

Supplementary Appendix A: Data collection form

Skull no.	Frontal	Orbital	Zygomatic	Maxilla	Mandibula	Vomer	Inferior nasal conchae	Middle nasal conchae	Perpendicular plate of ethmoid
	Normal Alt. AM Alt. PM	Normal (BS) Alt.AM Alt.PM	Normal (BS) Alt.AM Alt.PM	Normal (BS) Alt.AM Alt.PM	Normal (BS) Alt.AM Alt.PM Absent	Normal (BS) Alt.AM Alt.PM Absent	Normal (BS) Alt.AM Alt.PM Absent	Normal (BS) Alt.AM Alt.PM Absent	Normal Alt.AM Alt.PM Part. absent Absent

Nasal bone	Lacrimal bone	Rhino-maxillary syndrome	Anterior nasal spine	Alveolar process of maxilla
Normal (BS) Alt.AM Alt.PM Part. absent Absent	Normal (BS) Alt.AM Alt.PM Part. absent Absent	Yes No Perhaps	Reduction Resorption Absent Normal	Recession or prosthion and early exposure of central roots Marked recession of bone with exposure of central and lateral incisor roots and loosening of one or more incisor teeth Severe recession of bone with AM loss of one more incisor teeth Dental abscess Other alteration Normal

Palatine process of maxilla nasal surface	Palatine process of maxilla oral surface	Conchae	Nasal Aperture
Slight inflammation pitting cortical surface Extensive confluent pitting possibly associated with irregular periosteal new BF Irregular perforation palate Normal Other alteration	Slight inflammation and pitting cortical surface Extensive confluent pitting possibly associated with irregular periosteal new BF Irregular perforation palate Normal Other alteration	Bony nasal septum (BNS) Loss of the BNS Loss of BNS and 1/more conchae Not seen	Normal Progressive smooth resorption with recession of the nasal sharp basal Progressive smooth resorption with recession of the normal sharp basal lateral margins Presence of pitting only Pitting and progressive resorption with recession of the normal sharp basal and lateral margins

Posterior alveolar margins of maxilla	Gender	Age
Normal Alveolar resorption in the region of the molar teeth Absent Not seen	Female Male Undefined	Non-adult Adult Undefined

Key: BF = bone formation; BS = both sides; Alt. = Alteration; AM = ante-mortem; PM = post-mortem; Part. = partially

Supplementary Appendix B: Characteristics of skulls in Paris Catacombs according to probable and possible pathognomonic signs of leprosy

		Normal	Ante-mortem alteration	Post-mortem alteration	Absent
Zygomatic bone	Probable	1 (50.0%)	1 (50.0%)	0 (0.0%)	-
	Possible	11 (52.4%)	10 (47.6%)	0 (0.0%)	-
	No	25 (49.0%)	25 (49.0%)	1 (2.0%)	-
	Overall	37 (55.0%)	36 (48.7%)	1 (1.4%)	-
Maxilla	Probable	0 (0.0%)	2 (100.0%)	0 (0.0%)	-
	Possible	0 (0.0%)	17 (81.0%)	4 (19.1%)	-
	No	18 (35.3%)	31 (60.8%)	2 (3.9%)	-
	Overall	18 (24.3%)	50 (67.6%)	6 (8.1%)	-
Mandible	Probable	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (100.0%)
	Possible	1 (4.8%)	0 (0.0%)	0 (0.0%)	20 (95.2%)
	No	1 (2.0%)	0 (0.0%)	0 (0.0%)	50 (98.0%)
	Overall	2 (2.7%)	0 (0.0%)	0 (0.0%)	72 (97.3%)
Inferior nasal concha	Probable	0 (0.0%)	0 (0.0%)	2 (100.0%)	0 (0.0%)
	Possible	7 (33.3%)	6 (28.6%)	8 (38.1%)	0 (0.0%)
	No	13 (25.5%)	9 (17.7%)	29 (56.9%)	0 (0.0%)
	Overall	20 (27.0%)	15 (20.3%)	39 (52.7%)	0 (0.0%)
Middle nasal concha	Probable	0 (0.0%)	0 (0.0%)	2 (100.0%)	0 (0.0%)
	Possible	6 (28.6%)	8 (38.1%)	7 (33.3%)	0 (0.0%)
	No	13 (25.5%)	9 (17.7%)	29 (56.9%)	0 (0.0%)
	Overall	19 (25.7%)	17 (23.0%)	38 (51.4%)	0 (0.0%)
Perpendicular plate of ethmoid	Probable	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (100.0%)
	Possible	3 (14.3%)	3 (14.3%)	13 (61.9%)	2 (9.5%)
	No	8 (15.7%)	10 (19.6%)	19 (37.3%)	14 (27.5%)
	Overall	11 (14.9%)	13 (17.6%)	32 (43.2%)	18 (24.3%)

Supplementary Appendix B (continued): Characteristics of skulls in Paris Catacombs according to probable and possible pathognomonic signs of leprosy*

