PRIMARY EPIBULBAR CARCINOMA.

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This paper reports a case in which after repeated operations upon the growth there had been no recurrence after six years. The pathologic specimens were examined by different pathologists who concurred in the diagnosis. Read before the American Academy of Ophthalmology and Oto-Laryngology, October, 1920.

The subject of epibulbar carcinoma is ever an increasing one, and the following case offers some features which seem worthy of recording.

D. McC., age 64, a farmer and merchant of Mississippi, was seen in 1914, complaining of defective vision in the

left eye, but more especially of a tumor formation of long standing in the left lower lid, which recently had rapidly grown in size. The growth was removed from the left eye, and two years afterwards a growth developed on the globe of the same eye, which was pronounced malignant. Later he states that an Eastern confrere of note expressed an opposite opinion after the bulbar growth had been entirely removed at this last consultation. The eye remained quiet until six weeks before he came under my observation, when noticing a tumor formation in the lower lid, the patient again consulted a surgeon in a neighboring city. From the statement which I received, the growth was evidently mistaken for a granulating chalazion, as an attempt was made to incise and curette it which operation caused the growth to enlarge.

A physical examination of the abdominal and thoracic viscera did not reveal anything abnormal, yet the man was decidedly underweight. An examination of the blood and urine showed that they were within normal limits for one of his age. On the left side of his neck, the right shoulder and dorsal surface of the left hand were small dry epitheliomatous areas which had been present many years.

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There is no history of cancer in the family, and the patient's father died in his 84th year from "old age." His mother died of tuberculosis in middle life and there is also a sister who died of the same malady. The other members of his family are living and reported to be healthy.

The patient states that with the exception of two attacks of influenza he has been remarkably healthy and has always led an active out of door life.

His vision had been good until eighteen years ago when "wild hairs" caused considerable irritation to his eyes. A ptery-

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Eye examination: O. D. 20/40 + 2.00 ax. 45° = 20/20. There was a slight drooping of the upper lid and the conjunctiva showed a few scars from an old trachoma. There was seen a small corneal scar at the nasal limbus, evidently the remnant of an atrophic pterygium. The fundus and tension was normal. O. S. 18/200. The upper lid drooped considerably, there was a decided entropion and most of the lashes were missing from epilation. There was a small peripheral corneal scar from a pterygium operation, and the cornea was well covered with an avascular pannus. The conjunctiva of the upper lid showed trachomatous scars. The cul-de-sac of the lower lid was completely obliterated

Fig. 1.—Primary epibulbar carcinoma.

by a tumor about the size of a hazel nut, which was firmly attached to the sclera, and the globe could be moved by any motion of the tumor. The upper limit of the growth was slightly above the lower limbus line and there were evidences of recent instrumentation. The integument was freely movable over the tumor and when the lids were gently

suggested the application of radium. A tube containing 20 m.g. was applied to the raw surface of the lid for an hour and thirty minutes. As there was no reaction, another application for two hours was made two weeks later, and again repeated in two weeks for two and a half hours with an intense reaction to the lids and globe. The edema subsided

Fig. 2.—Section of primary lid tumor. Typical of carcinoma. Low magnification.

closed, the external appearance very much resembled a large chalazion.

Being of the opinion that the tumor was malignant, I urged that an enucleation be done if a pathologic report confirmed the clinical diagnosis, to which he positively refused. He only desired the removal of the growth, which was performed under ether anesthesia.

The growth was easily exposed and to my surprise, it readily "shelled out" from its scleral attachment. No effort was made to close over the raw surface.

Two days later I received the report that the tumor was carcinoma and I

entirely in six days when the patient was temporarily dismissed. Marked contraction was taking place in the lower lid, with the lid adhering to the globe.

Two months later the patient returned for observation and the vision had improved to 20/70; the cornea was remarkably clear, and there was no indication of a recurrence of the growth. The fundus was normal.

One year later the patient discovered an enlargement in front of the left ear and he was advised to return for observation. The condition then was as follows:

Marked drooping of the upper lid with

a few lashes which had not been epilated. The pannus returned, and encroaching on the lower fifth of the cornea from each side of the medial line, there was a pterygium like growth of the conjunctiva. The lower lid was adherent to the globe, and at the site of the original growth there could be felt a slight elevation about the size of a large grain of

case confidently expecting a return of the original growth and a metastasis, but he was seen April, 1920, over six years after the first operation, and the eye was quiet except for the complication of a chronic trachoma.

