CASE NOTES

OPHTHALMOPLEGIA FOLLOWING A SCORPION BITE*

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THE neurotoxic element of cobra venom is well known, and Duke-Elder (1949) describes snake venom as a cause of ophthalmoplegia. There is a close relationship between the venom of scorpions and that of cobras and as a search of the available literature has revealed no case of ophthalmoplegia following a scorpion bite, that described appears to be of interest.

CASE REPORT

D. S., an African woman aged 34, gave a history that 3 months before coming to hospital, she had picked up her cloak from the ground, and as she draped it over her head had been bitten on the right eyebrow by a small grey scorpion. There was acute pain at the site of the bite for some hours after this and gross swelling around the eye which lasted for about a month; since the time of the bite she had been unable to open the eye.

Examination.—The right eye showed a complete ptosis, the eye was fully abducted and partially infraducted; on looking strongly downwards there was a slight increase of infraduction otherwise there was no movement in the eye. The pupil was widely dilated and did not react to light or accommodation. Distant vision was 6/6 Snellen but she was unable to read J 12 with the right eye. The fundus was normal. The left eye was normal in every respect.

Physical examination of the nervous and other systems showed no abnormalities apart from the complete oculomotor palsy. The blood pressure was 128/78 and there was no evidence of a nutritional deficiency.

The blood picture showed no striking features and the Kahn reaction was negative. The urine was normal. Analysis of the cerebrospinal fluid was within normal limits. An x ray of the skull showed no calcification of the cerebral vessels and the paranasal sinuses were clear.

Therapy.—The patient was kept under observation for a month during which time she had large doses of vitamin B; at the end of this time there was no change in her condition.

Operation.—Surgical treatment was undertaken in two stages.

(1) The right external rectus was recessed as far as the equator of the globe and a single strip of fascia lata grafted subcutaneously in the upper lid (Fig. 1). This graft,

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FIG. 1.—Diagram showing position of subcutaneous fascial graft.

joining the inferior margin of the tarsal plate at the junction of the inner and middle thirds to the frontalis muscle, was inserted through two 5-mm. incisions in the skin, by a modification of the technique employed by Stallard (1950). After this operation there was a marked diplopia.

(2) Three weeks later, a slip of the superior oblique muscle was detached from its insertion and resutured to the sclera just above the insertion of the internal rectus; at the same time a 4-mm. resection of the internal rectus was done.

Result.—The cosmetic result a month later may be seen in Fig. 2. It was intended that at a third stage, slips of the external rectus should be used to replace the paralysed

FIG. 2.—Patient after discharge from hospital.

superior and inferior recti but the patient was satisfied with the cosmetic and functional results and did not wish to undergo any further operation.

There is now no diplopia except on extreme movements of the eyes; 15° adduction of the right eye is possible and any functional disability is overcome by moving the head. The accommodation is still paralysed, but this causes no symptoms as the image in the right eye is suppressed.

COMMENT

Calmette (1908) showed the close similarity between cobra and scorpion venoms; he found that mice and guinea-pigs could be protected from the effects of *Scorpio occitanus* by inoculation with

the serum of a horse which had been immunized against cobra venom. The irritant properties of snake venom, when introduced into the conjunctival sac, were described by Ridley (1944) when he reported a case of snake-venom ophthalmia in an African who had been attacked by a spitting cobra (*Naja nigricollis*). The neurotoxic principle in the venom of scorpions was demonstrated clinically by Waterman (1938) in a series of cases reported from the West Indies.

The case reported here was evidently one of peripheral neuritis of the third cranial nerve due to scorpion venom. The mechanism by which the lesion was produced is largely conjectural; it is possible that a high concentration of the toxin, in the area of venous drainage of the cavernous sinus, resulted in a direct spread from that vessel to the oculomotor nerve in the middle cranial fossa. If this is so, it is not evident why the third nerve only should have been affected; it is possible that the location of the bite was purely coincidental.

SUMMARY

A case of complete oculomotor palsy following a scorpion bite is reported and the results of surgical treatment described. Evidence of the presence of a neurotoxic element in scorpion venom is quoted from the literature.

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