OCULAR SPARGANOSIS IN AN AFRICAN WOMAN*

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A **Muganda** woman of unknown age, but elderly appearance, presented at the clinic with a complaint of swelling of the left eye, which had been present for 3 months and which she attributed to a fall when she had hurt both eye and shoulder.

Examination.—The visual acuity was 6/6 in both eyes. In the left eye a cystic swelling 5 × 10 mm. was seen lying under the bulbar conjunctiva, apparently arising from the caruncle and separated from the limbus at its closest point by some 2 mm. (Fig. 1).

FIG. 1.—Cyst containing *Sparganum mansonii* under the bulbar conjunctiva.

The cyst appeared to be attached to the sclera. On transillumination the effect was that of a milky rather than a clear fluid. High up in the superior fornix was a flattened, yellow plaque having the appearance of a lobule of fat.

A tentative diagnosis of an implantation cyst (in view of the history) was made. The patient herself knew nothing of the yellow plaque.

Operation.—The overlying conjunctiva was atrophic but only lightly adherent and the cyst itself was easily separated from the sclera. During removal the cyst was inadvertently opened and a white “pultaceous” matter was extruded, which on attempted removal was found to be “elastic”. It was at this point that the diagnosis was changed to that of sparganosis (Fig. 2).

FIG. 2.—Cyst removed, showing *Sparganum* prolapsed from the sac.

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It was then decided to incise the lobule of fat from which a second *Sparganum* was removed (Fig. 3) being attached by its "head" end to the depths of the cavity.

FIG. 3.—Second *Sparganum* removed and preserved.

A white blood count taken immediately after the operation showed a leucopenia with an eosinophilia of 12 per cent.

Total white blood cells	6,600
Neutrophils	42 per cent.
Lymphocytes	44 per cent.
Eosinophils	12 per cent.
Monocytes	2 per cent.

Both wounds healed with no complication. The patient was seen a week later, when there was a minimal local reaction.

The Worm

The second worm was placed in normal saline and showed a marked motility along its whole length, tying itself in three separate knots. The head end showed a marked photophobia. This end also demonstrated a small collar or localized annular swelling which passed as a wave from the end for a distance of 2.5 centimetres and back again, the periodicity of this wave being at the rate of 15 per second in deep shadow and increasing to 60 per second in bright light.

The classical description of the head end being globular and spinous is an artefact (seen in Fig. 4 after fixation), and the thickened end is in fact the annular collar fixed by formalin at the termination (Botero and Gomez, 1958).

FIG. 4.—Preserved head as usually described. This is an artefact, as in the live worm the thickened head is a small collar which shows a wave passing backwards and forwards along the peripheral 2.5 cm. $\times 10$.

A cross-section of the worm taken from approximately the mid-point shows large numbers of rounded bodies described as corpuscles of calcium carbonate easily soluble and reported to have a buffering effect in an acid medium (Fig. 5, opposite).

Commentary

Only six cases of sparganosis have previously been reported in Africa (Kiremerwa, Byaruhanga, and Raper, 1956), and none has been described from the eye or orbit, although the condition is well recognized in the Far East, where frogs either whole or in part as muscle are applied locally as treatment for an inflamed eye. This patient firmly denied any self-

FIG. 5.—Cross-section of worm, showing rounded bodies of calcium carbonate. $\times 66$.

medication of this type and was ignorant of the source of her domestic water supply, which was brought by a daughter, but she lived near the edge of a papyrus swamp, and considered this to be the most probable source.

The essential host is the dog, with two intermediary hosts, the first a cyclops which carries the minute motile larvae, and the second a mammal, bird, or small reptile which becomes infected by the larvae and being devoured by a dog continues the cycle. Man may form the second intermediary host, either by direct contact with the larva or by ingestion of water infected with the proceroid stage. The treatment suggested by Manson-Bahr (1954) of intravenous Neosalvarsan 0.3–0.45 g. repeated after 4 to 5 days with a temporary protective tarsorrhaphy is possible when the original diagnosis is made, but the simple removal of the worm leaving the sac *in situ* is probably quicker and appears to cause no local tissue reaction.

Summary

A case of ocular infection with two *Spargana* in a Muganda woman is described, with a note on the living appearance of the worm and the surgical treatment of the condition.

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