

Online Supplementary Tables

Table S5. Lesions and differential diagnosis of M20 and M29 (SD = strongly diagnostic, D = diagnostic, S = suggestive, A = associated pathologies, SPNB = subperiosteal new bone deposit).

Elements	Lesions, Associations
MB05 M20: Young Adult Male	
Cranium	- Bilateral remodeling medium cribra orbitalia - Porotic hyperostosis of the frontal bone, occipital bone, and parietal bones - Bilateral symmetrical discrete SPNB and abnormal cortical porosity on anterior and posterior zygomatics, external greater wings of sphenoid bones and temporal bones.
	Scurvy = A,S,D,D ^{1,2} , Rickets/Osteomalacia = A ¹ , Leprosy = A ¹ , Tuberculosis = A ¹ , Osteomyelitis = A ¹ , Treponemal Disease = A ¹
Mandible	- Remodeled symmetrical discrete SPNB and abnormal cortical porosity extending from the mental foramina onto the oblique lines
	Scurvy = A ¹ , Rickets/Osteomalacia = A ¹ , Leprosy = A ¹ , Tuberculosis = A ¹ , Osteomyelitis = A ¹ , Treponemal Disease = A ¹
Humeri	- Two superficial focal cavitations with sclerotic reaction on the margins and base associated with remodeled SPNB on the anterior and posterior lateral epicondyle of the right humerus (17.6 × 7.5mm and 6.7 × 3.5mm) - Unilateral enlargement of the cortical shaft of the right humerus - Discrete deposit of SPNB on the anterior proximal left humerus
	Treponemal Disease = D ³ , Scurvy = A ²
Femora	- Unilateral discrete SPNB on the medial proximal left femur
	Scurvy = A ²
Tibiae	- Diffuse bilateral new SPNB with cortical enlargement of the tibial shafts - Saber shin - Discrete bilateral SPNB of the medial and lateral proximal tibiae
	Scurvy = S ² , Treponemal Disease = S ⁴
Fibulae	- Symmetrical nodes of enlarged bone with multiple focal superficial focal cavitations with sclerotic margins and base (The lytic lesion diameters are 9.9 × 7.1 mm, 10.5 × 6.7 mm, and 6.4 × 3.7 mm for the right fibula and 12.7 × 7 mm and 12.6 × 5.9 mm for the left fibula)
	Treponemal Disease = SD ³
Calcaneus	- Two focal superficial cavitations with sclerotic margins and base on the lateral and anterior-medial left calcaneus (18.48 × 9.45 mm [lateral], and 7.71 × 6.13 mm [antero-medial])
	Treponemal Disease = D ³
Outcome	<i>Probable Scurvy, Probable Treponematosi</i> s
MB07 H2 M29: Child Approximately 7 Years	
Mandible	- Remodeled abnormal cortical porosity on the right medial coronoid process, and discrete SPNB on the superior right incisive fossa
	Scurvy = D ²
Scapulae	- Mixed active and remodeled discrete SPNB and abnormal cortical porosity on the supraspinous fossae of the scapula
	Scurvy = D ²
Humerus	- Unilateral remodeled discrete SPNB lateral to the deltoid tuberosity on the left humerus - Bilateral diffuse active SPNB on distal shafts - Bilateral latera bending deformities of the humeral shafts, and depression deformities of the humeri
	Scurvy = A ^{1,2} , Rickets/Osteomalacia = A,D,D ^{1,5} , Leprosy = A ¹ , Tuberculosis = A ¹ , Osteomyelitis = A ¹ , Treponemal Disease = A ¹
Ulnae	- Bilateral mixed active and remodeled diffuse SPNB with cortical enlargement across shafts and proximal metaphysis - Superficial focal cavitation in nodes of enlargement on antero-lateral midshaft of right ulna (9.31 × 4.01 mm) and lateral olecranon process of left ulna (< 10 mm).
	Treponemal Disease = SD ³
Radii	- Bilateral mixed active and remodeled diffuse SPNB with cortical enlargement across shafts and proximal metaphysis - Superficial focal cavitation in nodes of enlargement on antero-lateral midshaft of right radius (12.03 × 4.67 mm)
	Treponemal Disease = SD ³
Hands	- Dactylitis
	Leprosy = S ⁶ , Tuberculosis = S ⁶ , Osteomyelitis = S ⁶ , Treponemal Disease = S ⁶

(continued)

Table S5. (continued).

