

# Uveal metastasis with epithelization of the anterior chamber

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## INTRODUCTION

Until 1972 the reported metastatic tumors in the uvea were calculated in about 500 cases, but it is supposed that the actual frequency is higher (1), and even that the secondary uveal tumors overcome the incidence of the primary uveal melanomas (2).

Among the metastatic uveal tumors, the breast is the most frequent site of origin, with 64% of incidence in a review of literature for a period of 15 years by Albert (3). Uveal metastasis of pulmonary origin are the next in frequency, and the remaining foci of primary origin share the statistics with much less percentages.

In this report an uveal metastasis of a pancreatic adenocarcinoma is described, a rare fact itself, with the unusual addition that the neoplasia invaded the anterior chamber in the form of epithelization.

## CASE REPORT

The case is about a female patient. 38 years old, operated in May 1976 of an adenocarcinoma of the pancreas'head, semidifferentiated and moderately mucosecretory. A total duodenopancreatectomy was performed. The pathologic examination showed an apparently complete extirpation of the lesion, without metastasis in the regional lymph nodes. The postoperative evolution was satisfactory.

In November 1979 (40 months after the pancreatic surgery), the patient had dyspnea and loss of vision of the right eye. In the T.E.C. the lungs exhibited parenchymatous nodules up to 0.3cm in maximum diameter, which were not biopsied, interpreted as of probable metastatic origin.

The ophthalmologic examination showed a 2/10 visual acuity in the right eye, a tumoral mass at the iris periphery on the nasal side (Fig. 1), and 30 mm Hg of ocular pressure. There was not retinal detachment. The left eye didn't exhibited clinical alterations.

The patient developed quickly a total blindness, with ocular pain, and pressure increased up to 64 mm Hg.

During this time, with antitumoral treatment (chemotherapy), the mass at the base of the iris did not change in its morphology.

Because the development of untreatable glaucoma, enucleation of the right eye was performed.

Previous to surgery, cytological examination of the aqueous humor (obtained by puncture), showed neoplastic cells with "signet ring" features, compatible with the diagnosis of metastatic adenocarcinoma (Fig. 2).

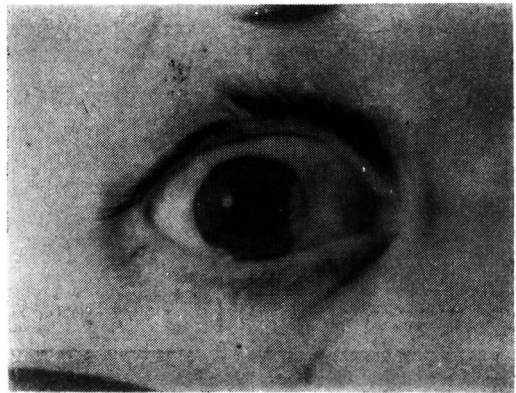


Fig. 1 — A tumoral mass can be observed at the base of the iris, right eye, nasal side.

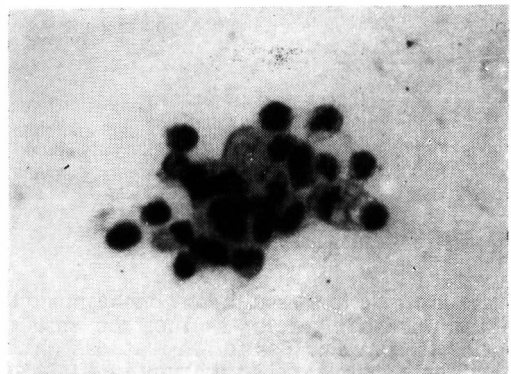


Fig. 2 — Cytologic examination of aqueous tumor (x 400 — Papanicolaou Stain), with a cluster of "signet ring type" adenocarcinomatous cells.

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The patient died eleven months after enucleation without signs of metastasis in the fellow eye, but with clinical signs of massive pulmonary metastasis.

**Pathologic examination:** Grossly a marked thickening of the ciliary body by white-gray, slightly translucent tissue the nasal side between hours 2 and 6, was observed.

