

ANTHROPOLOGICAL ANALYSIS OF THE HUMAN SKELETAL REMAINS FROM NAHALAT AḤIM, JERUSALEM

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INTRODUCTION

While the material culture of Jerusalem from the fourth to the seventh centuries has long been a source of inquiry for scholars, the osteoarchaeological record of its inhabitants is sparse. As a result, population continuity versus displacement between the Late Roman and Byzantine periods has, and will be, a source of frustration for those dealing with these issues largely due to the fact that we are unable to distinguish early Christian burials from Jewish burials until the fourth century CE.

Although scholars have collected a vast amount of data about the Jewish population of Jerusalem and the Holy Land during these centuries, less attention has been paid to the indigenous Christian population during the Byzantine period, and there are insufficient data for comparison (Arensburg et al. 1980). The reason for this is that much of the anthropological research over the years has concentrated on monastic communities, which attracted monks from Cappodocia, Egypt and Syria, and were therefore anthropologically

heterogeneous. In the Negev, where an emerging body of data provides a somewhat clearer picture, the Byzantine population discovered to date appears different from that found in Judea (Zias and Spigelman 2004).

It was hoped that the tomb in Naḥalat Aḥim (see Kogan-Zehavi, this volume), which was excavated by physical anthropologists, would shed light on these questions. However, the poor environmental conditions in the tomb, coupled with excessive crowding in each locus, meant that preservation was marginal. The poor preservation together with the commingling of the remains severely restricted our analyses as to age, sex, minimum number of people and gross pathology.

DEMOGRAPHICS

The remains of 51 individuals were recovered from six loci. The data presented in Table 1 indicate that there was no discernible demographic pattern regarding age, sex or place of burial within the tomb. As three loci contained ten individual burials and a fourth

Table 1. Age/Sex Distribution

Locus	0-1	2-5	6-12	26-39			40+	Unknown	Total
				M	F?	F?			
1A	1	2	2	2	1			10	
1B	1	2	2	1	1	2		9	
2A		1					4	5	
2B		2	1				4	7	
3A		2	1				7	10	
3B		2	1				7	10	
Total	2	11	7	3	2	2	24	51	
%	4	22	14	6	4	4	47	100	

produced nine, it would appear that nine to ten was the maximum number of individuals that could occupy the small loci, which averaged 1.85 cm in length, 0.93 m in width and 1.6 m in height.

The demographic pattern that emerged upon analysis is somewhat unusual in that 40% of the individuals in the tomb were sub-adults and 4% were between 6 and 12 months old. No neonates or newborn children appeared in the sample, suggesting that newborns were buried elsewhere. The high percentage (47%) of adults of indeterminable age/sex was due to the extremely poor preservation of the remains.

PATHOLOGY

Bone tumors, both benign and malignant, are relatively rare in the archaeological record (Ortner and Putschar 1985:365; Zias and Constantini 1996). Two benign bone tumors were found at Nahalat Ahim in two different individuals; both of these are types previously unreported in excavations in Israel.

Case A.— An adult female skull presented an osteoma (12 × 7 mm), a benign osteoblastic tumor on the internal surface of the frontal bone, 6 cm lateral to the bregma. The tumor lies mainly on the frontal bone; however, the shallow ovular depression surrounding the osteoma transverses the coronal suture into the left parietal (Fig. 1). In x-ray studies the osteoma



Fig. 1. Internal surface of the cranium presenting an osteoblastic tumor on the coronal suture.

appears as a tear-shaped radiolucent focus with central calcification of the cortical bone; the osteosclerotic response surrounding the tumor is out of proportion to the size of the lesion. Osteoid osteomas of this type on the calvarium appear frequently in the archaeological record and in approximately 1% of autopsies. However, tumors of this type presenting on the inner table of the skull are rare (Ortner and Putschar 1985:368). While they were once believed benign and of no clinical significance (Robbins 1957:1230), recent studies have shown that these benign tumors could have evolutionary significance and might be due to the differential growth rates of human cranial bones in relation to the post-cranial skeleton; they are rarely found in nonhuman primates (Eshed et al. 2000:230)

Case B.— An adult male, 30–40 years old, ‘presented’ an expansive lesion on the left parietal (Fig. 2). The lesion (26 × 23 mm) was identified as a congenital epidermal inclusion cyst, which is a type of primary benign tumor (Ortner and Putschar 1985:367). Tumors of this type are rare and appear only in the bones of



Fig. 2. Internal surface of the left parietal bone presenting a hollowed-out lesion along the posterior branch of the meningeal artery. Note the numerous circular defects surrounding the tumor, which are the result of plant roots penetrating the calvarium.

the calvarium (Ortner and Putschar 1985:367). In X-rays the lesion appears as an ovular defect surrounded by an osteosclerotic response on the margins of the cyst. While lesions of this type may resemble those found in syphilis or eosinophilic granulomas, those of a solitary nature are more likely to be dermoid cysts.

This case is of particular interest because of the pseudopathology and pathology, occurring in the same specimen. Surrounding the lesion on the left parietal are ten circular penetrating defects (Fig. 3), which are sometimes reported as multiple trephinations (Disi, Henke and Wahl 1983:544–546, Pl. 117:1–3) or as myeloma multiplex, but they are in fact postmortem, the result of tree and plant roots that penetrated the tomb chamber from outside (Zias and Constantini 1996). These taphonomic changes are nothing but a form of pseudopathology frequently found in the archaeological record.

CONCLUSION

Despite the extremely poor preservation of the skeletal material, the correct manner in which they were removed led to findings that normally would have been unnoticed. Nonetheless, biological relationships between this population and other contemporary populations based on standard criteria could not be determined due to the fact that complete bones were not available for standard anthropological measurements.

The fact that there were no neonates in the sample is of particular interest as it suggests that either they were interred elsewhere or not accorded burial at all. In a normal population of 51, including individuals of both sexes and ages ranging from 6 months to adult, newborns would normally appear. The careful manner in which the site was excavated, including sifting of the loci, precludes the possibility that the



Fig. 3. Lateral view of the left parietal bone. Note the expansive bone which is the result of internal pressure from the tumor forcing the outer table to expand outward.

neonate remains were so fragmentary that they were overlooked.

The high frequency and variety of paleopathology in the Byzantine period has been noted elsewhere (Zias 1991:147–159). However, as our data come mainly from monastic orders it is likely that the picture is distorted, especially regarding infectious disease which appears in high frequencies in the Judean desert monasteries (Zias 1991). With regard to tumors in antiquity, however, information is scanty, particularly in regard to types presented in this collection. Thus the Nahalat Ahim finds add significantly to our knowledge in this field.

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