Avascular necrosis is the death of bone tissue stemming from an interrupted blood supply from a variety of causes. Since many conditions are rare archaeologically, understanding probable causes for this pathological skeleton adds to our understanding of health and disease in the past. Here, we undertake a differential diagnosis focusing on neck-shaft angulation in order to suggest a possible etiology for this condition in a pathological individual from the Campbell site, Missouri.

Materials and Methods

23PMS 54: female, based on pelvic morphology; age 41-45 based on dental eruption and pubic symphysis

Elements present:
- Complete skull and mandible
- Humeri: right and left, complete.
- Radius: proximal right, distal left
- Ulna: proximal right, proximal and distal fragments of left
- Sacrum: mostly complete
- Os Coxa: complete left and right
- Femora: complete right
- Tibiae: complete right and left
- Fibula: left distal

Elements missing:
- All vertebrae and ribs
- Sternum
- Left femur
- Right fibula
- Both clavicles
- Both scapulae
- Both patellae
- All bones of hands, wrists, feet, and ankles

Missing elements are most likely due to the salvage nature of the collection. Crania, pelvises, and long bones were preferentially collected, as were right side elements.

Population estimates of torsion and neck shaft angles (NSA) were determined for all individuals in the Campbell site for comparison.

23PMS 54 was also compared to literature values for possible pathological conditions (developmental dysplasia of hip, slipped capital femoral epiphyses, Legg-Calve-Perthes disease).

Differential diagnosis was performed to discriminate among possible pathological conditions.

Conclusions

- NSA suggests 23PMS 54 falls within the pattern of SCFE and LCPD.
- Version is inconclusive compared to the examined pathological conditions.

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References

