**Supporting information 1 – Paleopathologies**

Below we present a table with different pathologies present in dinosaur and their characteristics.

References can be found at the end of this document.

**Summary table**

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| **Paleopathology** | **Characteristics** |
| Ameloblastoma | Benign tumor with a strong preponderance for the mandible. Internal septations produce a ‘honeycomb’ or ‘soap bubble’ appearance. |
| Ankylosing spondylitis | Two or more vertebrae growing closer together and even fuse. New rigid bone tissue that affected joints is deposited. |
| Bony callus | It is comprised of two adjoining but distinct types of bone. There is woven bone and lamellar bone. |
| Bone deformity | A bone that is not the normal shape or size. It may also be positioned incorrectly which causes poor alignment. |
| Bones fused together | Two or more bones fused together. |
| Bony growths | These lesions give the bone a very rough texture and deform. |
| Bone hyperostosis | An excessive growth of bone, that may lead to exostosis. |
| Bone resorption | Resorption of bone tissue, which osteoclasts break down the tissue in bones and release the minerals. It increases pit numbers and pit areas in the bone, and it can produce osteoporosis. |
| Chondrosarcoma | Uncontrolled growth of cancerous cells that produce cartilage. |
| Diffuse hydropathic skeletal hyperostosis | Characteristic ossification patterns that can occur in the spine and peripheral entheses. |
| Exostosis (bone spur) | Formation of new bone on the surface of a bone. |
| Gout | Metabolic disorder in which urate crystals accumulate as space-occupying masses, producing monarticular spheroidal erosions in bone. |
| Haemangioma | Vascular tumors which may be bubbly or have characteristic linear residual trabeculae. |
| Langerhans Cell Histiocytosis | Multiple lesions coalescence (“geographic” appearance), “space-occupying masses” and effaced trabeculae. |
| Multiple myeloma | Appears as "lytic lesions" with local disappearance of normal bone due to resorption. |
| Ossifying fibroma | Prominent calcified structures (ossicles and cementicles) that appeared as eosinophilic or basophilic spherules of osteoid or bone within a moderately cellular, dense stroma. |
| Osteoblastoma | Large expansile lytic lesions, very circumscribed lesions with sclerotic margins and very fine trabeculae. |
| Osteochondroma | Cartilage-capped bony projections or outgrowth on the surface of bones exostoses. |
| Osteoma | New piece of bone growing on another piece of bone. |
| Osteomyelitis | Infective process that encompasses all of the bone components. It can lead to bone sclerosis and deformity. New bone is deposited around the area of necrosis. |
| Osteosarcoma | Characterised by the direct formation of immature bone or osteoid tissue by the tumour cells. Often presents a Codman's triangle. |
| Paget’s disease | Enlargement and deformity of bones due to a combination of abnormal bone resorption and abundant new bone formation. |
| Pseudoarthrosis (false joint) | A fracture with nonunion. |
| Stress fracture | A fatigue-induced bone fracture caused by repeated stress over time. It can be described as small cracks in the bone. |

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