The microscopic examination showed metastasis of a mucosecretory adenocarcinoma, with accumulation of mucous material in which isolated carcinomatous cells could be identified (Fig. 3 e 4). The more prominent mass was on the ciliary body, but the tumor also occupied the choroid at the nasal side. Nevertheless, this choroidal metastasis did not markedly thicken this portion of the uveal tract, and was not diagnosed in the macroscopic examination.

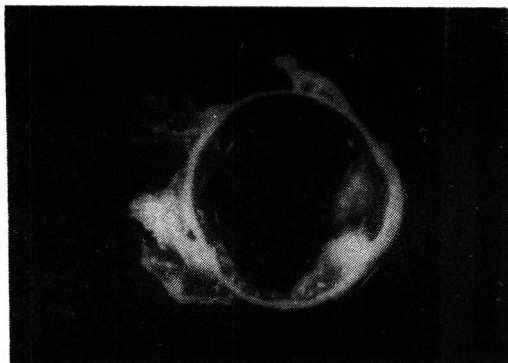


Fig. 3 — Gross specimen, right eye, with a tumoral mass that thickens the ciliary body on the lower part of the photograph (nasal side), and with lens' displacement.

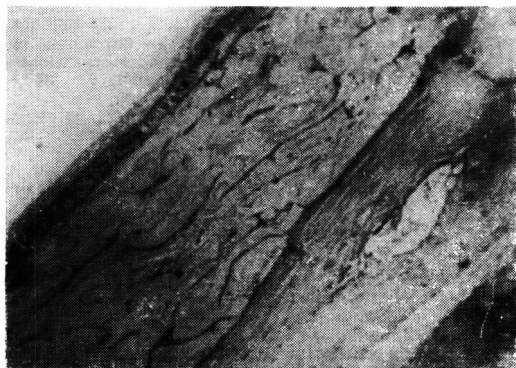


Fig. 4 — Histologic section (Hematoxylin and Eosin, x100), showing thickening of the choroid by metastasis.

Neoplastic infiltration of the angle of the angle of the anterior chamber and of

vessels of the esclero-corneal limbus could be observed.

In addition, also epithelization of the anterior surface of the iris up to the pupillary border by a monolayer of cylindrical adenocarcinomatous cells could be verified, with few cellular atypism (Fig. 5).

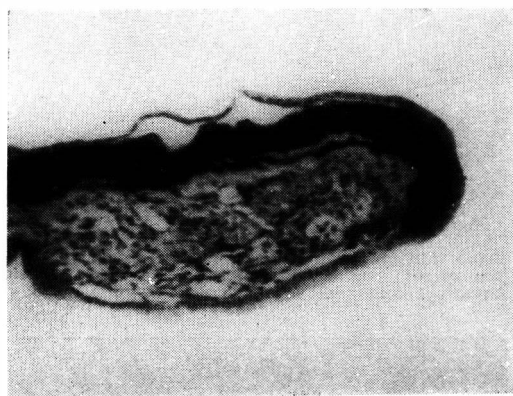


Fig. 5 — Histologic section of the iris, exhibiting epithelization of its anterior surface by monostratified cylindric neoplastic epithelium (H & E, x400).

On the temporal side there was epithelization of the anterior chamber's angle and of areas of the corneal posterior surface by the same adenocarcinomatous epithelium (Figs 6 and 7).

## DISCUSSION

The frequency of metastatic neoplasia of pancreatic origin in the uveal tract is very low (4). A cause of it may be the low survival in relation to these tumors. In the series of Bowden and associates (5), of 190 patients with neoplasia of the head of the pancreas, only 4 lived more than 5 years (6).

The adenocarcinomas of the head of pancreas generally remain relatively localized, being its progression infradiaphragmatic which causes the death in a short time.

Maybe it is for this reason that the metastasis in the uveal tract, which generally appears some years after the primary disease, and with very frequently previous lung metastasis (7), is less probable in pancreatic neoplasia than in the pulmonary and mammary carcinomas.

