Shorter Notes

Short cist at Mains of Daltulich, Nairnshire

by Richard Milne, Margaret F Bruce and N W Kerr

CIST

On 9th February 1970 a short cist was discovered whilst ploughing a field on the farm The Mains of Daltulich, Nairnside (NGR 734421). The cist was at the edge of the field on a ridge above the River Nairn and lay NE–SW.

The capstone, which measured 52 in by 37 in and was 4 in thick, had been tilted into the grave. A considerable amount of earth had got into the cist which measured 39 in by 20 in and consisted of four slabs. It was 19 in deep and the floor was earth and sand. Only human remains were found, the head to the NE. (R M)

SKELETAL REMAINS

The skeleton is that of a robust male some 160 cm tall and in his mid thirties. There is no evidence of more than one individual. The skull, although friable, is well preserved except for the right maxillary region, the bones thick apart from marked thinning in the occipital region. In profile the skull is relatively low with a flattened occiput, while from above it is broad, the greatest width being at the level of the parietal eminences. The face is short and broad. The vertebrae and ribs are represented only by fragments except for the atlas and axis. Of the pelvis there remains only the right acetabulum with part of the superior ramus of the pubis, small fragments of the iliac blades, part of the left acetabulum and of the left greater sciatic notch. The long bones of the limbs are robust but damaged, the hand and foot represented by the right and left calcaneum and talus, the right cuboid and several phalanges. The femur shows a well-defined linea aspera and no marked torsion. The anterior crest of the left tibia is markedly diverted laterally.

Measurements of the skull in mm

Maximum cranial length	192	Transverse cranial arc	323
Maximum cranial breadth	151	Frontal arc	138
Minimum frontal breadth	105	Parietal arc	132
Basibregmatic height	134	Occipital arc	126
Auricular height	125	Foramen magnum: A.P. diameter	33
Maximum cranial circumference	541	transverse	23

Face

Total cranial facial height	114	Biorbital breadth	109
Upper cranial facial height	70	Nasal height 48, breadth	26?
Basinasal length	104	Simotir chord	9
Basialveolar length	103	Palatal length 51, breadth	42
Maximum bizygomatic breadth	135?	Foramen mentalia breadth	46
Bimaxillary breadth	98	Minimum ramus breadth (right)	36
Orbital breadth, Right 42 Left	43	Maximum projective mand. Length	118
Orbital height, Right — Left	32	Coronoid height	62

Measurements of limb bones in mm

Humerus, right:	maximum length	315	Femur, left:	anteroposterior diameter	27
Femur, right:	maximum length	405		transverse diameter	34
	bicondylar length	407	Tibia, left:	anteroposterior diameter	35
	anteroposterior diameter	28		transverse diameter	25
	transverse diameter	33			

Indices

Cranial index	78·6	Upper facial index	51·9	Gnathic index	99·8
Length-height index	69·8	Nasal index	55·3		
Breadth-height index	88·7	Orbital index, right	73·8	Femur shaft index	84
Total facial index	84·4	left	74·4	Tibia shaft index	71

Estimated cranial capacity 1650 ± 30 cc (Lee 1901)

Sex. Male. The hook-shaped sciatic notch, the strong muscle markings of the long bones, and the heavy markings of the skull, particularly the supraorbital ridges and the strong mastoid processes, are all characteristically male-type.

Skeletal age. Probably about the middle thirties. As the occipitosphenoidal suture is fused in addition to the epiphyses of the long bones, an estimate can be made only by cranial suture closure. The sagittal suture shows externally some fusion beginning in the obelical and bregmatic zones but internally is largely fused in the region of the bregma and vertex, though not, as might be expected at the obelion. The coronal suture is almost completely fused near the pterion both endo- and ecto-cranially. The lambdoid suture shows little fusion externally but is well advanced internally. The application of Wingate Todd's detailed analysis of male white American skulls suggests that a balance should be struck between the early and late thirties (Todd and Lyon 1924; 1925).

Height. Both Manouvrier's Tables (1892) and those of Trotter and Gleser (1952) for expected maximum stature give a figure of 157·5 cm or 5 ft 2 in when calculated from the femur. The humerus gives a greater estimated height, 5 ft 4 in and 5 ft 6 in from the respective tables.

Teeth. The usually fine condition of the teeth in such interments has attracted attention so that the extensive oral sepsis in this man seemed worth more detailed examination. (M F B)

DENTAL REPORT

The mandible is that of a male with well-formed muscle attachments, matching the maxilla in size and articulation.

The teeth present are $\frac{654 \quad 1/}{8\ 654321\ /12345678}$.

The remaining teeth had been lost *post mortem* except for the possibility of $\frac{7/67}{7/}$. Abscesses are apparent on $\frac{87/6}{7/}$. The teeth show evidence of extensive attrition with a very much flattened occlusal plane. There is occlusal evidence of secondary dentine formation in all incisor and first molar teeth.

Cervical caries is present in the lower molar regions and this is of the typical cervical variety below the contact point which is seen in older skulls with extensive attrition. The supporting bone condition is excellent and shows evidence of good response to the function that was demanded of it. There is radiographic evidence of good bone reaction to the inflammatory

areas on the lower jaw and an apical abscess is apparent on the lower right incisor which is not apparent on clinical examination. An assessment of the *age*, determined by the degree of attrition assuming that the dates of eruption of the teeth are similar as in modern man, would give an approximate age in the mid-thirties.

Summary

The skull is that of a man aged approximately thirty to thirty-eight years. It is apparent he suffered a good deal of dental pain during his latter years and it is not outside the bounds of possibility that he died of an extension of oral sepsis from the upper right molar region. Chronic abscesses are apparent on three teeth in the lower jaw and X-rays indicate that the infection was well controlled locally in these areas and, although pain must have been considerable, no systemic involvement is likely to have occurred. A similar appearance is observed in the upper left molar region and it appears one molar tooth has been exfoliated in this area, shortly before death. The upper right molar region has the appearance of active infection at the time of his death.

One would assume his diet consisted of coarse grain material – possibly grain or shell fish diet – both of which would contain some abrasive material, though this in itself would not be necessary to cause the amount of attrition – tough fibrous food entailing an excess of mastication could account for this amount of wear. The extent of the attrition on some of his teeth has obviously been too rapid for the dental tissues to regenerate, and exposure of the pulp has taken place, resulting in infection and abscess formation. This has occurred mostly on the teeth that have been present in the mouth for the longest period, namely the first molar teeth and also one lower incisor. He has suffered from caries, but this is not extensive and is of the typical cervical pattern that occurred from teeth that suffered extensive attrition and abrasion. His periodontal or gum condition is of a high order as would be expected considering the function that would be demanded of his particular diet. (N W K)

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