made for the establishment of a vast educational establishment for the blind (vide the Ophthalmoscope for December, 1911). Such a scheme would have diverted Government funds from the then barely established organization for the treatment of eye diseases and required some trouble to defeat. The lot of the blind in Egypt is not so hard as in other countries, and as Dr. Osborne points out it is difficult to get inmates for the existing blind schools at Cairo and Alexandria.

A systematic and regular ophthalmic inspection of the schools is now carried out by the ophthalmic staff of the Department of Public Health, which is combined with an efficient organization for treatment of those with active trachoma or other forms of conjunctivitis, in the schools themselves.

Dr. Osborne concludes his paper by saying: "Egypt may well be proud of what has been achieved."

SOME NOTES ON SARCOMA OF THE UVEAL TRACT

BY

R. C. DAVENPORT

MOORFIELDS RESEARCH SCHOLAR

LONDON

In Vol. XIII, p. 104, of the Ophthalmic Hospital Reports, Lawford and Collins published a paper giving details of a series of 103 cases of sarcoma of the uveal tract treated at Moorfields from 1871-1890. Marshall followed this in Vol. XV, p. 51, with a series of 58 similar cases from 1891-1898. The present paper records a similar series of 35 cases, at Moorfields in 5 years, October, 1918-October, 1923.

Frequency.—The first point of interest is the consistent yearly incidence at Moorfields. Over the whole period, 1871-1925, 55 years, there are recorded 345 cases where an excised eye was found to contain a sarcoma of the uveal tract. This gives an average of just over 6 per year. In the 28 years previously recorded there were 161 cases, viz., just under 6 per year, and in my collected cases the average is exactly 7.

In the other series a few extraneous cases were published so that the actual Moorfields figure then was slightly under 6 per year. The regularity of incidence over so many years is somewhat striking, however, although the increase is less sharp than might be expected in recent years when the figures for new patients are almost double those for 1870-1890. One factor possibly bearing on this was the difficulty in pathological work and reports in the years
just around the end of the war. Through this a few cases may have remained unrecorded.

The figures usually given are 3-6 cases per 10,000, but by the numbers at Moorfields it works out at more like 2 per 10,000 or even under that now, when the increase in refraction work is apparent.

It may be supposed that some cases of detachment of the retina due to an unsuspected uveal sarcoma are not subjected to operation and later go elsewhere, but such must be very few indeed.

Sex.—It is usually stated that males predominate slightly in frequency in choroidal sarcoma. In the total number of 345 cases recorded at Moorfields there are 175 female, 167 male, and three not recorded. These numbers include a few cases of iris sarcoma in which female incidence is more common. In the 35 cases in this series there are 23 females to 12 males (65.7 per cent. to 34 per cent.). Three cases (two females and one male) were of iris sarcoma, but even after exclusion of these there is a very unusual preponderance of female incidence.

Age.—Average age, Lawford's and Collins series, 48.42; Marshall's series, 54.63; recent series, 50.4 (youngest, 13; oldest, 71).

Eye affected.—The total figures do not show that there is any reason to believe one eye to be more frequently affected than the other.

**Tension of the eye at operation.**—In this series tension was noted as normal in 18 cases, and raised in 16. The bearing of this upon the ultimate result does not help much in view of the small number of traced cases, but it at least shows how often the condition arrives at the stage of acute glaucoma before advice is sought.

In one case the tension was noted as below normal and in this case the ciliary body was involved in the growth—the usual state of affairs when tension is low—in the other two cases where the ciliary body was noted as being definitely involved the tension was not raised in one, but raised in the other. Of the three cases where the sarcoma arose in the iris, two showed increased tension.

**Nature of growth.**—Various types of sarcoma were found on pathological examination, *viz.*, flat, rounded, lightly, and heavily pigmented, round-celled and spindle-celled—the latter being the more frequent. In one or two the pigment was so slight that the macroscopic appearance approached that of leuco-sarcoma, though section always showed the presence of pigmentation.

**After history.**—I have tried to get in touch with every case in this series, but have only succeeded in 22 cases. Letters have been returned in some cases, no reply sent in others, and outside evidence from the original doctor of the case has not helped me further.
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In view of the difficulty now of tracing cases in the General Register Office, I have made no attempt to have the records there searched for any death records of the untraced cases.

