

through the head and who died shortly after he arrived in hospital, all the wounded eventually recovered, including some serious cases with compound comminuted fractures of the femur and tibia. (The cases were treated by Captain W. L. Watson, I.M.S., 102nd Grenadiers.)

In the case of the Arabs many of their dead and almost all their wounded were removed by them on donkeys and camels. Some, it is said, were carried suspended from a pole by their hands and feet with their heads downwards. Nothing is known regarding the ultimate fate of these men except that the mortality amongst them is said to have been extremely high, and in some cases death is believed to have been due to tetanus.

On the day of the fight and on the following day five seriously wounded and a few moribund Arabs were picked up. These were provisionally attended to, but owing to lack of accommodation they were sent to the Civil Hospital, Muscat, for treatment. Two of these cases on the 7th and 9th day respectively unfortunately developed tetanus to which they succumbed, whilst another died from septicæmia. The most (apparently) serious case of all to whom I gave an injection of morphia and applied first field dressings within a few minutes of the infliction of his injuries had the following injuries: (1) a bullet had passed through the chest, (2) a wound of entry was present near the right hip joint with a large wound of exit in the left iliac region of the abdomen, (3) the right elbow joint was severely lacerated, the heads of the ulna or radius being pulverised.

This man, contrary to expectation, made a complete recovery, and owing to the formation of a false joint he now has a moderately useful right arm with a fair range of movement at the elbow joint.

It is of course dangerous to generalise from such meagre facts, but nevertheless one cannot help being struck with the difference in the fate of those men to whom first field dressings were promptly applied, and in that of those whose wounds remained exposed to contamination for a considerable period. As in all cases the wounds were treated exactly alike, *i.e.*, no attempt was made to sterilise the wounds except at the point of entry and exit of the bullets; the circumstances appear to suggest that bullet wounds are more frequently infected during the first few hours after the receipt of the injury than by the "carrying in" of infected material at the time of the injury.

It was a matter of considerable surprise and disappointment that two cases should have developed *tetanus*; for a dry sandy soil, only broken by ranges of barren mountains, uncultivated and almost uninhabited, is scarcely suggested of a *tetanus* country. One can only

surmise that either the Arabs themselves are extensive "carriers," or that their clothing becomes contaminated with tetanus spores derived from the donkeys, camels, or goats which are practically the only animals with which they come in contact.

Be this as it may, it seems improbable that in this inhospitable country the soil can be a common source of infection. Tetanus, therefore, seems a danger to apprehend in the Persian Gulf and anti-tetanic serum has therefore been obtained for use as a prophylactic in all cases of extensive injuries, more especially if their cleansing has been at all delayed. Finally, it may be of interest to mention that the two Arabs who recovered, and who fully expected to be tortured and killed according to local custom, have not only been released by H. H. the Sultan of Muscat, but he has provided them with clothes, money, and even weapons before sending them back to their own country. This action—which is as wise as it is generous—has caused an infinity of surprise amongst the Arab population, who are at a loss to understand the reason for such extraordinary conduct. The photograph represents the Arab whose injuries are detailed above, and who has this day received his *khillat* and returned to his own country, let us hope in a chastened spirit and with a mind broadened by his, to him, unique experience.

GUNSHOT WOUND: PECULIAR SYMPTOMS OF SHOCK.

BY G. FOWLER,

MAJOR, I.M.S.

THE following case, of gunshot injuries, is interesting as the symptoms of shock that supervened were quite unusual, more especially as the injuries were of a very minor nature.

G. S., a man of good physique, was hit by two bullets from a service rifle fired by a man that had "run amok" on the afternoon of the 18th February. The first bullet struck the left thigh behind and passed through the hamstrings; the second bullet struck the back of the right thigh and went through the skin and subcutaneous tissues. In the first case the wounds of entrance and exit were exactly similar and were very small, while in the second case the wound of entrance was small, but the wound of exit was oval, bevelled, and about ten times as large as the entrance wound. Both wounds were simple and were treated with Tinct. Iodine and bandaged. The general condition of the patient was as follows when I saw him 15 minutes after the injuries were received. He was very excited, and talked a good deal about how he was made a target of. His skin was warm and the temperature normal. The pulse was very slow, 40 per

minute, irregular, every 4th or 5th beat being missed, but of fairly full volume. There was complete retention of urine and fæces. The urine had to be drawn off morning and evening for three days and the bowels in spite of purgatives did not act till the third day. On the fourth morning he was able to pass his urine normally. The amount of urine drawn off was not great during the three days. Patient had never suffered from stricture of the urethra.

