

both ears in twenty, from the right ear only in fourteen, and from the left only in eighteen. In twenty-two there was perforation of the tympanic membrane in both ears, in thirteen in the right only, and in seventeen in the left only. In seven deafness was very marked without either discharge or perforation.

*Note.*—Forty-eight of the men were infantrymen, twelve cavalrymen, and two garrison drummers.

Such short service as these men have given in return for their expensive training is obviously a very bad investment for the State. I think when the facts given are thoughtfully considered, my brother officers will agree that a remedy is much needed.

I am of opinion that more care must be exercised in testing the hearing of the recruits and in examining their ears with the auroscope—which should be invariably used—and in all cases of doubt they should be seen by an aural specialist. If there are many of a doubtful character more aural specialists may have to be asked for, but, if the remedy would even halve this terrible loss, the time and money would be well spent.

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#### FRACTURE OF CERVICAL VERTEBRÆ FROM AN UNUSUAL CAUSE.

BY CAPTAIN V. G. JOHNSON.  
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THE following case being of a very uncommon character, I thought it might interest some of my brother officers if I published a few notes regarding it.

Private E. was admitted to the station hospital, Peshawar, at 1.30 a.m. on August 13th, 1909, with the following history: About 11.30 p.m. the previous evening, he and several other men visited the regimental swimming bath. Private E. dived in, and as he did not come to the surface again, two of his companions dived in after him and brought him up from the bottom of the bath in an unconscious condition. When seen in hospital he was found to have fully recovered consciousness, but was unable to give any account of what had happened, stating he remembered nothing after diving into the bath. There was complete motor and sensory paralysis below the level of the third rib. Both arms were partially paralysed; he was able to flex the forearm and slightly raise the upper arm, but was unable to extend either at all. The symptoms pointed to involvement of the whole of the brachial plexus, except the musculo-cutaneous nerve; the sensory fibres of this nerve were also apparently caught. He complained of acute pain on pressure or movement, at the back of his neck, at the level of the fifth cervical vertebra. He also complained of pain in his left shoulder. There was no sign of swelling or external injury at either of these spots, nor, in fact, on

any part of his body. His pupils were equal and slightly contracted, both reacted to light. Breathing was rapid and laboured, the diaphragm and muscles of forced inspiration (the pectorals excepted) alone working. The pulse was 80; temperature normal. During the night he passed a motion under him in bed. The patient was placed flat on his back in bed and an ice-bag applied to the back of his neck.

In the morning an attempt was made to obtain a skiagram of the cervical region, but owing to the patient not being able to be moved, for fear of causing further injury, the resulting plate was very indistinct and nothing could be made out. Screening showed nothing. The question of operation was considered but abandoned, as it was not thought that the patient could stand an anæsthetic, his breathing being now very difficult. He complained of a choking sensation in his throat and inability to get his breath. Loss of sensation had now extended to just above the second rib, but he was still able to raise his arms. His temperature had risen to 102·5° F., and his pulse was 102. Persistent priapism was present, he also had retention of urine, a catheter being passed and 8 ounces of urine withdrawn. At 12.30 p.m. he became very cyanosed and breathing ceased, artificial respiration was resorted to, but without avail.

Death was apparently due to ascending paralysis, affecting the respiratory nerves. Pressure from hæmorrhage into the spinal canal was considered most likely, the primary cause being possibly fracture or partial dislocation of one of the cervical vertebræ and crushing of the cord. The sudden onset of paralysis after the accident rather pointed to this; though the absence of all external signs of violence made it difficult to believe that so much injury had been done.

*Post-mortem* examination showed that the fourth and fifth cervical vertebræ were both fractured, the laminæ on either side the spinous process being broken through in each case. No displacement of the fragments had taken place. On removal of the fractured portions a good deal of dark-coloured blood escaped from the spinal canal, its origin probably being the longitudinal vein or one of its branches. No bruising or laceration of the spinal cord had occurred. No other lesion was discovered in any part of the body.

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#### PERSONAL EXPERIENCE OF SPINAL ANALGESIA.

BY CAPTAIN J. DORGAN.

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ON November 29th, 1909, I was operated upon at the Queen Alexandra Military Hospital, London, for radical cure of a right inguinal hernia. I walked to the theatre, and was directed to lie on my right side on the table, with knees well drawn upwards and lumbar region arched. I received