Of the 22 cases traced, 10 are known to be alive and well at the following periods since excision: 3½ years (three cases); 4 years (three cases, one of iris tumour); 6 years; 6½ years (iris); 8 years (two cases). It may be hoped that several of these will remain free from recurrence, although there is no certainty, especially in the cases with a shorter period of freedom. However the figure remains that of the whole series 28.5 per cent. are known to have lived apparently free from recurrence for more than three years from the time of excision.

The remaining 12 cases (34.28 per cent. of the whole series), are known to have died, or actually 11 have died and one is so widely affected by secondary deposits that her death must be imminent.

Including this case, 7, or 20 per cent. of the whole, are known to have died of recurrence at the following periods after excision: one less than one year (abdominal tumours in hospital); three at two years, all with abdominal tumour and one also generalized; one at three and a half years, generalized recurrence; one at four years, brain tumour; one at six and a half years, generalized.

This last case is the one not yet deceased. The eye was excised in 1920, and she was well till 1924, when a subcutaneous tumour appeared in the shoulder region. Gradually further tumours have appeared beneath the skin and she now has abdominal growths and cannot be regarded as other than a hopeless case. But no recurrence showed itself for four years subsequent to excision. This case is in its history similar to the living case in the family which I have recorded under the title of "A Family History of Choroidal Sarcoma." (Brit. Jl. of Ophthal., September, 1927.)

In the remaining five cases the details are as follow: One died two months after operation from heart failure. One died of heart disease and dropsy one and a half years after operation. One died of pleurisy, no evidence of recurrence, two years after operation. One died two years later, cause unknown. One died six years later (at the age of 74) of general failure, showing no signs of recurrence.

Of all the cases that died I have not obtained evidence of a single case showing recurrence in the orbit. One case alive, complains of pain in his socket three and a half years after excision, but there is no sign of a recurrent tumour there. In one case exenteration of the orbit was performed as the tumour had invaded the tissues outside the globe. He was seen and found clear three months after operation, but I have been unable to trace him since then.

Thirteen cases I have failed to get in touch with lately. From the notes some of these must be expected to have had recurrence as the lesion was either long standing or well advanced when the
patient came to hospital and excision was undertaken. Most of the cases failed to attend hospital for more than three months after excision, but two were seen alive, one well over three years after operation, and one over two years after.

*Unusual features.*—In no case do the records suggest that trauma was in any way connected with the onset of the ocular change later found to be a choroidal sarcoma. Five cases however show features of varying interest.

1. Growth discovered during routine fundus examination of a refraction case, vision 6/6, tension normal, a localized peripheral fundus tumour proved to be a sarcoma on pathological examination.

2. Pigmentary changes at the macula reducing the vision to 6/60 were seen in the case of a patient who, six years later, had her eye excised for detachment of the retina with secondary glaucoma. This eye contained a large sarcoma of the choroid growing from the posterior pole. I have been unable to trace the case since excision.

3. A man of 25 was seen in 1912 with a pigmented area in the sclera just over the ciliary region. He failed to keep under observation, the eye becoming blind some years later. In 1920, he reappeared with secondary glaucoma and the anterior chamber half-filled with a dark growth appearing from beneath the site of the original scleral spot. This proved to be a sarcoma involving ciliary body and iris, but again I have obtained no later history.

4. A woman of 71 had had a tumour of the breast of rapid growth and involving the axilla for nearly 12 months. For one month her eye had been painful and examination showed a tumour (?) far forward in the fundus. She also had an abdominal (?) tumour involving the nerve supply to the left leg. It was supposed that the eye and abdomen contained metastases from a carcinoma of the breast. Section of the excised eye, however, showed it to contain a typical pigmented choroidal sarcoma and there is, therefore, reason to suppose the breast and abdomen also contained melanotic sarcoma deposits though such was never determined.

5. A case from the family whose striking history of choroidal sarcoma I have put together and mentioned in another paper.

As Moorfields Research Scholar I have been able to collect the records put together here and I wish to thank the Staff for permission to use the notes of their cases, and the Curator for the pathological findings.
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R. C. Davenport

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