

WINCHESTER

A CITY IN THE MAKING

Archaeological excavations between 2002 – 2007
on the sites of Northgate House, Staple Gardens and the former Winchester Library, Jewry St

Section 10

Human Skeletal Remains
by Helen Webb

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Introduction

This report details the findings of the analysis of four Roman neonate skeletons (NH1528, NH4768, NH6176 and NH8510) and a single deposit (NH6236) of cremated bone of medieval date, excavated from Northgate House, Staple Gardens. The neonates were examined with reference to the recommendations set out by Geber (2005) in his assessment of the remains. In particular, they were examined to estimate more precise ages, undertake metrical recording and to record evidence of pathology. This report does not include NH1395, a single skull fragment (of about 25-35 years old) recovered from a Roman pit, and NH2426, three neonate vertebral arches, recovered from a medieval pit. These were assessed (Geber 2005) but did not warrant further analysis. The cremated bone was examined to identify species, and to record basic characteristics (total weight, colour and the types of elements present) only. Further detailed analysis of this material was beyond the scope of the present report.

The context of the cremated bone and neonate skeletons

The cremated bone was recovered from the basal deposit of an 11th - 12th century (Phase 5) cesspit, found during environmental processing of this deposit.

Skeletons NH1528 and NH4768 were recovered from north-south orientated earth-cut graves. Skeleton NH1528 was laid in a supine position, with the head to the north, and the arms and legs flexed. The head was probably facing west, with the mandible recovered from over the right shoulder. The arms were bent so that the hands lay over the pelvic area, and the right leg was flexed with the knee at a right angle. The position of the left leg was difficult to ascertain as only the lower parts of it (distal femur, tibia and fibula) were present, probably due to post-mortem disturbance. The grave itself was closely associated with a mid 3rd - mid 4th century (Phase 2.3) building (NH8518). A bone fragment was radiocarbon dated to AD cal 50–176 (OxA-16713 – 90% confidence).

Skeleton NH4768 was lying in a crouched position with the hands and feet close together, facing west with the head at the south end of the grave. The grave of NH4768 was immediately adjacent to, or possibly even within, timber structure (NH8521), dated to the mid 3rd to mid 4th century (Phase 2.3).

Skeleton NH6176 was not identified on site as a burial, the bones having been recovered post-excavation during environmental sieving of the fill from a posthole. The posthole was also adjacent to a Roman timber structure (NH8520), dated to the mid 3rd to mid 4th century (Phase 2.3).

Skeleton NH8510 was not recorded on site, and was originally assigned the same context number as NH4768. It is possible that both skeletons had been buried within the same grave, or that NH8510 was in a separate grave, not recognised during excavation, that had been cut into the top of the shallow grave for NH4768.

Methodology

The remains were examined in accordance with standard osteological practice (Brickley and McKinley 2004). Examination involved assessment of condition, completeness, metrical analysis and estimation of age, where possible. The methods used for estimation of age included dental development (Morrees *et. al.* 1963) and measurement of long bone lengths (Scheuer *et. al.* 1980), as well as general bone morphology, skeletal development and epiphyseal fusion (Scheuer and Black 2000). Measurements were taken to the nearest millimetre and are contained in the archive. Any evidence for pathology was described and diagnosed with reference to standard texts (for example, Ortner 2003). No attempt was made to estimate the sex of the skeletons, in accordance with current accepted practice (Buikstra and Ubelaker 1994, 16; Brickley 2004, 23).

The cremated bone was weighed and rapidly scanned to assess the condition of the bone, the minimum number of individuals present and the parts of the skeleton present. They were also scanned to explore evidence for age, sex and pathology.

Results

Table 1 *Archaeological and osteological inventory of the four neonate skeletons*

Skeleton No.	Context	Date	Preservation	Completeness	Age	Pathology
NH1528	Grave	Mid 2nd-mid 3rd C	Good	50 - 75 %	36 - 38 weeks	-
NH4768	Grave	Mid 3rd-mid 4th C	Good	>75 %	37 - 39 weeks	Endocranial lesions
NH6176	Posthole	Mid 2nd-mid 3rd C	Good	>75 %	40 - 42 weeks	-
NH8510	?Grave	Not dated	Good	50 - 75%	39 - 40 weeks	-
NH6236	Base of cesspit	11th-12th C	Good	-	Adult (>18- years)	-

The neonates

Condition and completeness

Skeletons were assigned to one of the following completeness categories: <25%, 25-50%, 50-75% and >75% (Table 1). All four skeletons were fairly complete, with NH1528 and NH8510 represented by 50-75%, and NH4768 and NH6176 represented by more than 75%. Fragmentation of the bones was low to medium, with the skull and ribs generally worse affected. Preservation was recorded as good in all four skeletons. Whilst most of the bone surfaces were affected by some degree of erosion, the general morphology was maintained, with only few parts of the surface detail masked by erosive action (Grade 3, McKinley 2004).

