

NOTES ON A CASE OF TETANUS.

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THE patient was a Warrant Officer, A. E. C., aged 31, service in India two and a half years. His history is as follows:—

February 8, 1937: The patient was operated on for internal hæmorrhoids. The operation was performed under $2\frac{1}{2}$ per cent novocain and the hæmorrhoids were tied with silk.

February 19: The patient complained of stiffness of the jaws and neck; temperature 98° F., pulse 74. The same evening he became nervous; temperature 98.6° F., pulse 70.

February 20: As Orderly Medical Officer I was asked to see the case in the evening. He was perspiring and extremely nervous. Trismus of the jaws was present. There was generalized muscular rigidity, and at times mild muscular spasms; swallowing was somewhat difficult. Patient was immediately given a general anæsthetic and anti-tetanus serum was given by all routes, intrathecally 34,000, intravenously 100,000, intramuscularly 75,000. Potassium bromide grains 20, chloral hydrate grains 20 in glucose were ordered *per rectum* two-hourly.

February 21: Disease now well marked. Slight arching of the back and drawing up of the legs, lasting half a minute. Bladder was catheterized, 22 ounces drawn off in the morning, and a similar amount in the evening. A further general anæsthetic was given and anti-tetanus serum was administered as follows:—Intrathecally 25,000, intravenously 66,000, intramuscularly 80,000. Sedative treatment was continued throughout.

February 22: Extremely restless; pulse 120 to 130—irregular at times. The patient fully conscious and rational; abdomen board-like; rectal wash-out was given followed by fluids per rectum in small amounts; muscular spasms increasing; patient able to take a few sips of fluid by mouth. General anæsthetic repeated and 35,000 units given intrathecally, 15,000 intramuscularly. Temperature during the day 100° to 101° .

February 23: Temperature 99° all day; patient a little better; speaks with difficulty; spasms about the same; now complains of severe aching of all muscles. Further serum given: intrathecally 15,000, intramuscularly 45,000.

February 24: Definite improvement; able to take fluids by mouth and to pass urine; spasms less frequent; slept for long periods.

February 25: Temperature normal, pulse 100 to 110. Has begun drenching sweats; spasms somewhat less; serum 21,000 units given intramuscularly.

February 26: Frequent drenching sweats; muscular wasting quite marked; able to talk fairly well, but talking is liable to bring on spasms.

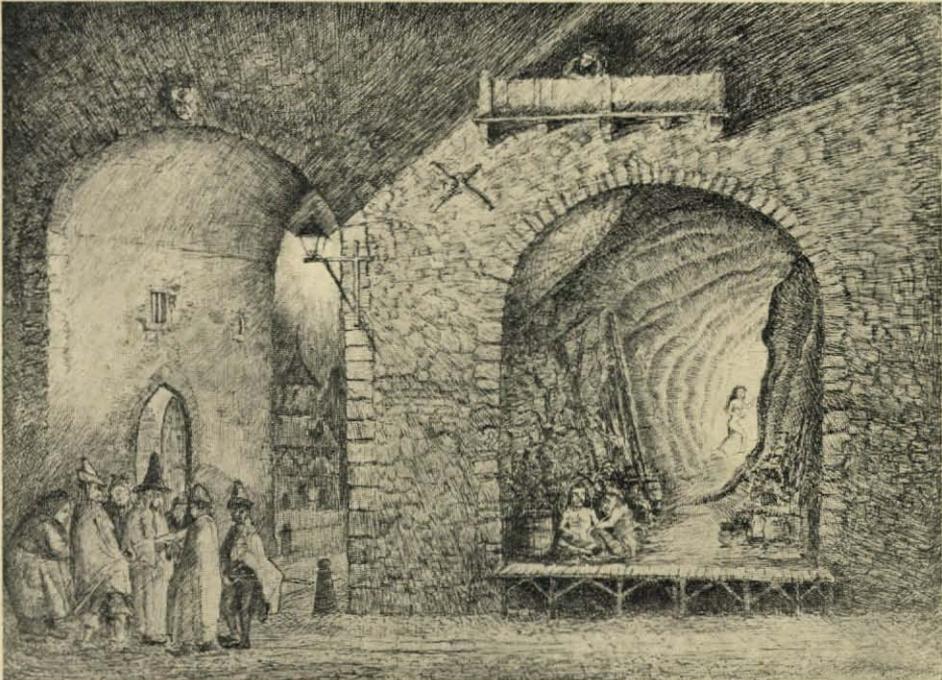
February 27: Sweating continued; beginning to have restless nights; feels wide awake and worried by vivid dreams.

