# ANCIENT EGYPTIAN PATHOLOGY

By CALVIN WELLS (Norwich)

THIS is a brief account of an Ancient Egyptian pathological skull which is now in the Duckworth Laboratory, University of Cambridge (Accession number: 236). It dates from the 3rd-5th Dynasty (the Old Kingdom Pyramid Age) and is, therefore, nearly 5,000 years old. No post-cranial bones are present: the specimen consists of an isolated calvarium of an adult male. The balance of

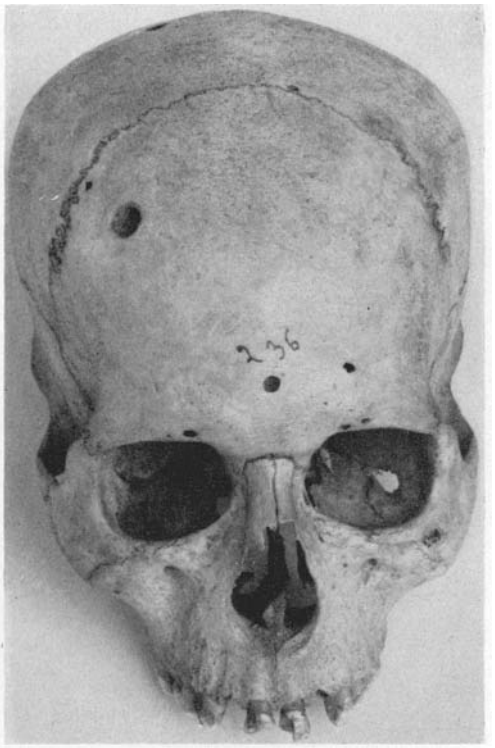



FIG. 1.

Perforations in the vault can be seen in at least seven places. Another is clearly seen in the left zygoma.

evidence, which will not be discussed here, suggests that his age was about 30-35 years. The skull is sturdily built, with powerful markings for muscle attachments and is in perfect condition.



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Its outstanding feature is the presence of a number of circular holes in the outer table of the cranial vault (Fig. 1). They range in size from 2·5 mm. to 9·6 mm. in diameter and afford a clear view of the diploë. There are 11 of these holes and there can be no doubt that they developed during life. None bears any resemblance to the artefacts produced post-mortem by the action of beetles or small rodents such as are commonly seen in Ancient Egyptian skulls. No signs of healing are present though in a few of them there is a suggestion that the bone has made some feeble attempt at reaction.

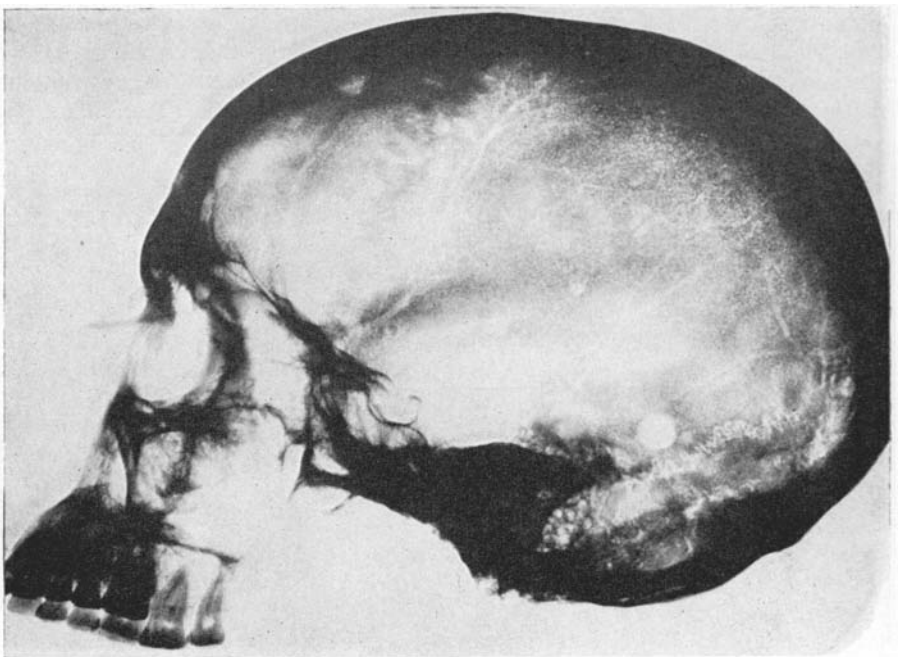


FIG. 2.
Foci of malignant rarefaction can be seen throughout the skull.

In addition to the lesions through the outer table of the vault one is present on the base of the skull adjacent to the right occipital condyle, another by the left occipital condyle, another has eroded the anterior surface of the left zygoma, a small one is similarly present on the right zygoma, and one which has eroded the frontal bone immediately above the left orbit has also made an opening in the roof of that orbit.

Inspection of the interior of the skull shows at least six more of these lesions which have eroded only the inner table and cannot be detected externally.

When the skull is transilluminated by a strong light several more foci can be seen developing in the diploë without having involved either the outer or inner tables. Radiography confirms this and reveals still more (Fig. 2 and 3). In all, about 26 lesions seem to be present.



