

was better, and said he felt better, though the lecturer remarked later that he was "not out of the wood yet." He had been treated with Prontosil and anti-streptococcal serum. A lumbar puncture needle had been left *in situ* and the fluid allowed to drain into a sterile bottle. The patient had been rolled for movement while this treatment was in progress.

2. A child of four years old had been operated on for cerebellar tumour. The child was making a good recovery, but by giving it a biscuit the lecturer demonstrated inco-ordination of movement, though this was comparatively slight since the operation.

3. A woman had had a spinal tumour removed nine days previously. The patient was nursed on a modified Lawson Tate bed with a removable head. The patient was put in Fowler's position by manipulation of the bed. The feet were in "shoes" to prevent foot-drop. She had not walked for two years and was originally diagnosed as disseminated sclerosis. The lecturer said she would walk again, though it might take one or two years. The spinal cord has great powers of recovery.

4. A woman had been operated on for a cerebellar tumour; the front hair had been left and allowed to grow, so the shaved area was fairly well covered by it. Facial paralysis was being treated by a support to the angle of the mouth. There was also loss of the corneal reflex. As the cornea was insensitive to irritation an ulcer might easily have occurred, so the eyelids of the affected eye had been stitched together temporarily, so that the cornea might be protected.

5. A man was awaiting operation for removal of a foreign body from the brain. The patient was a soldier invalided home from Palestine. The lecturer put several questions to him, the patient's replies illustrating a peculiar type of aphasia in which he showed himself unable to name objects. When asked what he had had for dinner, after hesitation he said it was a little animal that ran along the ground. He could not produce the word "chicken."

KALA-AZAR

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Kala-Azar is a disease due to infection with leishman donavon parasites. It occurs epidemically and endemically in many parts of India but is rarely found in other tropical countries except in the Soudan in Africa. The disease is characterized by an irregular fever frequently running a very chronic course and if left untreated may last one or two years.

The disease is confined to low lying areas and in India is endemic in the central and eastern provinces. No age is immune and both sexes are equally susceptible but usually far more male than female patients are seen in the hospitals.

The Mitford Hospital, which is the largest hospital in Bengal outside of the Calcutta hospitals, treats a large number of Kala-Azar patients in both the outdoor and indoor departments the year around. As the disease usually runs a chronic course and the treatment extends over a period of weeks or months, only patients coming from outlying districts are admitted into the hospital for treatment, those residing within the city are treated in the outdoor department with the exception of a small number of cases who urgently require hospitalization. In this way many more patients can avail themselves of proper treatment as the number of Kala-Azar patients seeking relief far exceeds the number of beds in the medical wards. The few women Kala-Azar patients in the hospital is due partly to the purdah system and partly to the fact that the mother of a family is often obliged to carry on with her house-hold duties in spite of illness and usually does not come to the hospital until she is in the last stage of the disease or suffering from some acute complication such as cancrum-oris, pneumonia or dysentery.

MODES OF TRANSMISSION. The question of the mode of infection is still unsettled but it is thought to be conveyed from one person to another by the bite of the sandfly, and some authorities consider that other blood-sucking insects such as bedbugs and fleas may also be responsible for its spread.

SYMPTOMS. The incubation period is rather long and is thought to extend from six weeks to three or four months. At the onset the symptoms are rather indefinite. The fever is irregular but the most characteristic type of fever is the double intermittent or remittent pyrexia within twentyfour hours. The temperature subsides in the early morning and begins to rise at about midday. It subsides in the early evening and later again rises, usually between eight and ten P. M. and again subsides toward morning. Often in the early stages the patient may not be aware of the fact that he has fever as he does not feel especially ill but as the disease advances he becomes weak and emaciated. Early in the disease the spleen becomes enlarged, later the liver also, the skin becomes dry and scaly and various skin rashes may appear. If untreated gradually the skin becomes dark and pigmented which gives the disease its name Kala-Azar, meaning black fever. Due to the enlarged spleen and liver the abdomen becomes protuberant and at the same time the muscles atrophy so that the limbs become very thin and bony. Ascites is common also oedema of the lower limbs. Loosening of the teeth and bleeding from the nose and gums may occur. Stomatitis leading to cancrum-oris may appear in the late stage and if not promptly and efficiently treated leads to rapid destruction of tissue which leaves the face terribly disfigured. There is a marked leukopenia, the polymorpho-nuclears are reduced to about 30 or 40 percent as compared with the normal of about 70 percent. In untreated or improperly treated cases death is frequently hastened by the development of some complication.

DIAGNOSIS. The diagnosis is confirmed by laboratory tests such as puncturing the spleen and finding the parasites in the

fluid extracted. Other tests more frequently employed in this hospital are Chopra's antimony test and Napier's aldehyde test. In early cases Chopra's test is used:- 5 c. c. of blood is withdrawn and allowed to stand until the serum has separated. To I.c.c. of serum diluted 1: 10 in distilled water one or two drops of 4 percent sol. of urea stibamine is added. A flocculent white precipitate indicates a positive reaction. Napier's aldehyde test is carried out as follows. To I.c.c. of blood serum one or two drops of 40 percent formaldehyde sol. is added. If the blood is from a well established case the serum will at once become white and opaque and of a jellylike consistency.

TREATMENT. The treatment is specific and symptomatic. Intravenous injections of tartar emetic were started in 1915 by Caronia and Di Christina with satisfactory results and now antimony is regarded as a specific in the treatment of the disease. There are many compounds of antimony available such as Stibecetin, Stibamin, Stiburia, Neostibosan, and Urea Stibamine. Of the above mentioned preparations Urea Stibamine is the one most frequently used at the Mitford Hospital. The drug is put up as a soluble powder in ampoules in the following doses- 0.05 gm., 0.1 gm., 0.15 gm. and 0.2 gm. which is generally the highest dose. The solution should always be fresh before injection and be made up in 5 or 10 percent sol. with distilled water. The injections are given every alternate day or twice a week. Very good results are obtained with this treatment and within a few weeks or in some cases a few months the patient is completely cured.

NURSING AND DIET. During the febrile stage the patient must be kept in bed, and the diet should consist of milk, fruit juices, glucose, soups, etc., and with the remission of fever milk puddings, bread and butter, lightly boiled egg and gradually allow the patient to have normal diet. The diet must be easily digested and as nutritious as possible.

The nursing care is as in other fever cases. When the pyrexia is marked tepid sponging is given. As the resistance to any secondary infection is very poor the greatest care must be taken to prevent such complications as cancrum-oris and septic pneumonia. The teeth must be brushed regularly and an antiseptic mouth wash as Condy's lotion or alum potass. chlorate sol. used after each feed. Visitors or attendants with colds should not be allowed in the patient's room. Plenty of fresh air is essential but care must be taken to keep the patient warm in the cold weather by guarding against draughts and sudden changes of temperature. To prevent bed-sores the back and bony prominences should be protected by the use of air cushions and if the skin is harsh and dry instead of applying spirit, olive oil may be used. As the patient's stay in the hospital is usually rather long some patients are apt to become discouraged and leave before being completely cured. The nurse can do much to encourage the patient to remain in the hospital by being cheerful, patient and sympathetic and by taking each individual's wants into consideration as much as possible.