therapy alone, using a combination of a diuretic and a suitable antibiotic. The results of a preliminary trial upon 15 patients have been recorded, and in 11 of these satisfactory progress was obtained. No side-effects have resulted from treatment.

For reasons outlined, the regime is thought to overcome some of the problems of the more recognized forms of treatment, and is a particularly useful means by which the busy general practitioner, who is usually without ancillary aid, can be stimulated to become interested in the treatment of leg ulcers.

Though, fortuitously perhaps, no further treatment was required in two patients, the regime is to be regarded more as a smooth induction to subsequent " traditional " therapy than as an alternative.

I would like to thank Dr. Napier Thorne, without whose advice, help, and encouragement this paper would not have materialized.

DAVID B. FOX, M.A., M.B., B.Chir.
Varicose Ulcer Clinic,
Prince of Wales Hospital,
Tottenham.

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Medical Memoranda

Post-operative Blindness, with Complete Recovery, in a Patient with Sickle-cell Anaemia

Among the various neurological complications in patients with sickle-cell anaemia transient blindness has been rarely reported (Hughes *et al.*, 1940; Margolies, 1951; Greer and Schotland, 1962). The following is a history of a girl with sickle-cell anaemia who post-operatively developed severe neurological symptoms including blindness.

CASE REPORT

An 11-year-old Nigerian girl with known sickle-cell anaemia (SS) was admitted to our wards for repair of a large inguinal hernia. She had been generally well, complaining only of transient vague pains of undetermined cause in her upper and lower limbs. History revealed that she had never had any typical crises. On admission she was a tall thin negro girl in no distress. She was not jaundiced, her blood-pressure was 100/60 mm. Hg, and auscultation revealed a soft apical systolic murmur. *X*-ray examination of the chest showed moderate cardiac enlargement and clear lung fields. An electrocardiogram was within normal limits. Neurological examination revealed no abnormality. Her haemoglobin was 8 g./100 ml. It was 9.8 g./100 ml. one month before the operation. The operation was performed under general anaesthesia, which was induced with thiopentone sodium (" pentothal ") and suxamethonium chloride (" scoline "). She was intubated and anaesthesia was maintained with a mixture of nitrous oxide, oxygen, and halothane. Gallamine triethiodide, atropine, and neostigmine were also given. The operation lasted about 30 minutes and was uneventful, except that the incisional oozing was less than normal for the first three or four minutes. She regained consciousness after one hour and then slept for 12 hours.

On awakening she complained that she could not see. She was jaundiced. Her consciousness alternated between being orientated and able to respond to simple questions, and refusing to respond or responding inappropriately. She could not see objects or distinguish light from darkness. Both papillary reflexes were sluggish. Nystagmus was not present. The fundi were normal except for a slight tremor of the disk. Our neurological consultant, who noted this, considered the phenomenon to be strongly in favour of organic disease and against hysteria—an alternative we were considering at that point. Her tendon reflexes were equal and active and both plantar responses were flexor. She was generally weak but had no paralysis. Her haemoglobin was 8.2 g./100 ml. and the total bilirubin was 9.7 mg./100 ml. Her blood-pressure was 100/60 mm. Hg.

The clinical picture suggested a possible occlusion of cerebral vessels with aggregated sickle cells. In order to lessen the likelihood of further occlusions, she was given intranasal oxygen and also a 50% solution of magnesium sulphate intravenously six-hourly for three days (H. Lehmann, personal communication). On the second post-operative day she developed a right pleural effusion. A culture of the effusion was sterile. Lumbar puncture was not performed, as it was thought that the procedure might aggravate the neurological condition during the acute stage. On the fourth post-operative day she began to recognize objects placed near her. At the same time her ankle clonus became sustained, but both plantar responses remained flexor. Weakness persisted in all limbs; this was more pronounced in the arms. By the fifth post-operative day her haemoglobin had dropped to 6.5 g./100 ml. She was then transfused with 360 ml. of packed red cells.

Her vision steadily improved and no visual abnormality could be detected four weeks after operation. Concomitantly her mental state returned to normal, the ankle clonus disappeared, and her muscular tone improved. She was discharged five weeks after operation in a satisfactory physical and mental state. The only remaining clinical sign was a slight incoordination of fine movements of the upper limbs. The haemoglobin was 10 g./100 ml.

COMMENT

The neurological manifestations were probably due to cerebral intravascular sickling induced by low oxygen tension during anaesthesia. The transitory nature of the various symptoms and signs as occurred in this case is characteristic of patients with sickle-cell anaemia (Margolies, 1951). The apparent full recovery from the neurological disturbances seen in these patients can be explained on the basis of an initial occlusion of a vessel, whether by thrombus or sludge formation (some authors also maintain that the vessels go into spasm), with resultant impairment of the oxygen supply to a part of the brain, leading to neurological shock. The degree of recovery depends on the availability of collateral supply to the area involved and the reopening of the occluded vessel.

In conclusion the following points should be considered before operating on a patient with sickle-cell anaemia. (1) Elective procedures should be avoided if possible. (2) The choice of anaesthetic should take into account the tendency for red-cell sickling with anoxia, and the hypotensive effect of certain anaesthetics.

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PETER LEWIN, M.B.
ROBERT A. GOODELL, Jr., M.D.
Paddington Green Children's Hospital,
London.

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