

Adult pure red cell aplasia following topical ocular chloramphenicol

SIR, — Pure red cell aplasia is a disorder characterised by a hyporegenerative anaemia due to a bone marrow failure involving erythropoiesis alone.¹ This disorder has been observed following the administration of a variety of drugs.² We report a case of pure red-cell aplasia after topical ocular administration of chloramphenicol, a drug which has rarely been associated with this disorder.^{2,3}

An 85-year-old man was admitted to hospital because of fatigue and progressive dyspnoea. There was no significant past medical history and he had not taken any drugs. The only known exposure to drugs or chemicals was the use of chloramphenicol eyedrops for the previous two months. Clinical examination revealed paleness of the skin and mucosae. Chest roentgenogram, electrocardiogram, and the appearances on oesophageal and gastric endoscopy were normal. The laboratory results showed an erythrocyte sedimentation rate of 90 mm in one hour, erythrocytes $1.35 \times 10^{12}/l$, haemoglobin 51 g/l, mean corpuscular volume 108 fl, leucocytes $3.8 \times 10^9/l$ (30% neutrophils, 50% lymphocytes, 14% monocytes, 5% eosinophils, and 1% basophils), platelets $227 \times 10^9/l$ and reticulocytes $2 \times 10^9/l$. Viral serological tests were negative, and the results of an immunological battery of tests, lymphocyte subpopulations, and thyroid hormone serum levels were normal. The serum iron level was 30.98 $\mu\text{mol/l}$, transferrin 15.9 $\mu\text{mol/l}$, ferritin 5580 ng/ml, saturation index 83.6%, and serum levels of folic acid, vitamin B₁₂, and haptoglobin were within normal limits. A bone marrow aspirate and biopsy showed pure red cell aplasia (1%), normal myeloid and megakaryocytic precursors, reactive eosinophilia, and plasmocytosis. The red cell aplasia persisted despite withdrawal of chloramphenicol and treatment with 6-methylprednisolone, and the patient still has to be transfused periodically with red blood cell concentrates two years after diagnosis. A second bone marrow examination performed six months later revealed no changes from the previous one.

The major adverse reaction following chloramphenicol is bone marrow depression, usually manifested as pancytopenia but occasionally as isolated thrombocytopenia, leucopenia, or erythroblastopenia.³ This drug has been shown to cause two distinct types of bone marrow toxicity: a 'dose-related' and usually reversible depression, and a much more severe

'idiosyncratic' type of reaction.⁴ The majority of adverse reactions have been associated with the oral administration of the drug, but other routes such as the intravenous, cutaneous, and ocular have also been reported.^{3,5} Although several cases after ocular exposure have been published,³ there is some controversy about the relation between this route of administration and chloramphenicol toxicity. The mechanism seems to be the idiosyncratic type, and most cases have occurred within four months of the initial exposure to the drug.⁶

Our patient developed pure red cell aplasia after using chloramphenicol eyedrops for two months. The depression of the bone marrow did not recover following withdrawal of the drug.

In view of the potential risks the administration of chloramphenicol eyedrops should be restricted to absolutely specific indications.

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- 1 Krantz SB. Pure red-cell aplasia. *N Engl J Med* 1974; 291: 345-50.
- 2 Geary CG. Red cell aplasia. In: C G Geary, ed. *Aplastic anaemia*. London: Baillière Tindall, 1979: 195-229.
- 3 Chaplin S. Bone marrow depression due to mianserin, phenylbutazone, oxyphenbutazone, and chloramphenicol. Part II. *Adverse Drug React Acute Poisoning Rev* 1986; 3: 181-96.
- 4 Yunis AA. Chloramphenicol induced bone marrow suppression. *Semin Hematol* 1973; 10: 225-34.
- 5 Besamusca FW, Bastiaensen LA. Blood dyscrasias and topically applied chloramphenicol in ophthalmology. *Doc Ophthalmol* 1986; 64: 87-95.
- 6 Fraunfelder FT, Meyer SM. Systemic reactions to ophthalmic drug preparations. *Med Toxicol Adverse Drug Exp* 1987; 2: 287-93.

NOTES

Paediatric surgery

The Fourth Paediatric Surgery Workshop will be held on 7-8 June 1991 at the Japanese-German Centre, Berlin. Further information from: Dr F Schier, Universitätsklinikum Steglitz, Hindenburgdamm 30, 1000 Berlin 45, Germany.

Hong Kong meetings

The Hong Kong Ophthalmological Society will hold a clinical meeting in association with the 5th Clinical Ophthalmological Symposium on 1-2 December 1990. The theme of the society's meeting will be 'Eye disorders of childhood.' Further details from The Secretariat, Scientific Meeting 1990, Hong Kong Ophthalmological Society, c/o Hong Kong Medical Association, 5/F Duke of Windsor Social Service Building, 15 Hennessy Road, Hong Kong.

Ophthalmic photography

The British Ophthalmic Photographic Association's 6th Annual Conference will be held in Edinburgh on 16-17 November 1990. The Kodak lecturer this year is Professor David McLeod. Further details from: Mrs Angela Ellingford, Senior Ophthalmic Photographer, Polyclinic 6a, Ninewells Hospital, Dundee, Scotland Tel 0382-60111, ext 3219).

Symposium on vision

A satellite symposium of the Asian and Oceanian Physiological Societies (AOPS) on 'Vision, with emphasis on electrophysiology' will be held at the Malabar Hotel, Willingdon Island, Cochin, India, on 4 November 1990. Details from Dr JK Mukkadan, Little Flower Medical Research Centre, PO Box 23, Angamally-683 572, Kerala, South India.

International symposium

The German Ophthalmological Society will sponsor an International Symposium in Bonn-Köln on 19 to 21 September 1991. The symposium will cover both clinical and research aspects of ocular infections and will include a basic sciences course. Call for papers is open. Further details from: Alexander A Bialasiewicz, MD, University Eye Hospital Bonn, Sigmund Freud Str. 25, 53 Bonn 1, West Germany.

FIFTY YEARS AGO

The National Register of Medical Auxiliary Services. Orthoptists. British Medical Association, London. 1940

A review of the second edition of the National Register of Medical Auxiliary Services appeared in our columns last year, p. 357. In it we expressed the hope that future editions would include the names of those undertaking orthoptic training. The Board of Registration of medical Auxiliaries has lately recognised the British Orthoptic Society as a qualifying body in orthoptics, and members of the Society have

been enrolled in the National Register. This Orthoptic Supplement to the Register is the result, and will be most welcome to all ophthalmic surgeons. The number of registered orthoptists is not large and all the more is it essential for surgeons to be able to get the names and addresses of those who are qualified and registered.

Copies of the supplement can be obtained by application to the Registrar, Board of Registration of Medical Auxiliaries, British Medical Association House, Tavistock Square, London WC1.

Br J Ophthalmol 1940; 24: 197.