Results and discussion

Analysis of the complete horse skeleton discovered in the pit was undertaken on the macroscopic level. Sex identification was achieved using the morphology of the pelvis (Sisson and Grossman 1975), although account was also taken of the presence of small vestigial canines. The age of the animal was estimated according to lower incisor wear (Correvon and Lecointe 1984). Withers height was calculated after Johnstone (2004, 153). The enamel exposure on the anterior edge of the lower second premolars and changes to the distail mandible are interpreted as possible damage caused by bitting, following Bendrey (2007a). The pathological changes observed in the spine were classified according to Bartosiewicz and Bartosiewicz (2002). The ossification of the interosseous ligaments between the metapodials was quantified using the scoring system of Bendrey (2007b).

Possible bitting damages and pathological changes in the extremities may result from the use of horse for riding and traction. However, pathological changes in the spinal column, especially arthrosis of the right side between Th11/12 and Th2/3 and proliferative changes in the eleventh right rib may be more suggestive of horse riding. Most likely unsuitable saddle, probably similar in shape to the saddles of the Iron Age kurgans of the Alba (Levine et al. 2000), was used through which the pressure of the rider’s weight was not equally distributed on horse spine. Pathological changes in the right hind leg (osteoarthritis, prominent muscle attachments of shinbone, arthritic depression in calcaneus) indicate lower mobility (lamelessness) in relation to the other legs, which lasted until the death of the individual.

The observed pathological changes in postcranial skeleton caused by chronic inflammatory processes of ligaments and cartilages are due to intensive use of a horse for riding. Horses with such pathological changes had been ridden before the body growth was completed (raneczek et al. 2012). General pathological condition and the right hind limb lameness indicate inappropriated utilization of the horse. Unstable saddle, intensive and inadequate use influenced the decesses and accelerated physiological aging of the horse.

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References


Conclusion

The observed pathological changes in postcranial skeleton caused by chronic inflammatory processes of ligaments and cartilages are due to intensive use of a horse for riding. Horses with such pathological changes had been ridden before the body growth was completed (raneczek et al. 2012). General pathological condition and the right hind limb lameness indicate inappropriated utilization of the horse. Unstable saddle, intensive and inadequate use influenced the decesses and accelerated physiological aging of the horse.