Ancient Monuments Laboratory
Report 12/89

HUMAN BONE FROM ROMAN CATARACTONIUM CATTERICK, NORTH YOURKSHIRE.

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Summary

A few fragmentary and rather poorly preserved remains representing 3 adult males and one infant were recovered from Roman Caractonium, Catterick, during excavations in 1972.

Author's address :-

S A Mays

Ancient Monuments Laboratory
English Heritage
23 Savile Row
London
W1X 2HE

Human Bone From Roman Cataractonium, Catterick, North Yorkshire

Human bone was recovered from 5 contexts during excavations at Roman Cataractonium in 1972. Four of these contexts were layers above the defensive ditch and one (R III (3)) was from the 3rd-4th century occupational area. All the bone was rather poorly preserved and fragmentary.

Context: P III (21) (Antonine layer contemporary with bridgehead defence) & P IV (4) (Layer, AD 370+).

Material: These two contexts contain adjoining fragments of a single skull; in all about two-thirds of the calvarium is present.

Sex: Probably male (Workshop of European Anthropologists 1980).

Age: Young adult, probably about 20-35 (suture closure - Perizonius 1984).

Non-metric variants: Selected from Berry & Berry (1967).

Trait	
Metopic suture	0
Ossicle at lambda	1
Lambdoid ossicle	1
Inca bone	0
Sagittal ossicle	0
Ossicle at bregma	0
Parietal foramen	0/0

Key: 0=trait absent, 1=trait present, bilateral traits expressed as left side/right side.

The fragmentary nature of the skull precluded the taking of measurements.

Context: P IV (9) (Pit to the south of the bridgehead defence, ?2nd century).

Material: Skull (3/4 complete), mandible, 6 cervical vertebrae and fragments of shoulder girdle. Bones poorly preserved.

Dental formula

-	*	*	*	*	,	X	*	*	X	X	*	,	,	*	*
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
0	X	X	,	,	*	,	-	X	,	,	,	,	,	X	*

Left Right

Key: ,=tooth present in socket 0=congenital absence of tooth X=tooth lost post-mortem *=tooth lost ante-mortem -=socket missing or damaged

Sex: Probably male (Workshop of European Anthropologists 1980).

Age: About 35-45 (dental attrition - Brothwell 1981: Fig. 3.9).

Non-metric variants:

(a) Cranial traits (selected from Berry & Berry 1967)

Trait	
Metopic suture	1
Ossicle at lambda	0
Lambdoid ossicle	1
Inca bone	0
Sagittal ossicle	0
Ossicle at bregma	0
Parietal notch bone	0/-
Auditory torus	0/-
Foramen of Hushke	0/0
Ossicle at asterion	0/-
Palatine torus	0
Maxillary torus	0
Mastoid foramen extra-sutural	0/1
Mastoid foramen absent	0/0
Double condylar facet on occipital	0/0
Parietal foramen	1/1
Zygomatic-facial foramen	1/1
Divided hypoglossal canal	0/1
Posterior condylar canal patent	-/1
Precondylar tubercle	0/0
Foramen ovale incomplete	0/1
Accessory lesser palatine foramen	1/1
Supra-orbital foramen incomplete	1/p
Maxillary M3 absent	-/0
Mandibular M3 absent	1/0
Mylohyoid bridging	0/0

Key: as above except -=no observation possible p=partial manifestation of trait.

(b) Post-cranial traits (selected from Finnegan 1978)

Trait	
Supra-scapular foramen	-/0
Atlas facet double	0/0
Posterior atlas bridging	0/0
Lateral atlas bridging	-/0

The fragmentary nature of the remains precluded the taking of any measurements.

Pathology

(a) Oral: The maxilla and mandible show considerable (Brothwell 1981: Fig. 6.14A) alveolar resorbtion and porosity of the inter-dental septa. Some inter-dental septa have a concave profile and there is an inter-dental pocket around the left mandibular first premolar. These lesions are indicative of severe periodontal disease (Costa 1982). Periodontal disease is an inflammation of the gums and other periodontal tissues, frequently leading to the loosening and eventual loss of teeth.

