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SARCOMA OF THE CHOROID, GLIOMA OF THE RETINA, AND NEW FORMED BLOOD VESSELS IN THE VITREOUS.

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Reprint from THE OPHTHALMIC RECORD, *Vol. V., No. 8.*

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SARCOMA OF THE CHOROID, GLIOMA OF THE RETINA AND NEW FORMED BLOOD VESSELS IN THE VITREOUS.

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The following interesting cases presented themselves at the Clinic of the Medico-Chirurgical Hospital during the past year.

Mrs. C. J., age 53, Germantown. About last March or April the patient had a slight conjunctival inflammation, which lasted for a week or two. During this period she noticed an apparent line encroaching upon her vision. She consulted a surgeon, who made a cursory examination of the exterior part of the eye, he could see nothing but the conjunctivitis. After consulting several ophthalmic surgeons for this encroachment of blindness, she then came to the Medico-Chirurgical Hospital. I discovered that she had good lateral and lower vision—the upper field very markedly contracted. The external part of the eye was normal in appearance—the pupil responded fairly well to light with a shade of dilatation, and possibly less active than the left iris. The tension was a shade less than normal, a common occurrence in the early stage of detachments of the retina and new growths. The ophthalmoscope revealed an apparent detachment of the retina, when, however, I examined more closely into detail, I was doubtful of this diagnosis. The projection was situated in the lower and outer quadrant of the fundus, about the equator of the eyeball. The grayish blue retina had a rounded appearance. The blood vessels were full and ran backwards in straight lines instead of undulating curves, so characteristic of detachment. In this projection the line of demarcation between the normal retina and the separation was crescentic and a bluish base running with this curved line gave


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it the appearance of a rounded body. The line of separation in detatchment is usually more irregular and apparently the retina comes forward in undulating folds, the blood vessels are full and also undulating. In some cases they appear and disappear. Another differential point in the diagnosis was that in this projection of the retina it resembled a solid body, and the color was a mottled blue gray. In detachment, the retina usually has a semi-transparent appearance and the crests of the folds are of a silvery white shade, gradually fading into blue or gray color—depending somewhat upon the pigmentation of the individual.

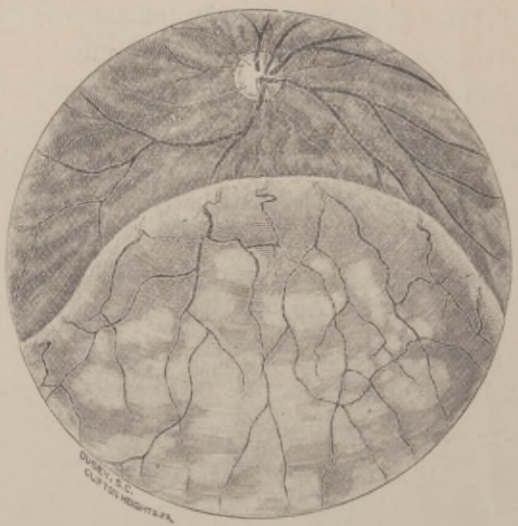

FIG. 1.
OPHTHALMOSCOPIC APPEARANCE.

To recapitulate—in this projection of the retina we had the appearance of a solid body with a distinct rounded outline, a mottled blue gray color—blood vessels full and running in straight lines and disappearing over the crest of the body—a well-defined space between the apex of the tumor and the still attached and normal retina. In a detachment of the retina we have the corrugated surface, a distinct blue and white color, blood vessels running in corrugated lines. No space between

the normal attached retina and its detachment, and there is a concave or falling away from the line of demarcation.

The picture in Sarcoma of the Choroid is one to make a permanent impression on one who is a student of detail. I must confess that the differential diagnosis between these two diseases is very difficult, yet in this case I did not hesitate to make the diagnosis at the first examination and explained to the students, who were present, why I felt positive of my diagnosis. I explained to the patient the gravity of her disease, and that the sooner the eyeball was taken out the better, yet insisted that she consult other ophthalmic surgeons and have their opinions. She took my advice, consulted at least six or seven of our leading surgeons, returned to the Hospital, October 25th, 1895, where in the presence of the class I removed the eyeball, cut it through the equator and turned it inside out. The growth stood out round, and about the size of a hazelnut. Fig. 2 gives a very good picture of it.

I separated the overhanging retina and the tumor stood out alone attached to the choroid.

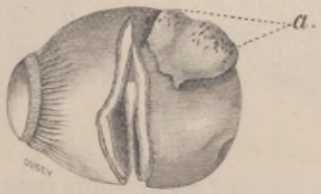

FIG. 2.

