CHOROIDAL MELANOMA IN AN AFRICAN NEGRO*†

BY

I. A. R. BROWN

Harari Hospital, Salisbury, Rhodesia

CHOROIDAL melanomata are very rare in the coloured races. In view of the increasing coloured population in the United Kingdom it is, therefore, of some interest to report the following example.

Case Report

A male African Negro aged 48 years from the Eastern Districts of Rhodesia, came to the Eye Unit of Harari Hospital, Salisbury, Rhodesia, in October, 1965, with the story that he had been struck on the right eye with a stick 2 months before.

Examination.—The right eye was blind and cataractous. A deeply pigmented mass, partially covered by stretched conjunctiva, extended from the globe into the inferior fornix.

The left eye was normal. Systemic examination by a general surgeon revealed a few enlarged glands in the neck, more on the left than on the right, which were considered to be probably unrelated to the eye condition. There was no hepatomegaly and a chest x ray was normal. Urinary melanin was not studied at this stage.

Treatment.—On October 7, 1965 the eye was enucleated; the diagnosis of melanoma of the uvea with extra-ocular extension appeared to be more likely clinically than a pigmented squamous cell carcinoma of the conjunctiva. Complete excision of the globe with the tumour extension was achieved. The patient is still being followed-up.

Pathological Report.—The specimen consists of an eye with a blackish tumour measuring $2.5 \times 1.5 \times 1$ cm. protruding from one aspect. On section this tumour is found to be continuous with a black tumour filling the posterior segment and invading the front of the optic nerve, though the line of section is clear of the tumour.

Microscopy shows that this is a mixed cell melanoma (Callender B epithelioid cell type) not arising from the ciliary body in the section selected, but from the choroid. The macroscopic features are confirmed.

Microphotographs show the origin of the tumour in the posterior choroid with extension into the optic nerve (Fig. 1, opposite). The neoplasm presents a somewhat unusual tubular structure, with cells grouped in strands around a vascular core, becoming necrotic and pigmented when they reach a certain distance from the vessel (Fig. 2, opposite). The reticulin pattern consists of a fine almost pericellular network of fibres with other thicker strands coursing through necrotic areas (Fig. 3, opposite). Folds of the degenerate and detached retina are present in the anterior part of the globe, where the lens/iris diaphragm is displaced forwards (Fig. 4, opposite). In a different plane of section, the anterior extra-ocular extension is found to consist mainly of necrotic pigment cells, while epithelium continuous with that of the limbus provides a partial cover (Fig. 5, overleaf).

Comment

Malignant melanomata form less than 0.06 per cent. of all ocular disease (Moore, 1944). The incidence of the condition in a European population is illustrated by the recording of thirty malignant uveal melanomata per year in Denmark—population 4 million (Jensen, 1963). The Regional Cancer Registry in Birmingham, England, drawing on a population

* Received for publication December 6, 1966.

† Address for reprints: Eye Ear and Throat Hospital, Murivance, Shrewsbury, Shropshire.

FIG. 1.—Choroidal origin of tumour and optic nerve extension. $\times 12$.

FIG. 2.—Peri-vascular tumour strand. $\times 200$.

FIG. 3.—Reticulin network in viable tumour (lower right) and in necrotic areas (centre). $\times 200$.

FIG. 4.—Tumour and retinal remains displacing the lens forwards. $\times 12$.

FIG. 5.—Part of anterior extension. $\times 200$.

of 4.75 million, shows an overall incidence rate of choroidal melanoma of 0.47 per 100,000 per year, and an incidence in males of the 45 to 54-year age group of 0.91 per 100,000 per year for the years 1960 to 1962 (Waterhouse, 1966).

Choroidal melanoma is described as being "extremely rare" in the Negro. Hogan and Zimmerman (1962) reported a review of 1,500 such neoplasms (in the Registry of Ophthalmic Pathology) of which only seven were found in Negroes—a ratio of Caucasians to Non-caucasians of 250 to 1. In assessing the significance of these figures it would be helpful, of course, to know the ratio of Caucasians to Negroes in the population studied.

Wilder and Paul (1951), in a study of 2,535 patients in the United States of America with malignant choroidal melanomas, found only eleven Negroes. Jensen (1963), quoting this, points out that this constitutes 0.47 per cent., while Negroes form 10 per cent. of the total population of the U.S.A.

The incidence of choroidal melanoma in a predominantly Negro population confirms the above studies, though I have been unable to obtain exact figures. Dr. Oettlé, Head of the Cancer Research Unit of National Cancer Association of South Africa, in a recent study of eye tumours in the Bantu, found no choroidal melanoma in a 5-year survey in Johannesburg (1966). Dr. C. H. Sparrow, Government Ophthalmologist in Salisbury, who has worked among Africans in both East and Central Africa for 15 years, had, until the present case, never encountered one (1966).

In Portuguese East Africa, where the Negro population is very similar to that in Rhodesia, of 197 tumours of the globe and orbit seen between 1944 and 1961, three were malignant melanomata, only one of which was definitely choroidal in origin, one probably of the iris, and the third of undetermined origin. In a similar survey from 1961 to 1965 in Portugal, of 1,463 malignant tumours from all sites, only one was a malignant choroidal melanoma (Torres, personal communication).

Summary

A report is given of a malignant melanoma of the choroid in a male African Negro.

I should like to thank Dr. C. H. Sparrow for allowing me to report this case, Dr. Malcolm Ross for the pathological report, Dr. D. René Barry for taking and interpreting the microphotographs, Dr. J. A. H. Waterhouse for access to his statistics; and Mr. T. F. Dee of the Queen Elizabeth Hospital Photographic Department.

REFERENCES

- HOGAN, M. J., and ZIMMERMAN, L. E. (1962). "Ophthalmic Pathology", p. 413. Saunders, Philadelphia.
JENSEN, O. A. (1963). *Acta ophthal. (Kbh.)*, Suppl. 75, pp. 57, 68.
MOORE, R. A. M. (1944). "A Textbook of Pathology", p. 1267. Saunders, Philadelphia.
OETTL, A. G. (1966). Personal communication.
SPARROW, C. H. (1966). Personal communication.
WATERHOUSE, J. A. H. (1966). Unpublished data.
WILDER, H. C., and PAUL, E. V. (1951). *Mil. Surg.*, **109**, 370.