This individual also showed deposits of dental calculus to Dobney & Brothwell's (1987) Grade II. Dental calculus is a deposit consisting mainly of calcium salts and, in life, organic material in which flourish numerous bacteria.

Both periodontal disease and dental calculus are associated with poor oral hygiene (Hillson 1986: 310f).

There is a slight amount of pitted, reactive new bone formation in the left maxillary sinus in the area above the remodelled sockets for the left maxillary premolars (which have been lost ante-mortem). This lesion is indicative of infection in the sinus; this is frequently a result of direct extension of a dental infection (Shafer et al. 1983: 518). The localised nature of the present lesion suggests that it may have been a result of infection, probably from a since-healed periapical abcess, at the site of one or both premolars.

(b) Degenerative joint disease: This is generally divided into two categories: that affecting the vertebral bodies is termed osteophytosis and that affecting the other joints is termed osteoarthritis (Collins 1949). The most usual cause seems to be repeated minor traumata, as might result from day to day activities; this leads to degeneration of the intervertebral disc or joint cartilage with ensuing macroscopic bony changes, including marginal lipping and joint surface irregularities. Degenerative joint disease is associated with general 'wear and tear' to the joints and as such its prevalence and severity varies with individual age and with the amount of physical stress to the joints in life.

Four cervical vertebrae could be scored for osteophytosis: 3 showed lesions to Brothwell's (1981: Fig. 6.9) grade III, one to grade II. Five could be scored for osteoarthritis of the facet joints: 2 showed grade III and 3 showed grade II lesions.

Context: P V (12) (Layer, 1st-2nd century, possibly later).

Material: Many skull and a few post-cranial fragments of an infant; remains very poorly preserved.

Dental formula

									U	
									d	
-	-	-	-	-	-	-	-	-	-	.
5	4	3	2	1	1	2	3	4	5	
5	4	3	2	1	1	2	3	4	5	
-	-	-	-	.	.	X	.	.	-	
				U	U		U	d		
								E		

Left Right

Key: As above except U=unerupted tooth, E=erupting tooth, d=deciduous tooth.

Sex: Unknown

Age: 1 year - 18 months (dental develpment - Ubelaker 1978: Fig. 62).

Context: R III (3) (bone from inhumation within layer, AD 370+).

Material: Poorly preserved and fragmentary post-cranial remains. About 1/4 of skeleton present, mainly parts of long-bones.

Sex: Probably male (Worksnop of European Anthropologists 1980).

Age: Adult

Non-metric Variants: Selected from Finnegan (1978).

Trait	
Plaque formation on femur	1/-
Exostosis in trochanteric fossa	0/-
Supra-conyloid process	0/0
Septal aperture	0/0
Acetabular crease	1/-
Anterior calcaneal facet double	0/1
Anterior calcaneal facet absent	0/0

Pathology: A fragment of the body of a middle thoracic vertebra shows a shallow depression (approximately 12x10mm & 2mm deep) on its inferior surface. This probably represents a Schmorl's node. An intervertebral disc consists of a tough outer layer (the annulus fibrosus) surrounding a core (the nucleus pulposus) which, until early adulthood, is composed of semi-gelatinous material. In younger individuals excessive compression of the spinal column (such as might occur due to heavy lifting) may result in extrusion of material from the nucleus pulposus into

the adjacent vertebral body. The bony manifestation of this is a depression or cleft, the Schmorl's node. In some individuals congenital weaknesses in the cartilage plate of the vertebral body may increase the likelihood of the formation of Schmorl's nodes, but there is no doubt that a single trauma may rupture a healthy disc (Schmorl & Junghanns 1971: 158-168).

One tooth, the maxillary right second premolar, is present and shows a faint line of depressed enamel 5mm from the cemento-enamel junction. This is an enamel hypoplasia; they are associated with a variety of stresses including infectious diseases and nutritional deficiencies (Pindborg 1970: 188-210). Using the methodology of Goodman et al. (1980), the hypoplasia in the present case formed when the individual was about 3.5 years old.

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Location of archive: Ancient Monuments Laboratory, London.
Location of bones: Yorkshire Museum, York.