

Site: Dudley Castle, West Midlands (DC87)

Element: Metacarpal

Species: Equus sp.

Zone: 1-8 (Serjeantson 1996)

Side: right

Specimen No.:

Illustration No.: Fig.4 and 5

State of Preservation: GOOD

Context No.:

BONE FORMATION (Periostosis, Nodule, Callus, Increased Density, Fusion, Other) (Size, Extent, Shape, Margin) (Activity at Death)

Profuse nodular formation present around both proximal and distal ends of the bone. These are not enthesophytes as they are not located at the site of tendinous or ligamentous attachments, nor are all of them osteophytes as many are not confined to joint margins, although there is some evidence of this at the proximal end. The surface is smooth and margin is poorly defined. The area of new bone growth extends c. 50mm from joint margin along shaft at proximal end and c. 75mm from joint margin along shaft at distal end.

BONE DESTRUCTION (Osteopenia, Cavity, Porosity, Articular Depression, Articular Grooves, Necrosis, Other) (Size, Extent, Shape, Margin, Interior, Sclerosis) (Activity at Death)

Cavity present on dorsal surface c. 45mm from distal articulation. The opening of this cloaca is c. 10mm in diameter and roughly circular or ovoid in appearance. The margin is smooth and rounded.

ALTERATION OF SIZE (Enlarged, Reduced) (Activity at Death)

ALTERATION OF SHAPE (Bowing, Expansion of shaft, Articular Extension, Displacement, Thickening of Epiphyseal Plates, Other) (Activity at Death)

The distal portion of the shaft is abnormally enlarged and swollen in appearance.

ANGLE/DIRECTION:

FRACTURE

TYPE (Transverse, Comminuted, Oblique, Hairline, Impacted, Incomplete, Spiral, Greenstick):

CONDITION (Fresh, Healing, Healed):

ANGLE/ FORESHORTENING:

OTHER (Failure to form bone, Eburnation, other) (Activity at Death)

EXTENT:

SUGGESTED DIAGNOSIS:

The extensive nature of the bone formation and the smooth, well-rounded edges of both nodules and cloaca indicate a chronic condition of long-term duration. It is unlikely that the nodular bone growth relates to activity as it is not located at sites such as articulations or attachments for muscle or ligament. The cloaca and the enlargement of the shaft cavity of the distal end indicates the presence of pus, probably due to infection or inflammation [pus is only generated by infection]. The associated new bone growth on the distal shaft of the bone might therefore indicate the associated infection of the periosteum and/or its detachment, and subsequent ossification, by the infectious exudate.

The suggested diagnosis is osteomyelitis, possibly resulting from localised soft tissue trauma.