METASTATIC CARCINOMA OF THE CHOROID. A REPORT OF TWO CASES WHERE THE PRIMARY NEOPLASM WAS IN THE LUNGS

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Case I. Mr. Foster Moore's Clinical Notes

"MRS. W., age 43 years, was sent to me on January 8, 1931, by Dr. Langford Jones with the tale that one month previously she had had a cold followed by bleeding from the back of the nose. For the last week the bleeding had ceased. For the last two weeks she had had black spots and streaks before the right eye.

She had been examined by Mr. Douglas Harmer, who could find nothing in the nose or retro-nasal space to account for the bleeding. The pupils reacted, and the trigeminal sensation was intact. There was a general congestion of the anterior ciliary vessels to the temporal side. The visual acuity was less than 6/60, and the visual field was completely missing above. A large mass in the choroid was visible with the ophthalmoscope. It extended rather widely and had a knobby sort of surface.

In writing to Dr. Langford Jones I said I thought it likely that the mass was a metastatic growth, and asked him if he knew of any possible primary source, such as the breast for instance. He wrote at that time to say that he could find no evidence of such a primary growth. I thought, therefore, it might be tuberculous.

Three weeks later the sight became worse and the eye painful, and so I removed it. The specimen was sent to Mr. H. B. Stallard, who found a growth in the choroid which clearly was metastatic and he thought had very likely come from the lung, but as he was in some doubt, he showed it to Professor Kettle, who was of a like opinion.

It was not long before Dr. Langford Jones found clinical evidence of an intra-thoracic growth, and the patient died in June from this disease."

Pathological Report

(a) *Macroscopic appearances.*—Situated in the lower temporal quadrant of the choroid between the optic disc and the equator is a neoplasm, the antero-posterior diameter of which is 12·5 mm. and its thickness varies from 0·5—2·5 mm. Fig. 1 is a photograph which shows its position, shape and size.

FIG. 1.

FIG. 2.

Microphotograph of part of the neoplasm in the choroid.

- (a) Adeno-papilliferous arrangement of carcinoma cells.
- (b) Connective tissue stroma and trabeculae.
- (c) Area of cell degeneration.
- (d) Haemorrhage.

The overlying retina is detached and rucked up. Some sub-retinal exudate separates the surface of the neoplasm from the detached retina. The ciliary body and the pre-equatorial part of the choroid are separated from the sclera by exudate in the supra-choroidal lymph space, both above and below. The filtration angle is open and there is no macroscopic evidence of secondary glaucoma.

(b) *Microscopic appearances.* The neoplasm is composed of malignant epithelial cells having an adeno-papilliferous arrangement. Some of the cells bear a resemblance to short cubical epithelial cells. They are heaped up into irregular clumps. Mitotic figures are present and there are areas of cellular degeneration. The cells have infiltrated the lymphatic spaces of the choroid.

There is a connective tissue stroma which is disposed in branching trabeculae. Capillaries and the remains of choroidal vessels are present in this stroma. The chromatophores are distorted, their processes being lost and the pigment arranged in clumps and spherules.

Bruch's membrane is stretched over the neoplasm and is degenerate. The retinal pigment epithelial cells have proliferated and some are shed into the subretinal fluid. The sclera is infiltrated at the base of the neoplasm and some carcinoma cells are present between the lamellae. There is a lymphocytic infiltration at the edge of the neoplasm. The retina over the neoplasm is detached and undergoing degenerative changes. The filtration angle is slightly narrower than normal but there is no evidence of secondary glaucoma. The optic nerve shows atrophic changes.

Pathological diagnosis.—Papillary adeno-carcinoma of the choroid, secondary metastatic deposits.

In this case it is worthy of note that the secondary metastatic deposit in the eye made itself evident before the appearance of clinical signs and symptoms of the primary neoplasm.

Case II

H. H., age 41 years, a clerk, on July 4, 1931, attended the West London Hospital on account of pain in the chest. A diagnosis of mediastinal neoplasm, carcinoma of the bronchus, was made and subsequently on July 27 he was admitted for deep X-ray therapy. On September 22, 1931, the patient noticed that his right vision was misty on rising in the morning; this became worse until he was unable to count fingers.

He was examined by Mr. H. P. Gibb who diagnosed a metastatic carcinoma of the choroid and later the eye was excised on account of pain.

The patient left hospital and was booked for another course of deep X-ray therapy late in October but he never attended and has been untraced since then.

Pathological Report

Macroscopic appearances. (See Fig. 3.) There is a neoplasm in the choroid extending from the optic disc to the filtration angle. It is flat except behind the equator where there is a large cystic space filled with blood and cell debris.

FIG. 3.

The sclera is infiltrated by the neoplasm, and the overlying retina detached and rucked up.

There is some sub-retinal exudate.

Microscopic appearances. The neoplasm is composed of columns and groups of carcinoma cells having an irregular arrangement. In some of the cell masses there is central degeneration, consisting of cell debris, pigment deposits, lymphocytes and red blood corpuscles. There is a large space immediately behind the equator measuring 9.5×4 mm. into which a haemorrhage has taken place. The sclera is infiltrated deeply by the neoplasm at and behind the equator.

The neoplasm extends forwards as far as the base of the ciliary body and filtration angle. The retina overlying the neoplasm is detached, rucked up and degenerate, and in the sub-retinal exudate there are some pigment cells, fibroblasts, and red blood corpuscles.

Pathological diagnosis. Metastatic carcinoma of the choroid.

A search into the literature has revealed the rarity of metastatic carcinoma of the uveal tract following a primary carcinoma in the lung or a bronchus. It is difficult to obtain accurate statistics of this disease for it is probable that some patients in the last stages of malignant cachexia die without the ocular lesion being recognized. Lagleyze states that in his experience metastatic carcinoma of the uveal tract occurs in 1 in 100,000 patients, and van der Hoeve has remarked that his predecessor Mulder had never seen a case in 35 years of practice. Since 1925 two patients suffering from this disease have presented themselves at the Moorfields Eye Hospital out of an attendance of 276,000.

Of those cases described in the literature the site of the primary neoplasm is in the breast in 65 per cent. and the lung next in 10 per cent.

Dr. Scott Pinchin (under whose care the second case, H. H., was treated) remarks that he sees each year an average of 24 patients suffering from a malignant neoplasm of the lungs, and before the case described above he had never seen a secondary metastatic deposit in the eye, the metastases occurring were frequently in the kidneys and supra-renals.

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