The specimen was placed in Müller's fluid and microscopical sections were made by Dr. Alexander Klein.

Macroscopic appearance of tumor *a* in Fig. 2. Eyeball incised and turned inside out.

Tumor situated in the eyeground, rising abruptly on one side, and tapering gradually towards the surface on the other, projecting into the cavity of the eyeball, of irregular outline dark brown in color, about 1 cm. long and 2½ mm. wide.

On section the tumor was found to be a Melano-Sarcoma of

the mixed variety, containing small spindle cells, round cells and giant cells, the spindle cells, however, greatly predominating, very rich in pigment and in places distinctly alveolar in structure.

The vessel walls, especially the adventitia, shared very remarkably in the cellular proliferation, the intima being roughened and the sarcomatous cells showing a tendency to invade the lumen of the veins. Indeed in one place, a large vein is entirely occluded by the sarcomatous mass, the thrombus reaching deep into the sclera. With this exception, the tissue of the latter does not appear markedly changed.

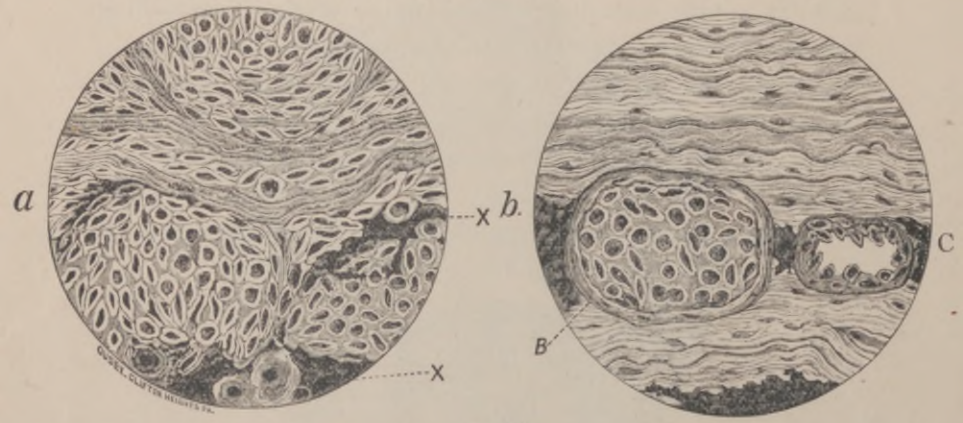

FIG. 3.

a. Section showing an alveolor structure. x. Pigment.

b. Section of sclera showing thrombus, consisting of sarcoma cells in a vein. B. vein. C. artery. D. giant cells.

The tissue of the retina over the tumor could not be made out, it having probably been destroyed by the sarcomatous mass. On both sides the choroidal cells were gradually lost in the growth. We have therefore to deal with a Melano-Sarcoma, originating in the adventitia of the blood vessels of the "Choroidea."

Sarcoma of the Choroid is a very rare disease. This is the

second case which has come under my direct charge in thirteen years of active practice, and I believe I am within bounds, when I say that I have made upwards of fifteen thousand ophthalmic examinations during that interval. While Clinical Assistant at Moorefields Hospital, London, during a service of two years, I can recall two cases. Whilst there forty-six thousand new patients were entered on the Hospital books, but it is needless to say that a very insignificant number of these cases were examined with the ophthalmoscope, the conditions not calling for it.

My first case in this country was seen at the Germantown Hospital, nearly ten years ago. The patient, a German woman, 60 years old, consulted me for a partial dimness of vision in her right eye. Upon examination with the ophthalmoscope I found a round body, over which the retina had the appearance of being tightly drawn—the solid appearance and mottled gray color led me to believe that I was dealing with a Sarcoma of the choroid. The patient was kept under observation for some few weeks. The growth seemed to get larger—and the patient also felt that the visual field was contracting. I advised enucleation, which was performed in the Hospital, and a section made of the eyeball—a large round growth, filling up one-half of the vitreous chamber, was seen. A microscopical examination showed that the tumor was a Melano–Sarcoma.

About a year after this a very interesting case of new growth on the iris came to the clinic; it had the appearance of syphilitic gumma. I placed the patient upon mixed treatment, which, however, did not prevent the tumor from growing. I made an attempt at its removal by excising the growth with a part of the iris. The microscrope revealed that we had a pigmented Sarcoma to deal with. The wound healed without any secondary results, but the growth returned, and after filling the anterior chamber, I removed the whole eyeball. The tumor involved the ciliary bodies, and cells were also found in the choroid. The patient lived for three years and died in the Hospital

of involvement of the liver, in all probability a Sarcoma, although no post-mortem examination was made.

