of as the only possible shelter, so the patient, with the cut pieces, was wrapped in an old mat and brought to Kalewa to die.

On arrival in the hospital he was cold, air-hungry, extremely pale and pulseless. He was conscious, but unable to speak.

A CASE OF AGRANULOCYTIC ANGINA.

By R. VISWANATHAN, B.A., M.B., B.S.,

Assistant to Professor of Medicine and Assistant to First Physician, General Hospital, Madras.

SCHULTZ in 1922 described a form of angina with necrosis of the tonsils and pharynx associated with a decided leucopenia, especially of the granulocytes. He classified this symptom-complex as a separate disease which he called "agranulocytosis." Since then more than 120 cases have been recorded under this name. Heuper has reported five cases between November 1927 and April 1928, while more recently Bocage and Filliol have described a fatal instance of agranulocytosis in a case of syphilis.

The ætiology of the condition is unknown, though most investigators are agreed in regarding it as an infectious disease of a septicæmic nature "with an atypical reaction of the hæmopoietic system due either to bacteria with a special affinity and toxicity to the granulocytic system or to an atrophy and aplasia of this organ caused by septic infection." In the case reported by Brocage and Filliol they found at necropsy the characteristic changes in the bone marrow cells described by Schultz, along with a large number of a Gram-positive micro-organism resembling *B. perfringens*. It has not been possible to incriminate one particular bacterium as to the cause of this disease since other organisms such as *Streptococcus hæmolyticus, B. pyocyaneus*, etc., have been isolated in other cases where the same group of symptoms going under the name of "agranulocytic angina" was manifested.

The disease usually affects the middle-aged and is more common in women than in men. It often starts suddenly in previously healthy people. It also occurs in debilitated individuals after a period of prolonged ill-health, as in the case of Bocage and Filliol, where the necrotic pharyngitis started in an anæmic man after a course of N.A.B. and bismuth injections. It is accompanied by high continuous fever, dysphagia and dyspnœa. The tonsils are enlarged and hyperæmic and subsequently become necrotic. The pharynx and lingual tonsils may also suffer the same fate. Sometimes the necrotic process is found in the tongue, gums, anus, vulva, vagina and cervix. The chief characteristic is the blood picture which shows considerable leucopenia, the granulocytic cells being the first to diminish. Prognosis is gloomy in the extreme though not absolutely hopeless.

I am reporting the following case because it was very suggestive of agranulocytic angina:—

An Anglo-Indian male, aged 20 years, was admitted as an in-patient in the Government Head-quarters Hospital, Coimbatore, on 20th November, 1928, for high fever and difficulty in swallowing. He had a temperature of 102°, pulse 98, and respiration 28. The inside of the mouth presented a very unusual appearance. Both tonsils were enlarged, almost greenish blue in colour owing to evident necrosis. The posterior wall of the pharynx was also in the same condition, while there was a patch of submucous hæmorrhage over the palate and uvula. There was bleeding from the gums as well as the tonsils. There was no enlargement of lymphatic glands. Examination of a throat swab revealed the presence of long-chained *Streptococcus hæmolyticus* and no diphtheria bacilli. The blood showed marked leucopenia. The leucocyte count was below 1,500. There was relative diminution of polymorphonuclears. There was no enlargement of the lymphatic glands. The spleen and liver were not palpable.

On the second day the temperature went up to 104° and dysphagia was so great that it prevented the patient from taking even liquids. He also developed purpuric eruptions all over the body and complained of pain over the bones of the thighs and legs. The condition was decidedly one of a severe form of septicæmia. He was put on to injections of anti-streptococcal serum, calcium by the mouth, calcium by injection and stimulants such as glucose and brandy. After oscillating between life and death for some days, the patient began to improve, the temperature came down gradually, accompanied by slow separation of sloughs from the tonsils and pharynx. The temperature touched normal on the 16th day and the patient was discharged from the hospital on 13th December, 1928.

On making enquiries about the patient two months later we were reliably informed that the patient developed the same symptoms in a more virulent form some fifteen days after being discharged from the hospital and succumbed to the disease in the course of two days.

The possibilities in this case are aleukæmic leukæmia and agranulocytic angina. Diphtheria is ruled out because of the negative throat swab and fatal relapse, which is an almost unknown phenomenon in diphtheria. Against aleukæmic leukæmia, we have the absence of enlargement of the liver and spleen and lymphatic glands. Besides the duration of the disease is too short even for acute leukæmia.

The characteristic signs which suggest strongly the possibility of agranulocytosis are the necrotic condition of the tonsils and pharynx, bleeding from the gums, purpuric eruptions, pains over the long bones and high continuous fever associated with a blood picture of distinct leucopenia, especially of the granulocytes, and a fatal relapse occurring a few days after the termination of the primary attack.

UNUSUAL SYMPTOMS IN A CASE OF ROUND-WORM INFECTION.

By S. S. PATTANAIK, L.M.F. (Cal.),

Medical Officer, Piple, Puri District.

A SHORT time ago I was called in to see a patient in a village.

On visiting the place, I examined the patient. He was a boy about 10 years old, neither well nourished nor well developed. He had been suffering from purging and vomiting for the last two days and was in a condition of extreme prostration. He was very restless and was slightly delirious. He complained of a rather dull aching pain in the abdomen. Being a boy of only 10 years, he could not give a full account

of his sufferings, nor could he explain the exact nature of his ailments.

