A Probable Case of Child Abuse from Historic Gloucester

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Abstract

This paper discusses the case of a seven month old infant whose remains were recovered from the multi-period archaeological site of St Oswald's Priory in Gloucester. The infant's skeleton exhibits a mid-diaphyseal fracture to the right humerus which is a strong indicator for child abuse.

Keywords: child abuse; fracture; skeletal remains; rickets

Introduction

Child abuse is often considered to be a recent phenomenon, but according to many authors children were often the victims of physical abuse in the past (1-3). Childhood has been described as a 'nightmare' where children were likely to be killed, abandoned, beaten, terrorised and sexually abused (3). However, in the study of the skeletal remains of children, little evidence exists of such treatment. This may be as a result of poorly preserved bones which can often mask and hinder the study of pathological changes and fractures to the skeleton. Also during development and growth, the bones of children remodel completely after injuries, therefore not leaving behind any traces.

The Skeletal Remains

St Oswald's Priory is a multi-period site situated in Gloucester. The site was excavated in the 1970s, in which time over 487 individuals were recovered (4). Five cemeteries were located at the site ranging

from the Roman period to the post-medieval period. A number of children's remains were recovered from each.

In a recent study of the ninety-six skeletons belonging to the children, one skeleton (skeleton B376) was found to exhibit signs of trauma. The skeleton was recovered from the Norman cemetery (c.1120-1230), and the position and orientation of the burial is unknown. The skeleton was poorly preserved with fragments of the cranial and post-cranial elements present (Figure 1). Based on the dental formation, the child was aged at 7 months (5) at the time of death. Long bone measurements were not attempted due to the friable nature of the long bones.

Trauma and Pathology

The most prominent pathology is a fracture to the upper limb. Skeleton B376 exhibited a mid-diaphyseal fracture to the right humerus (Figure 2 and 3), with a forming lamellar callus. It would appear the infant survived for several weeks after the injury, which is indicated by the stage of callus formation.

This type of fracture can result from accidental and non-accidental injuries. The fracture exhibited here is transverse in nature, which normally results from direct injury (6). An isolated diaphyseal fracture is the most common fracture pattern indentified in child abuse and most children suffering from non-accidental injuries are predominantly between birth and three years of age (7).

This infant also has rickets, which is a metabolic disease resulting from a lack of vitamin D, which prevents calcium from being deposited in the developing cartilage as well as newly formed bone, which impedes bone mineralisation (8). The main effects of rickets are porosity and deformation. The right humerus, ulna, radius and rib shaft fragments are extremely porous; with general osteopenia which reflects the inadequate mineralisation of the bones. No deformation was noted.

Discussion

Fractures of any bone can occur, but the extremities, skull and rib cage are the most common sites of injury in cases of suspected child abuse (6). Such fractures are most common in children over 12 years of age and those less than three months. Worlock and colleagues (9) reported no cases of humeral shaft fracturing in children as a result of accidents and also observed that the abused children were all under five years of age. Strait et al. (10) reported 58% of humeral shaft fractures as a result of accidents, but also recorded 20% of cases were fractures of the supracondylar, which are associated with abuse if they occur before 15 months.

There are a number of reported cases of child abuse in the archaeological record. It is thought the first

documented case of prehistoric child abuse in a 2 year old came from 4th century AD Lisieux in Normandy, who exhibited injuries to the cranium in various stages of healing (11). A possible case of child abuse in an infant from early medieval Ireland had also been reported (12). The remains of the infant exhibited bilateral rib fractures and periostitis on the limbs, which may have been non-accidental in nature. Further cases of child abuse may have occurred at the Romano-British site of Poundbury in Dorset, where 10 (4.3%) of the infants studied had rib fractures (13). Wheeler and colleagues (14) also reported a possible case of child abuse from the Kellis 2 cemetery, Dakhleh Oasis, Egypt.

The lack of reported cases does not indicate that physical abuse towards children did not occur, but rather that those affected made a full recovery from their injuries, leaving no evidence on their skeletons. Cases of rickets in children are well-published in the archaeological literature (8) and previous cases have not reported any incidences of fractures such as the one outline in this paper.

Conclusions

This paper presents the evidence of a possible case of child abuse. The location of an isolated humeral fracture is highly suspect, even when taking into account the presence of rickets. It is likely that physical child abuse did occur in the past. However, finding convincing archaeological evidence for it is unusual as children's bones tend to remodel completely after disease and injuries, therefore removing traces of previous physical abuse.

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Figure 1 The remains of Skeleton B376

Figure 2 Mid-diaphyseal humeral fracture with callus

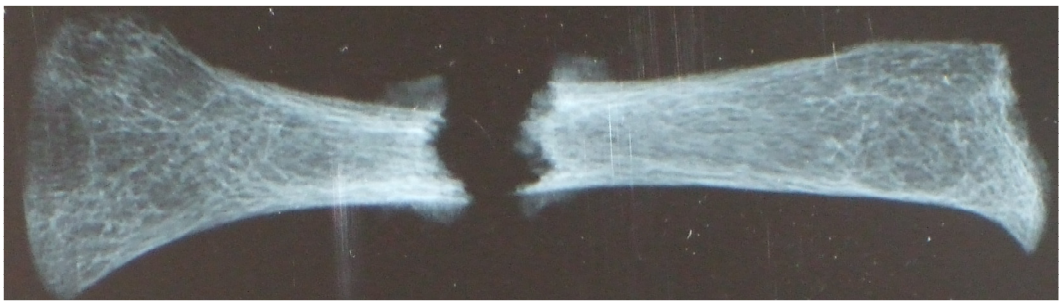

Figure 3 Radiograph of mid-diaphyseal humeral fracture