March 4 : Good natural sleep ; still rigid ; no natural action of the bowels as yet ; able to recline in a long chair and take some soft food.

March 15 : Now greatly improved. Abdomen and limbs still somewhat rigid ; bowels now move naturally with a little liquid paraffin. Able to have a bath ; muscle bulk increasing. Patient has tried to read but notices that his accommodation is a little slow.

March 29 : Patient is now quite convalescent. Still feels a bit jumpy and is inclined to worry ; able to get about slowly but all movements stiff.

April 7 : Up and about all day ; back a little stiff. Patient has made a " pen and ink " drawing of one of his most vivid dreams. He says that



this dream frequently occurred and has remained perfectly clear in his memory. He explained the sketch as follows :—

The scene is set in an old town. On the left is a group of armed men in medieval costume who are conspirators, talking to an old woman. Watching them from above is a one-eyed gargoyle. On the right of the picture is a cave showing a hunchback in medieval costume, talking to a fakir squatting cross-legged in the cave. In the cave are to be seen empty barrels and a gibbets with a hangman's noose lying against the wall. Moving across the back of the cave is a naked woman. About this part of the picture he is not quite clear and can only remember the figures and the fittings of the cave.

Another and oft recurring dream was that of a fruit stall filled with gaily coloured fruits.

ÆTIOLOGY.

The disease began eleven days after a surgical procedure, and it is fair to assume infection took place at that time. There were no localizing symptoms pointing to the site of infection. The march of the disease was classical.

There are three possible sources of infection to be considered. Firstly, that infection took place from infected ligatures. This is most unlikely since ligatures were silk and not catgut. Bacteriological investigation was negative and no associated cases have occurred. Secondly, that the novocain solution was at fault. Here again bacteriological examination was likewise negative. Thirdly, that the patient harboured tetanus bacilli in his own gut, which in man can occasionally occur and is more likely to be so in a dust-laden tropical country where tetanus is fairly common amongst the indigenous population. This appears to be the most probable cause. The reason that the bacillus was not cultured in the stools may have been due to the fact that potassium permanganate wash-outs were used throughout. The dosage of serum may appear odd. The serum was given as it became available, and too, the concentration of the serum varied greatly, and dosage depended on bulk, so that no constant dose could be given.

CONCLUSION.

- (1) A case of tetanus is described eleven days after an operation on the rectum.
- (2) Infection was probably autogenous in nature.
- (3) 511,000 units of serum were given by all routes during the first eight days of the disease.
- (4) A pen-and-ink sketch of an oft-recurring vivid dream is shown.

Permission has been kindly granted by Lieutenant-Colonel E. P. Allman Smith, Commanding British Military Hospital, Mhow, to send these notes for publication.

Current Literature.

Immunization against Rickettsial Infections. *Lancet*, August, 1940.

The question of immunization against rickettsial infections has recently been reviewed. The best immunity is conferred by the injection of living rickettsias, but in most instances this is too dangerous a proceeding. It has been carried out among the indigenous populations of Morocco and Tunis, living murine rickettsias having been employed, while few reactions have been reported. In Europeans reactions are apt to be severe, and they differ in no way from ordinary murine typhus, which though less fatal than exanthematous typhus produces a severe infection with slow convalescence. There is no evidence that people inoculated with living typhus rickettsias become chronic carriers.