Elements	Lesions, Associations
MB07 H2 M29: Child Approximately 7 Years	
Femora	<ul style="list-style-type: none"> - Bilateral symmetrical SPNB with cortical enlargement - Slight cupping and swelling of the distal femora Rickets/Osteomalacia = D,D ⁵ , Leprosy = A ¹ , Tuberculosis = A ¹ , Osteomyelitis = A ¹ , Treponemal Disease = S ⁷
Tibiae	<ul style="list-style-type: none"> - Bilateral diffuse SPNB with cortical enlargement of the tibiae - Saber shin of the tibiae - Medial true-bowing of the tibiae - Posterior angulation (depression) of the proximal metaphyseal plates of the tibiae Rickets/Osteomalacia = D,D ⁵ , Leprosy = A ¹ , Tuberculosis = A ¹ , Osteomyelitis = A ¹ , Treponemal Disease = S ⁴
Fibulae	<ul style="list-style-type: none"> - Bilateral diffuse SPNB with nodes of enlargement on the distal fibulae - Symmetrical focal cavitations of the distal fibulae within in nodes of enlarged cortical bone (Left fibula lesion diameter: 9.07 × 3.94 mm. Right fibula lesion diameter: 12.32 × 3.29 mm) Treponemal Disease = SD ³
Clavicle	<ul style="list-style-type: none"> - Possible Higoumenakis sign of the left clavicle (unilateral enlargement of the sternal end) Treponemal Disease = S ⁸
All Limb Bones	<ul style="list-style-type: none"> - <i>Radiographic</i>: White line of Frankel - <i>Radiographic</i> Trummerfeld Zone - <i>Radiographic</i>: Multiple Harris lines - <i>Radiographic</i>: Ground glass osteopenia Scurvy = S,D,D ⁹
Outcome	<i>Probable Scurvy, Probable Rickets, Probable Treponematosi</i> s

¹Ortner 20036²Snoddy et al. 2018³Hackett 1975, 1976:362–396⁴Hackett 1951:28⁵Brickley and Ives 2010:103–107⁶Lewis 2017:134, 162, 169, 179⁷Hackett 1951, 1975, 1976:411–433⁸Frangos et al. 2011; Harper et al. 2011; Lewis 2017:179⁹Brickley and Ives 2010:65

Table S6. Individuals from Man Bac with lesions consistent with treponematosis (SD = strongly diagnostic, D = diagnostic, S = suggestive, A = associated pathologies).

ID	Sex	Age	Gummatous lesions on any skeletal element: focal superficial cavitations in direct relation with nodes or expansions (enlargements) of new bone (SD) ¹	<i>Caries sicca</i> sequence stages 1–3: clustered pits, confluent clustered pits, focal superficial cavitation of the ectocranium or focal superficial cavitation of the cortex of long bones not within a distinct node or expansion (enlargement) (D) ²	Saber shin (pseudobow-bowing of the tibia without medullary canal) (S) ³	Dactylitis (periosteal enlargement of the hand and feet bones) (S) ⁴	Long bone nodes of endosteal and periosteal enlargement (can be with medullary canal intrusion) (S) ⁵	Boomerang leg: True tibial bowing with bowing of medullary canal (juvenile) (S) ⁶	Systemic periosteal reaction of the long bones (A) ⁷	Diagnosis of treponemal disease	Notes
MB05 M20	Male	15–29 years	x		x		x		x	Probable	
MB07 H2 M18	Possible female	14–18 years				x	x		x	Possible	
MB05 M5	Indeterminate	18 months (±3 months)		x (acromial end right clavicle, medial distal right humerus)		x	x		x	Possible	Superficial lytic lesion of superior acromial end of right clavicle and distal right humerus with sclerotic response on margins and base. Fits Hackett (1976) early stage gummatous lesion development.
MB05 M10	Indeterminate	9 years (±9 months)				x	x		x	Possible	
MB05 M29	Male	30–39		x (right distal fibula)		x	x		x	Possible	Superficial lytic lesion of proximal fibula with sclerotic response on margins and base. Fits Hackett (1976) early stage gummatous lesion development.
MB07 H2 M29	Indeterminate	7 years (±9 months)	x		x		x	x	x	Probable	Possible Higoumenakis sign
MB07 H2 M17	Indeterminate	12–18 years				x			x	Non-Diagnostic	Periosteal reactions without enlargements. Fits skeletal pattern of above individuals.

¹Hackett 1975, 1976:362–396

²Hackett 1975, 1976:362–396

³Hackett 1951:28

⁴Hackett 1951:30; Rasool and Govender 1989

⁵Hackett 1976: 411–433

⁶Harper et al. 2011; Lewis 2017:175

⁷Ortner 2003