All authorities agree upon it being a most malignant disease, and that sooner or later death ensues. When recognized, early enucleation may protect the patient, but the prognosis is always unfavorable.

Glioma of the Retina. Child two years old, referred by Prof. Isaac Ott, Easton, Pa., June 25th, 1895.

The mother of the little child noticed a peculiar yellow reflex from the left eye, and immediately called Prof. Ott's attention to it. The case was referred to me—upon examination concluded that it was a case of Glioma and advised immediate enucleation. The patient was taken to the Medico-Chirurgical Hospital and the eyeball taken out. I opened the eyeball by an incision through the equator and found the vitreous chamber filled with a white pultaceous mass, extending and filling up all the space back of the crystalline lens. Dr. Watson of the Histological Department made a microscopical examination and pronounced the specimen a true Glioma. The child made rapid recovery from the operation. I advised the father of the serious character and nature of these tumors, but up to the present time no untoward symptoms have developed.

About this time another child was referred to the Hospital by the late Dr. Gilbert from Chestnut Hill—with the same macroscopic appearance, the fundus filled by a pale yellow mass. The eyeball was removed and exactly the same condition was found as in the previous case—a Glioma. This child is three years old and is now wearing an artificial eye. There is no difficulty in putting the eye in place—the child wears it without inconvenience. On December 1st, when I last saw the child she was in excellent health.

A third case came under my care at the same time. I explained to the parents the serious character of the malady and

advised enucleation—they left the Hospital and I have heard nothing further from them.

It is a strange co-incidence that in as many weeks I should see three cases of this very rare disease.

NEW FORMED BLOOD VESSELS IN THE VITREOUS.

Case 1.—Male, referred by Mr. Hall of the Blind Men's Home. He came to the Hospital for an ophthalmoscopic examination. He had sufficient vision in one eye to find his way about the streets. When testing his vision it was found that he could barely make out hand movement at three feet—in the left eye totally blind.

This patient gave a specific history, dating back ten years. Shortly after this his vision began failing and in spite of thorough treatment he is practically blind. Both pupils are semi-dilated, the right responds to light sluggishly, the left not at all. The ophthalmoscope shows slight traces of chronic hyalitis and the optic nerve and arteries over the fundus dimly outlined, spring from the head of the optic nerve, and floating forward into the vitreous, can be seen loops of new formed blood vessels—they have the peculiar spiral loops at their ends, not unlike those described by Jager in his Atlas, and similar to those cases described by Charnley and myself in the Royal London Ophthalmic Hospital Reports in 1882.

Case 2.—T. B., age thirty-five, gives a specific history, which dates back several years. At that time he was living in Ohio, and in January 1895 his eyesight grew dim, although he had no pain and the eyeballs did not become inflamed. During that time he had attacks of phosphenes, and a few weeks later many moats floating before his eyes. He went to Cincinnati under the care of a celebrated ophthalmic surgeon, who, recognizing the disease, placed him on active mercurial treatment, which soon brought about great improvement in his vision. He remained in Cincinnati for three months. Not being able to follow his occupation as a builder, which necessitated close

inspection of plans and fine lines, he came on to Philadelphia under my care. During the interval of his leaving off treatment (having spent two weeks with friends before coming to see me) his eyes suddenly became worse. On his arrival he had only vision of $\frac{5}{200}$ in each eye. Upon learning his history and detecting hyalitis and probably retinitis, placed him upon active mercurial inunctions daily. Internally prescribed the mixed treatment. After getting the full effects of the hydrargyrum the vision improved to $\frac{20}{40}$ in the right eye, $\frac{20}{50}$ in the left eye in about six weeks. The range of vision continued for four weeks, as there was improvement and the treatment had to be discontinued he was placed under Dr. Faught's care for electrical treatment. The constant current was applied three times weekly with an excellent result—right eye $\frac{20}{30}$, left eye $\frac{20}{40}$.

After the clearing up by the electricity I found in the right eye four bunches of new formed blood vessels, all springing from the head of the optic nerve—two hanging downwards and seemingly, floating towards the nasal side into the vitreous. These blood vessels had the same spiral endings as described in my two previous cases.

The treatment by hydrargyrum brought the vision up to a certain range beyond which it was useless; by following this up with the constant current we were able still further to increase the vision. In certain forms of intraocular lesions, I know of no treatment so satisfactory as the constant current, properly applied. As to the formation of these new formed blood vessels in the vitreous I am convinced that the same process is involved that we find taking place on the cornea in pannus and in ulcers of the cornea.

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