On examining I found the tongue was moist, eyes presenting an anxious look, pulse more or less sinking. Temperature: 102°; abdomen tympanitic and tender During my examination the patient passed a loose watery motion, yellowish in colour and slightly frothy. I had no opportunity to see the vomited matter.

At the outset, I was inclined to think that the case was one of poisoning. The parents could give me no clue regarding my suspicion nor did they suspect of anything of the kind.

As the patient was in a state of impending collapse, to combat it an injection of digitalis and strychnin was given and a dose of stimulant administered.

Cold sponging over the forehead was ordered for controlling the delirium. Afterwards the patient was put on a mixture containing some mild astringents and carminatives; the mixture was supplemented by three powders containing intestinal antiseptics.

The next morning it was reported that the medicines had not succeeded in checking the vomiting and purging, though the delirium had subsided to some extent.

I was then told by the father of the patient that the boy had passed a big worm a week prior to his present troubles. This led me to suspect him to be a victim to intestinal worms. Accordingly I ordered a full dose of santonin followed by a dose of castor oil after an interval of three to four hours.

To my surprise, I was told in the evening that the patient passed 9 or 10 big round-worms—one coming out by the mouth.

Gradually after this the distressing symptoms began to subside. It was reported the next day that the patient was apparently relieved of all his ailments, with the exception that he felt very weak.

Conclusion.—There seems to be little doubt that unusual symptoms in this case were due to the round-worm infection.

THREE CASES OF SALIVARY CALCULUS.

By MILITARY ASSISTANT SURGEON C. D. TORPY, L.M.D.,
British Military Hospital, Trimulgherry (Deccan).

SALIVARY calculus is treated in most text-books of surgery as a "rara avis." It is certainly not a very common disease, hence it is hoped that no apology is required for the publication of a few notes on three successive cases met with in the short space of two months.

The three cases that follow were all British soldiers, under twenty-five years of age, leading an active and healthy life, drinking the same water, and living on much the same diet. In all three cases, the dental condition was very good there being a total absence of any tartar formation, or evidence of pyorrhœa. None of them was a total abstainer, and all drank a certain amount of beer. Only one of them gave a previous history of calculus formation in the parotid gland during childhood.

1. *Private L.*—First reported sick with a painful, enlarged swelling "in his neck, beneath the right jaw." There was some discomfort, and pain in opening his mouth. Owing to the prevalence of "mumps" at the time, it was thought to be a case of unilateral mumps. He was isolated and treated as such. He was finally discharged after a month as "cured."

He was only a fortnight out of hospital when the symptoms reappeared. In addition to the previous enlarged swelling in his neck, he complained of a copious discharge of muco-pus into his mouth. The sub-lingual papilla appeared swollen and red, while the mucous membrane of the floor of the mouth was also red and œdematous. *X*-ray findings were negative.

The patient was placed on hot saline mouth washes every hour. Later, under general anæsthesia, an incision was made inside his mouth, and the abscess opened with a pair of sinus forceps. A good deal of offensive muco-pus drained away. The calculus was felt within the duct, and portions were removed. Hot saline mouth washes were continued, and the patient made an uneventful recovery. No recurrence has since been observed.

2. *Private F.*—Reported sick with all the signs and symptoms of a submaxillary salivary calculus on the right side. No calculus could be felt, but *x*-ray findings were positive.

He was put on hot saline mouth washes frequently; later on incision was made inside his mouth, and the pus evacuated. The calculus was felt lying within the duct, but all attempts to remove it proved futile. Saline mouth washes were continued, and the patient was greatly relieved. In a few days time the symptoms all re-appeared and it was decided that excision of the gland was necessary. Under a local anæsthetic, a curved incision was made above the hyoid bone, and the submaxillary gland removed *in toto*. The patient made an uninterrupted recovery, and was discharged fit.

3. *Trooper W.*—Reported sick with a painful and enlarged right submaxillary gland, and offensive muco-pus discharge into his mouth. A calculus was felt projecting at the entrance of the duct; *x*-ray findings were negative. Hot saline mouth washes were given every hour, and the next day, much to the surprise of the patient, and his nursing attendant, he spat out the offending body, and made a speedy recovery. He was discharged as apparently cured.

After an interval of three months, free from all symptoms, the patient reported sick with the same condition on the same side. Excision of the gland was done, and the patient discharged fit.

The following are the points of interest in these cases:—

1. The sudden occurrence of three cases of salivary calculus within the short space of two months—and confined to British troops only.
2. The difficulty experienced in locating, and removing the calculus.
3. Simple incision within the mouth, with drainage, sufficed to abate all symptoms of the disease.
4. Radiological findings were positive in one case only.
5. Even when all evidence of calculi are removed it is not possible to forecast a cure. Excison of the gland was necessary to cure two of the three cases.
6. All three cases were of the submaxillary type.

My grateful thanks are due to the Officer Commanding, the British Military Hospital, Trimulgherry, and to the Surgical Specialist, for their kind permission to publish these notes.

A CASE OF AMŒBIC ABSCESS OF LIVER.

By P. ARUNACHALAM, M.D.,
Assistant to the Second Physician, King George's Hospital, Vizagapatam.

BHADRI, a Bhairagi, male, Hindu, 35 years, was admitted into the King George's Hospital, Vizagapatam, on 21st October, 1929, for amœbic abscess of the liver, duration two months. The liver was considerably enlarged, the lower border being 10 inches from