jaundiced, semi-conscious, and though he could be roused he could not be made to speak. The first sound of the heart was short and sharp, but otherwise nothing abnormal was found in heart or lungs. The liver dullness in the nipple line extended only from the sixth to the seventh rib. The abdomen was otherwise natural. There were a few small petechial haemorrhages on the arms.

The urine was acid; sp. gr. 1026. It contained a trace of albumin, a large amount of bile pigment, but no blood or sugar. The deposit contained many cellular and granular tube casts and some sheaves of needle-like crystals which resembled those of tyrosin. On evaporation unmistakable leucin cones were seen. At 8 p.m. he was still unconscious and could not be roused. The pupils were dilated, equal, and inactive; there was an external squint. He lay on his back making chewing and biting movements with his jaws and uttering at intervals a cry like the "meningeal cry" of children. He resisted attempts to feed him. At 8.30 p.m. lumbar puncture was performed. The fluid was under increased pressure and a test tube full was removed before the normal rate of flow was established. The fluid was clear and straw-coloured; no cells could be found in it. He was much quieter for an hour after the lumbar puncture, breathing regularly and quietly and appearing to be asleep. During the night, however, at intervals, he made gasping motions with the jaws and uttered the same peculiar cry. The pulse-rate varied from 96 to 136, but the volume and tension were quite good.

At noon on July 27th, when the nasal tube was passed, he vomited a few ounces of fluid, nearly black, and containing some red blood. He had been given *mistura alba* at 11 a.m., and at 1 p.m. the bowels were opened for the first time since admission. The stool was small, formed and brownish-grey. There was no smell suggestive of phosphorus poisoning. At 5 p.m. he was still unconscious, sweating profusely, and a good deal of mucus could be heard in the air passages. The temperature and pulse and respiration rates began to rise about this time. At 8 p.m., when the nasal tube was passed, he vomited 2 oz. of brown treacly fluid with a few streaks of blood. Temperature and pulse and respiration rates continued to rise during the night, reaching 103°, 136, and 44 respectively at 5 a.m. on July 28th.

He died at 6.30 a.m. on July 28th, after an illness lasting about nine weeks in all, and about twenty-four days from the onset of jaundice. Treatment had consisted chiefly of rectal salines and nasal feeding.

He passed only about eighteen ounces of urine during the forty hours he was in the hospital. He never vomited except when the nasal tube was passed. It is regretted that a Wassermann reaction was not done nor a blood culture made.

Post-mortem Examination.

The skin was jaundiced and showed hypostatic *post-mortem* staining.

Both lungs were congested and oedematous. The right lung

was firmly adherent to the pleura over most of its outer surface; base nearly airless. No evidence of tuberculosis at apices. The heart was normal.

The liver was very small and flabby; weight 24½ oz. Capsule wrinkled; greenish discoloration on part of upper surface. Cut firmly; the cut surface showed scattered areas of orange-yellow colour, and yellow mottling all over. The gall bladder contained about two drachms of thick bile-stained mucus; no stones.

The stomach contained about one ounce of black grumous material like altered blood and a good deal of tenacious mucus. There was an area of submucous petechial haemorrhages on the lesser curvature, but no evidence of corrosion of the mucous membrane.

Intestines: Haemorrhages beneath the peritoneal coat, especially in the pelvic colon. Scattered petechial haemorrhages in mucous membrane. No evidence of corrosion. Contained black semi-fluid material like altered blood. The pancreas appeared normal. One mesenteric gland was calcareous. Spleen somewhat enlarged and soft.

Both kidneys were rather large and bile stained, with yellow streaks in cortex and pyramids.

The meninges were bile stained, but the brain appeared normal, with no visible haemorrhages, either on the surface or on section.

Microscopical Examination.

Sections of the liver and kidney, kindly made for me by Mr. C. Y. Wang of the laboratory of the Royal College of Physicians of Edinburgh, were sent subsequently to Professor F. W. Andrewes, who made the following remarks upon them:

"The liver shows no sign of pre-existing disease such as cirrhosis or syphilis. The degeneration is very advanced but not quite complete everywhere. The only sign of attempted regeneration I can see is that a few of the surviving liver cells are large and fairly well stained, as if they might have been the starting point for regeneration if the patient had lived. The whole thing is typical of acute atrophy. If the kidney had been stained with Sudan III you would probably have found intense fatty changes. There is a little congestion, but no sign of a true nephritis. The epithelium of the convoluted tubules is in that state of acute toxic degeneration which is usually seen in acute yellow atrophy of the liver."

Miller and Hayes¹ have reported a case of acute yellow atrophy also associated with influenza, but in a different way.

A girl of 19 who had had a secondary syphilitic rash in November, 1907, had influenza in February, 1908. On April 11th, having completely recovered from influenza, she had slight jaundice which steadily deepened. On April 21st the urine was very dark coloured. On April 22nd she began to have uncontrollable vomiting. On the following day she suddenly became violently delirious, and, in a few minutes, semi-conscious. She never regained consciousness, and died on April 26th after an illness lasting fifteen days.