As the original growth had been so readily removed, I had doubted the correctness of my diagnosis, and as I did

Fig. 3.—High magnification of Fig. 2, showing especially mucoid degeneration of connective tissue stroma.

rice. Situated beneath the skin in front of the tragus of the left ear was a movable gland.

I again urged an enucleation to which the patient refused, and he was content with the removal of the recurrent growth and gland, both of which were done under local anesthesia. The wounds healed nicely and shortly afterwards he was dismissed.

I have kept close observation of the

not wish to risk solely my opinion and that of the pathologist as to its malignancy, I had sent sections to three other pathologists of wider experience, all of whom unhesitatingly concurred in the same diagnosis. The report of Dr. Geo. S. Dixon was in part as follows:

“The sections show an alveolar stroma of connective tissue filled with epithelial cells of the basal variety after the manner of true carcinoma. The connective tissue

has undergone mucoid degeneration to a considerable extent, and where this has not occurred the stroma holds a fair number of small round and lymphoid cells. Vessels are not very numerous, and there is some epithelial degeneration within the alveoli.

Diagnosis: Carcinoma myxomatoides. The recurrent tissue shows the same

mm. Of course the preauricular gland is normally very small, but there are so few lymphoid cell remaining in this specimen (and they are just under the capsule) that it seems evident a considerable number have been absorbed. Practically the entire tumor is carcinomatous, and of the same character as the tumor of the lid without its degeneration. The

Fig. 4.—Section of recurrent growth in lid intimate with sclera, a fragment of which is seen.

general characteristics, but without the mucoid degeneration of the connective tissue stroma, more irritation and less epithelial degeneration possibly owing to being a younger growth than the original,—given the same time the same degeneration would doubtless occur. There is a small amount of scleral tissue attached to one border of this growth.

The preauricular gland is a metastatic growth. It measured $9.5 \times 11.5 \times 12.5$

cells here are younger, densely packed in the alveoli and in very good condition as compared with those of the other two specimens. The connective tissue stroma is rather scanty."

The clinical diagnosis of primary epibulbar carcinoma was confirmed by pathologic examination and more than likely its origin was in the conjunctiva at the limbus, for as is well known where one kind of epithelium passes into an-

other, as such is the case in the epithelium of the cornea and conjunctiva, it is a favorite site for epitheliomatous growths. A pterygium operation antedating the growth of the tumor by about two years and the irritation of the globe from ingrowing cilia, may have had their influence in the development of the neoplasm.

tion occurred in 20 cases or 37.7 per cent. When the globe is invaded it is along the perivascular and perineural lymph spaces of the corneo-sclerotic junction, never elsewhere, says Parsons.

The proper surgical procedure in any case of epibulbar carcinoma is to me always a matter of grave concern, and the dictum of de Schweinitz is one worth

Fig. 5.—Section of tumor of preauricular gland, which is entirely carcinomatous. Low power.

As to the question of the invasion of the globe, many authors are at variance in their views, as for instance, Axenfeld, Greeff and Saemisch believe the eyeball is rarely penetrated, while a contrary opinion is expressed by Parsons and de Schweinitz. The latter proved that perforation does take place in a considerable number of cases, especially if the growth was of long duration, for he showed that in 53 reported cases perfora-

remembering: that is, if the growth is small and situated at the limbus, a deep excision may be made but the case closely watched for developments. Whereas a larger growth further removed from the limbus may be excised with greater safety, as it is further away from the penetrating ciliary vessels.

While a lymphatic glandular involvement is not a common occurrence (the preauricular first affected and later the

submaxillary), it is usually regarded as an indication for an enucleation or a more radical operation in the orbit.

A point of interest in this and other cases is the slowness with which these malignant tumors develop. Irritation from cauterization or palliative surgery apparently excites their growth.

In regard to the treatment with radium

of new cells as well as the clearing up of the cornea which temporarily gave better vision.

My experience in this one case has led me to draw the following conclusions:

(1) Conservative surgery is indicated when the epibulbar growth is remote from the limbus, even tho it may be large.

(2) A preauricular glandular enlarge-

Fig. 6.—High magnification of Fig. 5. The cells are young and densely packed.

of carcinomatous areas of the lid after the excision of the growth, it is now a procedure often employed. While the end results of treatment in this case have been satisfactory, radium may have had its influence in arresting the development

ment is not a serious complication as long as the lid tissues are not breaking down.

(3) Radium or other similar rays may be of value as an agent against recurrence when used early after the operation.