The reported case shows dissemination of the neoplasia predominantly on the ciliary body and the iris. This contrasts with the predilection described in literature of secondary uveal neoplasias developing on the posterior pole of the eye (1 and 9).

An interesting feature of this case is the type of tumors extension toward the

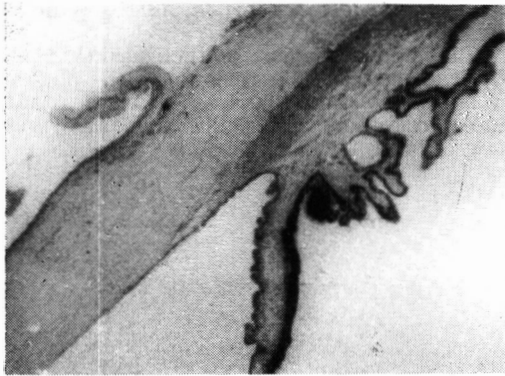


Fig. 6 — Histologic section of the anterior chamber's angle, with neoplastic epithelization of the anterior surface of iris, the cameral angle, and the posterior surface of cornea (H & E, x40).

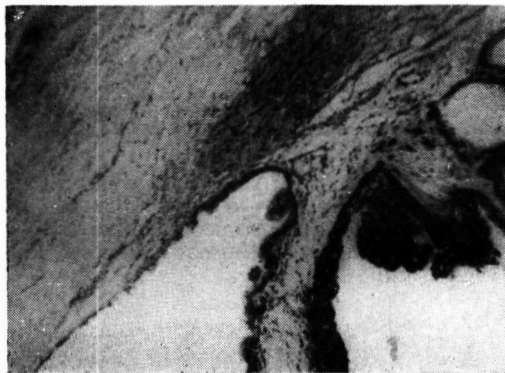


Fig. 7 — The same field of fig. 5, with more magnification. (H & E, x100). High magnification discloses the same features.

anterior chamber, with a monolayer of cylindric carcinomatous cells covering extensive areas of iris, part of the anterior chamber's angle and one sector of the cornea's posterior surface.

In previous literature we have not found described this type of neoplastic epithelization of the anterior chamber, but there is a reference of Talegaonkar (8) on metastatic neoplasia on the corneal posterior surface by cells that did not infiltrate the corneal stroma.

The glaucoma that made enucleation necessary in this patient, secondary to metastasis, can be explained by a variety of mechanisms: the tumoral mass itself, the displacement of the lens (Fig. 2), the invasion of the angle with infiltration of the limbal vessels, and the neoplastic infiltration of the anterior chamber's angle (Figs. 6 and 7).

Therefore, all the postulated mechanisms as cause of glaucoma in metastasis by De Ocampo (10), were present.

The diagnosis of uveal metastasis by cytologic examination of the aqueous humor is a fact previously described in the literature (11), and can be advanced as a relatively less aggressive diagnostic procedure in no enucleable cases.

#### RESUMO

Trata-se do caso de uma paciente de 38 anos, com neoplasia pancreática, com 40 meses de evolução, depois de uma duodenopancreatocomia que apresentava metástases no trato uveal localizadas predominantemente no corpo ciliar e sobre a câmara anterior, com desenvolvimento de glaucoma secundário.

O exame anatomopatológico do olho enucleado revelou uma forma peculiar de disseminação da neoplasia na câmara anterior do olho, em forma de epiteliização da superfície anterior da íris e no ângulo da câmara anterior, que foi previamente diagnosticada por citologia do humor aquoso.

#### SUMMARY

The case of a 38 years old female with a pancreatic neoplasia of 40 months of evolution after a duodenopancreatotomy, which presented metastases in the uveal tract localized predominantly on the ciliary body and the anterior chamber, and developing a secondary glaucoma as a result is reported.

The pathologic examination of the enucleated eye exhibited a peculiar form of dissemination of neoplasia in the anterior chamber of the eye, in the shape of carcinomatous epithelization of the anterior surface of the iris and the angle of the anterior chamber in some areas, which was previously diagnosed by cytology of the aqueous humor.

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