CASE NOTES

MULTIPLE MYELOMATOSIS AFFECTING THE ORBIT*

BY

DORIS ROSE AND CLIFFORD TAYLOR

Eastbourne

Case Report

A woman aged 56 came to the ophthalmic clinic on August 29, 1951, with marked non-pulsating proptosis of the left eye, first noticed a month previously and steadily increasing.

Examination.—The left eye was lower than the right and all movements were defective. Visual acuity in the left eye was 6/9. The retinal vessels were engorged. Some retinal haemorrhages were present. The right eye was normal, with visual acuity 6/6. The patient refused admission for investigation as she said she was otherwise perfectly well and had always been healthy. An x-ray examination was made by Dr. E. Owen Fox, who reported that the whole vault of the skull showed numerous rounded areas of rarefaction, the largest being in the frontal region on the left side. Similar areas were present in the lower jaw, clavicles, ribs, and mid-sternum. No changes were seen in the lumbar vertebrae.

On October 2, 1951, a general examination was made by Mr. Henry Wilson. Low back pain of some months' duration, which was relieved by lying down, and increasing constipation of 6 weeks' duration, were the only symptoms. There was no headache.

Progress.—On October 9, 1951, the patient was admitted as an emergency case. Extreme proptosis, now pulsating, with marked chemosis and some peri-orbital oedema, were present. A tarsorrhaphy was only just possible, the cornea already being hazy. There was tenderness over the lower spine and pelvis and slight tenderness in the right hypochondrium.

Laboratory Investigations.—Wassermann reaction and Kahn test negative.

Marked rouleaux prevented a red cell count being carried out. Hb 63 per cent. (Haldane), white cells 7,800 per cu. mm., differential count normal apart from the presence of a small number of plasma cells.

Erythrocyte sedimentation rate (Westergren) 150 mm./1 hr.

Blood urea, 139 mg. per cent., total serum protein 15 g. per cent., albumin 2 g., globulin 13 g., albumin/globulin ratio 1:6.5; serum calcium 12.4 mg. per cent., serum alkaline phosphatase 48 King Armstrong units.

Urine. Negative for Bence-Jones protein.

Sternal marrow showed the cells to be largely of the plasma series.

Diagnosis.—Multiple myelomatosis, in accordance with the x-ray reports and pathological findings.

Therapy.—A course of radiotherapy was given on October 25, 1951, which made the patient more comfortable.

Death occurred on November 19, 1951.

Necropsy Findings.—On opening the skull a tumour measuring 7 × 5 cm. was identified in the left frontal area, lying in the extradura between the frontal bone anteriorly and above, the dura behind and the orbital plate beneath. It was of firm consistency, being made up of dark red coagulum and pink-grey tumour tissue. It was firmly adherent to

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the dura but had not penetrated that membrane although it had partially flattened the left frontal area of the brain. Above the tumour, the inner table of the skull was eroded over a wide area, while below, the left supra-orbital plate was largely destroyed and a hole 4×3 cm. had been produced in which the tumour passed downwards into the orbital fat displacing the eyeball forwards (Figure). The cribriform plate on the left side was also eroded, the tumour having apparently arisen in the medullary cavity of the left frontal bone. The orbital ridge was of eggshell thickness and it easily crumbled under digital pressure. Myeloma deposits were also identified in other parts of the calvarium as well as in the sternum, clavicles, ribs, bodies of the thoracic and lumbar vertebrae, and in the long bones.

FIGURE.—Internal surface of left half of base of skull, showing erosion of orbital plate by myeloma.

Sections of the tissue taken from the orbital tumour, ribs, and sternum showed compact aggregates and broad sheets of cells of uniform structure, exhibiting the typical plasma-cell pattern with eccentrically-placed nuclei, abundant cytoplasm, and cartwheel-like disposition of the condensed nuclear chromatin. Recent haemorrhage was prominent in the tumour mass occupying the retro-orbital fat.

Comment

Physical well-being continued until the proptosis had been present for 2 months. It seems likely that a haemorrhage then occurred in the tumour mass, death supervening rapidly in 6 weeks. Although the tumour appeared to originate in the medullary cavity of the frontal bone, it was its penetration into the orbit which produced the proptosis, and this was the first symptom noted by the patient. Clarke (1953) states that myeloma affecting the orbit is very rare. This case is reported because it is thought that the necropsy findings may be of interest.

REFERENCE

CLARKE, E. (1953). *British Journal of Ophthalmology*, 37, 543.