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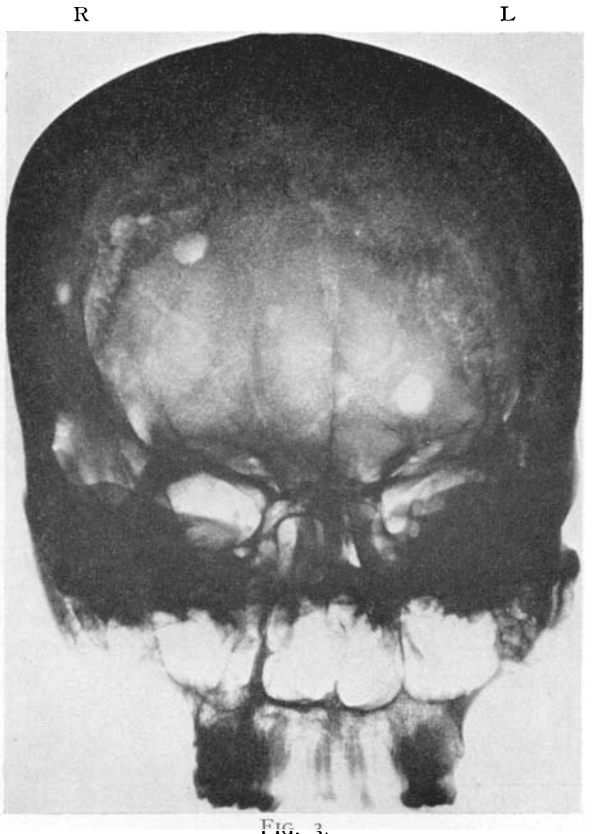



FIG. 3.
This radiograph shows areas of malignant porosis in the vault and face.

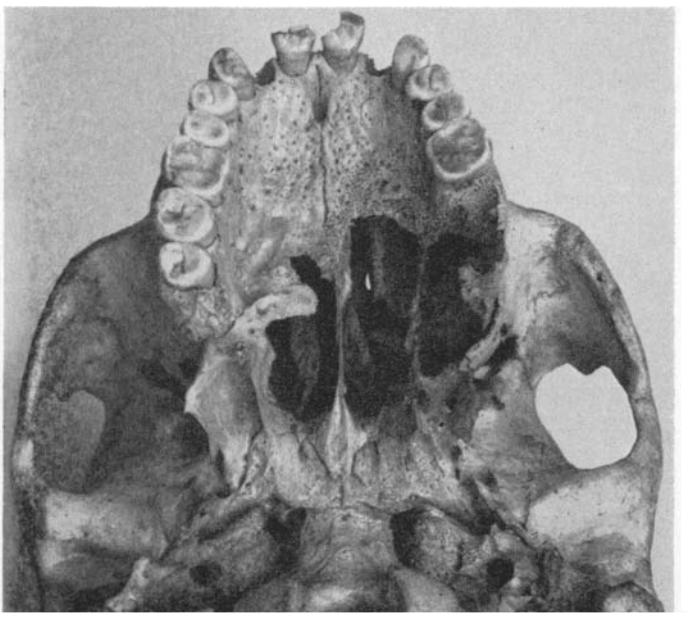


FIG. 4.
This shows destruction by the primary growth of the left pterygoid laminae, the posterior wall of the antrum and the left half of the palate and alveolus. Secondary infective osteitis surrounds the primary lesion.

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Diagnosis can be rapidly reduced to a very few possibilities. Trauma is out of the question and the virtual absence of reaction or associated osteitis excludes an infective condition. The obvious choice is malignant disease and here multiple myeloma would press strongly for consideration. However, certain minutiae in the appearance of these lesions suggest that secondary deposits of carcinoma may have a stronger claim.

Further inspection of the specimen abundantly justifies this. The posterior part of the left maxillary alveolus has been eroded and destroyed with the antemortem loss of the 2nd and 3rd molars (Fig. 4). The hard palate has been destroyed in its posterior half on the left side and some invasion across the midline has also occurred. The medial and lateral pterygoid laminae have disappeared together with the posterior wall of the maxillary sinus and part of the inferior concha. Around these areas of erosion a zone of osteitic reaction is present.

The overall picture leaves little doubt that this is a case of carcinoma of the naso-pharynx with primary destruction of the maxillary, palatal and pterygoid elements and secondary deposits widely scattered in the skull. The osteitis around the primary lesion was no doubt due to infection of adjacent soft tissues of the mouth and naso-pharynx once the growth had ulcerated through the mucous membrane.

A few points are worthy of comment on this case.

Firstly, as is well known, malignant disease, apart from sarcoma, is definitely rare in ancient skeletal remains. In all the tens of thousands of Early Egyptian bodies which have been examined only two or three reasonably well attested cases have been identified.

The present example must be considered important on account of its being one of the earliest cases recognized from any part of the world.

Secondly, it is interesting to observe that of the two cases of carcinoma (both of Byzantine date) which Elliot Smith identified from his examination of thousands of Ancient Egyptians one, as in the present specimen, was of the nasopharynx (Smith and Dawson, 1924).

Apart from these Egyptian tumours there is almost no convincing ancient example of malignant disease from the Near or Middle East. One specimen, however, from the early Iranian site of Tepe Hissar does most strongly suggest carcinoma and like the case recorded here destruction of the left maxillary alveolus, palate and antral wall has occurred. (Krogman, 1940). This, too, dates from about 3,500-3,000 B.C.

Thirdly, it may be noted that in strong contrast to what is found in Western Europe nasal and oral carcinomata are extremely common in many parts of Asia and East Africa today. In Nairobi, for example, more than a quarter of all malignant growths occur in this region and many cases of the disease are found in young people still in their 'teens (Clifford, 1961). At present there is not enough evidence to decide whether this implies some ætiological factor common to the early inhabitants of the Near East and their modern successors.

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