These symptoms, though not the classical ones, indicate that the patient suffered from shock even though the injuries were of a trivial nature. As I have seen no such symptoms described in the cases reported from the front I bring this case to notice. Recovery has been uneventful and the patient is now able to walk about.

PREVALENCE OF INTESTINAL PARASITES IN THE UNITED PROVINCES.*

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and

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THE stools of six hundred patients were examined in the King George's Hospital from 3rd October 1913 to 14th December 1914. Major H. J. Walton at first wished that the stool of every patient admitted to the hospital should be submitted to a microscopic examination. But it was soon found to be impracticable to get through all the specimens. It was arranged that all motions with the least suspicion of containing parasites or their ova should receive attention first. In addition to these a good many stools were put up indiscriminately as time permitted. Many of the stools were sent up for re-examination on several occasions.

We believe the results, such as they are, may be considered of some value specially in view of the fact that, as far as we are aware, no systematic examination of stools has so far been undertaken in the United Provinces. The figures may be taken to give an idea of the incidence of intestinal parasites in the average hospital-going class of people in this province.

Roughly speaking 40 per cent. of the people, whose stools were examined, harboured intestinal parasites. Of these nearly 27 per cent. were intestinal worms and about 13 per cent. were protozoa.

Ankylostoma duodenale.—The eggs of this worm alone were discovered in 70 specimens, and in 26 it was found along with other parasites. It appears to be the commonest intestinal parasite in this series of cases. Very few of the hosts

seemed to suffer much inconvenience from its presence, even when their stools showed large numbers of ova. Besides the ordinary segmented ovum usually seen in the fæces, one of us (J. G. M.) came across a newly developed embryo wriggling inside the egg shell on two occasions. On inquiry it was found that the bed-pan containing the specimen was left exposed to the morning sun for an hour or more. This exposure to warmth probably accounts for the quick development.

In six cases in which numerous ova were found a culture was attempted. Larvæ developed only on two occasions. The method adopted was this. A little finely powdered earth was placed in a petri dish, which was then sterilised in the hot air steriliser. Another dish was prepared in the same way but with animal charcoal in place of earth. The earth was well mixed with distilled water and a little of the fæcal matter was put in the centre. The whole was then stirred up with a rod so as to give the consistency of thin mud. The dish was covered up and laid aside at room temperature. The charcoal dish was dealt with in the same way. On the third or fourth day according to the temperature typical rhabditiform larvæ could be seen under the low power.

Ascaris lumbricoides.—In nine cases ascaris ova were seen in the company of other parasites, and they were found alone in 20 specimens. In October 1913 some of the fæces containing numerous ova was mixed up with distilled water and put away in the warm incubator. Another specimen was kept in 0.2 per cent. hydrochloric acid, and a week later a little of this was transferred to normal saline. All the three preparations were kept at 37 C. for six months. This was done to give the ova a chance of developing, but as nothing happened they were kept in the incubator for another six months. At the end of one year no change was noticed, so the tubes were left at the room temperature for six months more. After 18 months the ova were found to be practically unaltered in appearance.

Trichocephalus trichiuria.—Ova were met with singly in 8 specimens; they were seen with other parasites in four cases.

Tapeworm ova, which were almost certainly Taenia saginata, were found alone in nine cases, and in the company of other parasites in the remaining 9.

Oxyuris vermicularis.—Ova were discovered only twice, once along with ankylostome ova and on the other occasion with tapeworm eggs. In both stools a few adult worms were found. This finding probably does not represent correctly the prevalence of the oxyuris vermicularis as we are aware of a considerable number of cases of infection among the general population of Lucknow.

* Forwarded by Major Megaw, I.M.S