		Normal	Ante-mortem alteration	Post-mortem alteration	Absent	Undefined
Vomer	Probable	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (100.0%)	0 (0.0%)
	Possible	4 (19.1%)	7 (33.3%)	1 (4.8%)	8 (38.1%)	1 (4.8%)
	No	9 (17.7%)	9 (17.7%)	6 (11.8%)	12 (23.5%)	15 (29.4%)
	Overall	13 (17.6%)	16 (21.6%)	7 (9.5%)	22 (29.7%)	16 (21.6%)
Nasal bone	Probable	0 (0.0%)	0 (0.0%)	1 (50.0%)	1 (50.0%)	0 (0.0%)
	Possible	6 (28.6%)	7 (33.3%)	4 (19.1%)	3 (14.3%)	1 (4.8%)
	No	21 (41.2%)	9 (17.7%)	17 (33.3%)	1 (2.0%)	3 (5.9%)
	Overall	27 (36.5%)	16 (21.6%)	22 (29.7%)	5 (5.6%)	4 (5.4%)
Lacrimal bone	Probable	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (100.0%)
	Possible	6 (28.6%)	2 (9.5%)	0 (0.0%)	1 (4.8%)	12 (57.1%)
	No	15 (29.4%)	3 (5.9%)	2 (3.9%)	1 (2.0%)	30 (58.8%)
	Overall	21 (28.4%)	5 (6.8%)	2 (2.7%)	2 (2.7%)	44 (59.5%)
Anterior nasal spine		Normal	Reduction	Resorption	Absent	
	Probable	0 (0.0%)	0 (0.0%)	2 (100.0%)	0 (0.0%)	
	Possible	2 (9.5%)	13 (61.9%)	6 (28.6%)	0 (0.0%)	
	No	17 (33.3%)	10 (19.6%)	0 (0.0%)	24 (47.1%)	
	Overall	24 (32.4%)	19 (25.7%)	23 (31.1%)	8 (10.8%)	

Conchae		Bony nasal septum	Loss of bony nasal septum	Loss of bony nasal septum and one or more conchae	Undefined		
	Probable	0 (0.0%)	1 (50.0%)	0 (0.0%)	1 (50.0%)		
	Possible	4 (19.1%)	5 (23.8%)	8 (38.1%)	4 (19.1%)		
	No	13 (25.5%)	12 (23.5%)	10 (19.6%)	16 (31.4%)		
	Overall	17 (23.0%)	18 (24.3%)	18 (24.3%)	21 (28.4%)		
Alveolar process of maxilla		Normal	Recession or prosthion and early exposure of central roots	Marked recession of bone with exposure of central and lateral incisor roots and loosening of one or more incisor teeth	Severe recession of bone with ante-mortem loss of one more incisor teeth	Dental abscess	Other alteration
	Probable	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (50.0%)	1 (50.0%)	0 (0.0%)
	Possible	1 (4.8%)	2 (9.5%)	9 (42.9%)	7 (33.3%)	1 (4.8%)	1 (4.8%)
	No	20 (39.2%)	15 (29.4%)	12 (23.5%)	4 (7.8%)	0 (0.0%)	0 (0.0%)
	Overall	21 (28.4%)	17 (23.0%)	21 (28.4%)	12 (16.2%)	2 (2.7%)	1 (1.4%)
Palatine process of maxilla nasal surface		Normal	Slight inflammation pitting cortical surface	Extensive confluent pitting possibly associated with irregular periosteal new bone formation	Irregular perforation of palate	Other alteration	Undefined
	Probable	0 (0.0%)	1 (50.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (50.0%)
	Possible	4 (19.1%)	1 (4.8%)	2 (9.5%)	3 (14.3%)	0 (0.0%)	11 (52.4%)
	No	17 (33.3%)	1 (2.0%)	1 (2.0%)	4 (7.8%)	0 (0.0%)	28 (54.9%)
	Overall	21 (28.4%)	3 (4.1%)	3 (4.1%)	7 (9.5%)	0 (0.0%)	40 (54.1%)

Palatine process of maxilla oral surface		Normal	Slight inflammation pitting cortical surface	Extensive confluent pitting possibly associated with irregular periosteal new bone formation	Irregular perforation of palate	Other alteration	Undefined
	Probable	0 (0.0%)	1 (50.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (50.0%)
	Possible	1 (4.8%)	1 (4.8%)	0 (0.0%)	1 (4.8%)	0 (0.0%)	18 (85.7%)
	No	8 (15.7%)	0 (0.0%)	0 (0.0%)	2 (3.9%)	1 (2.0%)	40 (78.4%)
	Overall	9 (12.2%)	2 (2.7%)	0 (0.0%)	3 (4.1%)	1 (1.4%)	59 (79.7%)
Nasal aperture		Normal	Progressive smooth resorption with recession of the nasal sharp basal	Progressive smooth resorption with recession of the normal sharp basal lateral margins	Presence of pitting only	Pitting and progressive resorption with recession of the normal sharp basal and lateral margins	
	Probable	0 (0.0%)	0 (0.0%)	2 (100.0%)	0 (0.0%)	0 (0.0%)	
	Possible	3 (14.3%)	7 (33.3%)	8 (38.1%)	2 (9.5%)	1 (4.8%)	
	No	25 (49.0%)	14 (27.5%)	7 (13.7%)	2 (3.9%)	3 (5.9%)	
	Overall	29 (39.2%)	21 (28.4%)	16 (21.6%)	4 (5.4%)	4 (5.4%)	
Posterior alveola margins		Normal	Alveolar resorption in the region of the molar teeth	Absent	Undefined		
	Probable	1 (50.0%)	1 (50.0%)	0 (0.0%)	0 (0.0%)		
	Possible	8 (38.1%)	12 (57.1%)	0 (0.0%)	1 (4.8%)		
	No	23 (45.1%)	26 (51.0%)	0 (0.0%)	2 (3.9%)		
	Overall	32 (42.3%)	39 (52.7%)	0 (0.0%)	3 (4.1%)		

* 'Undefined' indicates that the presence, absence or condition of the feature could not be determined, typically because restricted access prevented visual examination