Age

The skeletons ranged in age from between 37-39 weeks old and 40-42 weeks old (see Table 1). In a modern clinical setting, full term is calculated to be about 40 weeks (280 days/10 lunar months) (Scheuer and Black 2000, 6), so whilst skeleton NH6176 and probably NH8510 may have been born at full term, or *possibly* overdue in the case of NH6176, it would appear that skeletons NH1528 and NH4768 may have been born up to four and three weeks prematurely (respectively). It was not possible to say whether any of these skeletons represent live or still births.

Pathology

Pathology was noted in only one of the four skeletons. Neonate NH4768 displayed areas of new bone growth on the endocranial surface of the occipital bone. Porous, woven bone was present on the cruciform eminence and along the occipital (sagittal) sulcus. A study of endocranial lesions in non-adult skeletons by Lewis (2004), found that in individuals under six months of age, all cases (in her study) of endocranial lesions were porous or immature new bone lesions, and most (82 %) occurred on the cruciate eminence of the occipital bone, as was the case here (*ibid.* 91-93). It is also suggested however, that many of the lesions in such young individuals (0-0.5 years) were probably non-pathological in origin, and the result of the normal rapid bone growth in that part of the skeleton (*ibid.* 94). That being said, intra-cranial haemorrhage, as a result of mineral deficiency during a rapid growth period, can occur in preterm infants (Seow 1992, cited in Lewis 2004, 94), and indeed, the age estimate of skeleton NH4768 was 37 - 39 weeks.

Cremated bone

The cremated bone (NH6236) comprised a total weight of 74.4g. At least one adult was present. No fragments of bone indicative of a more precise age or sex were present and no pathology was noted. The bone fragments were predominantly buff/white in colour, indicating that oxidation had taken place, but there were also occasional light bluish grey fragments (< 5%), indicative of incomplete oxidation. The majority of fragments were less than 10 mm in size, with the majority measuring 2-5 mm. The maximum fragment size was 22 mm by 11 mm. In general the bone was in good condition. Fragments of trabecular bone were present in the assemblage, as were occasional fragments of articular surface. Most parts of the body were represented, including the skull, the long bones of the arms and legs, ribs and pelvis. Two teeth were represented, a mandibular premolar and the roots of a molar.

Conclusions

The unburnt skeletal remains described in this report comprise four neonates, at least three, but probably all, dating to the Roman period. The fact that the three Roman burials were recovered from contexts associated with structures is typical of this period when infants were rarely buried in formal adult cemeteries (Philpott 1991, 97;

Esmonde Cleary 2000, 133). The practice of infant burial in association with buildings may have been more common at rural and small town sites, although it is also frequently found in major urban centres (Philpott 1991, 97). A number of infant burials were associated with buildings at a 'village' at Catsgore, Somerset (Esmonde Cleary 2000, 132-3), and at Bradley Hill, Somerset (Leech 1981, cited in Esmonde Cleary 2000, 133). In addition to a number of infant burials found beneath floor surfaces and within walls a cemetery of 21 infants was exposed within one of the buildings. Infant burials were associated with private houses at St Albans and Dorchester, and at Wroxeter an infant was found in a room of the Baths Basilica (Kenyon 1938, 138, 227 and Pl. LXVa, cited in Philpott 1991, 97).

In terms of the condition and completeness of the neonate skeletons, all were fairly complete (50-75% or >75%), with low to medium fragmentation, indicating limited or no post depositional disturbance. Despite most of the bone surfaces having been affected by some degree of erosion, preservation was recorded as good for all four skeletons, indicative of a burial environment favourable to the preservation of bone, i.e. minimal water percolation, not overly acidic/alkaline.

A more accurate age could be estimated for all four of the neonates. The ages estimated for skeletons NH1528 and NH4768 indicate that they may have been born prematurely, whilst that estimated for NH8510 suggests that he/she may have been born almost, if not at, full term. Skeleton NH6176 was estimated to have been 40 - 42 weeks, indicating that they may have either been born at or before full term, and survived to 42 weeks, or that they were born slightly overdue.

As is usually the case in such young individuals, little pathology was noted. It takes a certain amount of time for bone to react to soft tissue pathology, so in most cases when neonates die the bone has not had enough time to react, thus leaving no trace of pathology in archaeological skeletal remains. Skeleton NH4768, however, did show possible evidence for intracranial haemorrhage, which as stated above, can occur in preterm infants like NH4768, as a result of mineral deficiency during this rapid growth period. Nutritional deficiencies in the mother will limit the supply of essential nutrients - such as calcium, vitamins D and C, iron and zinc - to the fetus, but prematurity will reduce the amount of time the fetus has to accumulate the stores required (Lewis 2007, 98).

Little can be said about the cremated remains, given their context. They were recovered from the base of an 11th - 12th century cesspit and it is probable that they had been redeposited.

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