JUVENILE XANTHOGRANULOMA*
REPORT OF A CASE

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JUVENILE xanthogranuloma, also commonly known as naevoxantho-endothelioma, was first described as a skin disease in 1909 (McDonaugh, 1909), but it was not until forty years later that the first intra-ocular case was reported in America (Blank, Eglick, and Beerman, 1949). Some twenty to thirty cases have since been described (Sanders, 1962), but our case is the first to be reported in the United Kingdom.

Case Report

A 12-month-old boy was first seen on January 12, 1962. The parents stated that one week previously they had noticed a yellow mass in the pupil of the right eye.

Examination.—There was a large mass on the iris extending from 3 to 7 o’clock involving the pupillary margin together with an area of vascularization at the edge of the pupil, but no sign of haemorrhage into the anterior chamber (Fig. 1).

Examination under General Anaesthesia.—The cornea was seen to be clear and the fundus normal, but gonioscopy revealed that the mass on the iris was spreading into the filtration angle. At that time the intra-ocular pressure was 16 mm. Hg (Schiotz). Apart from the presence of this iris tumour the child appeared healthy and no skin lesions were detected.

Operation.—A tentative diagnosis of malignant iris tumour having been made, the lesion was removed by performing a large iridectomy on February 12, 1962. During the period of one month which had elapsed since the child was first seen the tumour had enlarged, and at the time of operation it occupied approximately one-third of the iris. From a technical viewpoint the operation was

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difficult; not only was the tumour in the lower nasal quadrant of the iris, but it was friable and could only be removed by a radial incision into healthy iris tissue on either side and cutting across the root. There was considerable haemorrhage at the operation, at the conclusion of which there was a total hyphaema. The wound was closed with three corneoscleral sutures. It was considered that removal had not been complete and that tumour remnants remained in the angle of the anterior chamber.

Post-operative Course.—During the first few days after the operation the hyphaema appreciably lessened in amount, but the cornea became oedematous and the intra-ocular pressure rose to 48 mm. Hg (Schiotz).

Pathological Report.—Sections of the tumour showed the iris stroma to be diffusely infiltrated with monocytic cells (Fig. 2), some of which had a clear eosinophilic cytoplasm, while others had a foamy lipid cytoplasm giving rise to a vacuolated appearance (Fig. 3). Several typical Touton giant cells (Fig. 4) consisting of a lipid cytoplasm with a ring of nuclei were seen, together with an occasional foreign body giant cell (Fig. 5). A number of small blood vessels
was present (Fig. 6) and there was a little haemorrhage in addition to some necrosis (Fig. 7). The histological appearance was that of xanthogranuloma.

Follow-up.—On February 24, 1962, the patient was referred to Dr. V. B. Levison at the North Middlesex Hospital for radiotherapy, and two doses of 200 r were given at an interval of 7 days. The result of this treatment was quite dramatic. After 10 days the corneal oedema disappeared, the eye became white, and the iris pillars free. There were no lens opacities, but a circular ring of pigment, the size of the normal pupil, was observed on the anterior surface of the lens.

In view of the diagnosis a further search for skin lesions was made but none was found. The following investigations were performed: X ray of skull and long bones—no abnormality detected; blood count—normal; blood cholesterol—240 mg./100 ml.; urine examination—negative.

It is now over two years since the lesion was removed. The eye has remained quiet and there has been no recurrence of the tumour (Fig. 8).
The human eye is a complex organ with a variety of structures and functions. Among these, the iris plays a crucial role in regulating the amount of light entering the eye. The iris consists of several layers, including the pigment layer, a circular muscle layer, and a layer of conjunctiva-like tissue. Its structure and function can be affected by various conditions, including inflammation, trauma, and disease.

Inflammation of the iris, known as iritis, can cause symptoms such as pain, redness, and decreased vision. It can be acute or chronic, and may have a variety of causes, including infection, autoimmune disease, and foreign body reactions. Treatment typically involves the use of anti-inflammatory medications, and in some cases, surgical intervention.

In some cases, however, the iris may become involved in a more complex process, such as the development of a tumor. The iris can develop nodules or masses, which may be benign or malignant. Benign nodules may be seen in patients with xanthogranuloma, a condition characterized by the presence of lipid-containing cells in the iris. Malignant nodules may be seen in patients with xanthogranuloma or other forms of uveal melanoma.

It is important to note that the iris is a delicate and sensitive part of the eye, and any changes or abnormalities should be evaluated by a qualified ophthalmologist. Early diagnosis and treatment can help to minimize the risk of complications and improve outcomes for patients with iris lesions.
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lesion with hyphaema and/or secondary glaucoma. In order to prevent unnecessary enucleation it is of considerable importance to make the correct diagnosis, and this can be established either from the typical clinical picture or from the histological appearance of skin or iris biopsy.

Summary

A case of juvenile xanthogranuloma in a male infant aged 12 months is reported. The pathology and possible pathogenesis of the lesion are discussed.

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