Before death the temperature, which had been subnormal, rose to 102°. *Post mortem*, the liver weighed only 25 oz. and presented the appearances usual in this disease. The lungs showed recent adhesions at bases and active tuberculosis at apices.

In this case the influenza preceded the jaundice with a clear interval between them of over a month, whereas* in mine there were abdominal symptoms for over a month before the onset of the influenza, which appears to have coincided roughly with that of the jaundice. Miller and Hayes refer to three previously recorded cases of acute yellow atrophy after influenza, and in discussing the relation between the two diseases conclude that it is impossible to say with certainty whether the influenza infection furnished the toxin which caused the acute yellow atrophy, or whether it merely acted as a disposing factor, preparing the way for a more virulent poison.

It may be pointed out that the extreme rarity of acute yellow atrophy, and the frequency of influenza, militate strongly against the view that uncomplicated influenza is prone to attack the liver so severely as to cause acute yellow atrophy; there has not been any obvious increase in the number of cases of acute yellow atrophy in connexion with the recent pandemic of influenza.

In favour of the alternative hypothesis that influenza opens the door to more virulent infections which may cause acute yellow atrophy, it may be pointed out that during the recent pandemic there were numerous cases of secondary streptococcal infection, especially empyema. It is possible, though in the absence of a blood culture there is no proof, that a secondary streptococcal, or mixed, infection occurred in my case.

REFERENCE.

¹ *Journal of Pathology and Bacteriology*, vol. xiii, 1908-9, p. 53.

THE CURATIVE EFFECTS OF KHARSIVAN AND NEO-KHARSIVAN IN DISEASES OTHER THAN SYPHILIS.

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THE wonderful improvement seen in the general health of those who have had a course of salvarsan or its compounds for syphilis being an established fact, I was led to use the remedy in other intractable and chronic disorders of the skin, such as lupus, syphilis, and constitutional eczema.

CASE I.—Tuberculous Skin Ulcers.

A commercial traveller, aged 52, suffering from tuberculous ulcers of the right arm, stated that he had always been healthy, and gave no history of tuberculosis in himself or any member of the family, nor of syphilis.

Twelve months later inflammatory growths, eight in all, circular in outline and raised from the surface, appeared on the right forearm gradually in the course of six months. They ended as irregular ragged ulcers which proved intractable to all methods of treatment.

On June 1st, 1918, the patient first applied at the Liverpool Skin Hospital. The ulcers had then assumed a chronic tuberculous appearance; they were of a violet hue, and granulomatous in character, varying in size and having a tendency to spread.

Kromayer's lamp and x rays were employed on July 2nd. Immediate improvement was noticed as the result of the reaction set up by the lamp.

In addition injections of neo-kharsivan were commenced on August 6th. After five weekly injections the improvement was nothing short of marvellous. The ulcers were healed; their sites presented an uneven appearance, with the characteristic tags seen in the healing of tuberculous scars.

The patient's arm was still very weak on September 6th, but remained sound and was steadily getting stronger.

CASE II.—Lupus; Tuberculous Glands.

A lady, over 60 years of age, with a life-long ulcerating lupus of the face and tuberculous glands and elbow, had been under my care at regular intervals for many years. She returned at the end of July for further treatment, when Kromayer's lamp effected some improvement, but the progress was very slow. Three injections of neo-kharsivan were then given and effected a speedy change, the ulcers being almost completely healed when the patient returned home after the third injection.

CASE III.—Sycosis.

A soldier came under my care in November, 1917, with severe sycosis of two years' duration. He had had much treatment without success; I transferred him to my hospital as an in-patient on April 27th, 1918. There he improved somewhat with x-ray treatment and other measures, but then relapsed, as these cases usually do. At my suggestion my colleague administered two doses of kharsivan and two of neo-kharsivan at fortnightly intervals. The patient improved to such an extent after the first dose that we continued the treatment; at its termination he was quite well and able to use his razor. He has remained well up to the present—that is, upwards of six weeks.

CASE IV.—Eczema and Blepharitis.

A woman, aged 35, with recurring eczema of the scalp from childhood and blepharitis since measles, presented such a weakly appearance that neo-kharsivan was given, since the reaction after this is not usually so severe as after kharsivan. Six weekly injections produced a complete cure of the disease and considerable increase of weight and good looks.

These cases were chosen haphazard from the outdoor department of the Liverpool Skin Hospital, and the improvement was as marvellous as that in typical syphilides, although no venereal taint was evident or suspected.

It is apparent that the medical properties of kharsivan and neo-kharsivan are not confined to its effect upon the spirochaetes, and for this reason we are continuing our experiments with this drug in dermatology.

I am much indebted to my colleague, Dr. Arkle, for his valuable assistance in giving the injections to these patients and therefore enabling me effectively to carry out this line of treatment.

THE work of the Italian Committee for the promotion of social hygiene after the war, over which Professor Durante of Rome presides, is divided among three groups. One is concerned with social prophylaxis against tuberculosis, malaria, syphilis, and various neuroses; a second with the sanitary and physical education of the people, and the hygiene of workers; the third deals with problems of a strictly hygienico-economic nature and of infancy, and with social assistance, especially in connexion with hospitals.