



TWO POSSIBLE CASES OF AMPUTATION IN EARLY MEDIEVAL EASTERN EUROPE



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INTRODUCTION

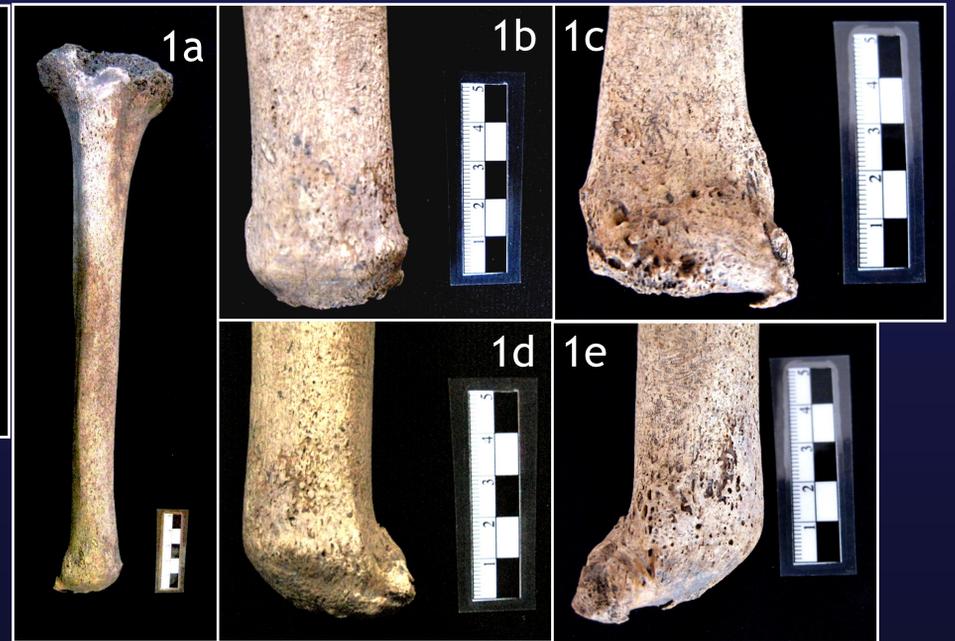
Few cases of amputation have been reported in the archaeological record (Roberts and Manchester, 2005). The aim of this poster presentation is to present and describe two cases of possible amputation as a contribution to the osteoarchaeological record. Three traumatized bone elements have been discovered in the early medieval (11-12th century) cemetery site Gz4 in Giecz, Poland. Elements from two individuals include a tibia and a paired radius and ulna, all with well-healed trauma of the distal portions consistent with amputation.

CASE 1

Site Gz4, deposit 2/99

Case 1 is a right tibia (Fig. 1a-e) from a secondary burial (deposit 2/99) of a probable male estimated to be 40-50 years old at the time of death. Femora, partial sacrum, left pubis, and right radius were the only other skeletal elements recovered for this individual, none of which show pathological lesions. The tibia, however, exhibits diffuse periostitis covering the entire diaphysis. The distal epiphysis was lost antemortem, including the medial malleolus and fibular notch. Although it is well-healed, osteophyte formation is evident on the posterior surface of the distal end, which has a “folded-back” appearance (Fig. 1c).

Fig. 1: Tibia of Case 1, burial deposit 2/99. a) overview, anterior view, and detail of distal end b) anterior view, c) posterior view, d) medial view, e) lateral view. (scales in cm)



CASE 2

Site Gz4, grave 25/99

Case 2 (Fig. 2a-e) is a right radius and ulna (grave 25/99) of an adult with undeterminable sex and age. The distal portion of both radius and ulna are deformed and display well-healed trauma. The ulnar styloid process and articular surface for the distal radius were lost antemortem. On the radius, the styloid process, ulnar notch, and dorsal tubercle were lost antemortem. The distomedial radius exhibits a modified notch for articulation of the ulna (Fig. 2b, 2e) that would have prevented normal circumferential movement of the radius. It is possible that the radius had a permanent position slightly turned over the ulna at the distal end. Although these elements were not united by a bony bridge at the time of death, as in other reported cases (Brothwell and Møller-Christensen, 1963), the elements did show similar roundness (Steinbock, 1976) and notched appearance that might have eventually led to this, had the individual lived longer.

Fig. 2. Right radius and ulna of Case 2, burial 25/99. a) overview, anterior view and detail of distal ends b) posterior view, c) anterior view, d) medial view, e) lateral view. (scales in cm)



DIFFERENTIAL DIAGNOSIS and DISCUSSION

A fracture resulting in non-union is an alternative diagnosis to amputation (Roberts and Manchester, 1995), in which case the severed distal end might be recovered during excavation. However, absence of elements does not equate evidence of absence; partial elements might be overlooked in excavation. Case 1, unfortunately, was found in a secondary burial where few skeletal elements were recovered. Case 2 was a primary grave, with a more complete inventory of skeletal elements, but no corresponding hand or distal portions were recovered.

Disease can require surgical removal of limbs. The tibia of Case 1 exhibits diffuse periostitis, indicative of underlying infection or disease. The “folded back” appearance is similar to other cases of amputation, although in those cases the stumps were “bent inward” (Verano *et al.*, 2000:180), instead of posteriorly.

Involuntary removal of hands and feet as a trophy (Andrushko *et al.*, 2005) or for counting prisoners (Brothwell and Møller-Christensen, 1963) and the dead (Aldred, 1964) during warfare is also reported. Severing the hand as a count for number of dead cannot be a consideration in Case 2 since the radius and ulna exhibit healing well before death.

Interpretation of underlying reason for amputation, involuntary or voluntary mutilation, should be approached with caution. Ethnohistory should be consulted for accounts of surgical practices, as well as amputation for punishment (Brothwell and Møller-Christensen, 1963; Ortner, 2003) in medieval times.

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