



AA

Indexing View Papers Aims & Scope Editorial Board Guideline Article Processing Charges

AA > Vol.2 No.4, November 2012

OPEN ACCESS

Bioarchaeological Analysis of Human Skeletal Remains of Iron Age from the Shirakavan Cemetery, Shirak Plateau, Armenia

PDF (Size:1234KB) PP. 224-233 DOI: 10.4236/aa.2012.24025

Author(s)

Anahit Yu. Khudaverdyan

ABSTRACT

This study introduces some diseases which occur among the population of Armenia in the Iron Age. Health issues in the individuals from Shirakavan provoked not by nutritional problems, but problems of infectious nature. The skeletal traumas of the inhabitants of the Shirak plateau are connected only with military conflicts. The results of this study are those that suggest strenuous labor for at least some individuals, based on the presence of osteophytosis, osteoarthritis, enthesopathies, and Schmorl's nodes. Grooves on the occlusal surfaces of teeth are observed in individuals and were most likely produced during the processing of fibers from plants and animals, for making items such as cordage and baskets.

KEYWORDS

Armenia; Iron Ages; Stress Markers; Trauma; Trepanation; Scalp; Degenerative Disease

Cite this paper

Khudaverdyan, A. (2012). Bioarchaeological Analysis of Human Skeletal Remains of Iron Age from the Shirakavan Cemetery, Shirak Plateau, Armenia. *Advances in Anthropology*, 2, 224-233. doi: 10.4236/aa.2012.24025.

References

- [1] Angel, J. L. (1974). Patterns of fracture from Neolithic to modern times. *Anthropologiai K?zlemények*, 18, 9-18.
- [2] Arcini, K. (1999). Health and disease in early Lund. Osteo-pathologic studies of 3, 305 individuals buried in the first cemetery area of Lund 990-1536. Lund: Medical Faculty Lund University.
- [3] Aufderheide, A. C., & Rodriguez-Martin, C. (1998). The Cambridge encyclopedia of human paleopathology. Cambridge: University Press.
- [4] Blakely, R. L., & Beck, L. (1984). Tooth-tool use versus dental mutilation: A case study from the prehistoric southeast. *Midcontinental Journal of Archaeology*, 9, 269-284.
- [5] Broth, W. D., & Sandison, A. T. (1967). Disease in antiquity: A survey of the diseases, injuries and surgery of early populations. Springfield, IL: Charles C Thomas Publishers.
- [6] Buikstra, J. E., & Ubelaker, D. H. (1994). Standards for data collection from human skeletal remains. Seminar at the field museum of natural history 44, Arkansas Archaeological Survey Research Series.
- [7] Buikstra, J. E., & Cook, D. C. (1980). Paleopathology: An American account. *Annual Review of Anthropology*, 9, 433-470. doi:10.1146/annurev.an.09.100180.002245
- [8] Burrell, L. L., Mass, M. C., & Van Gerven, D. P. (1986). Patterns of long-bone fracture in two Nubian cemeteries. *Journal of Human Evolution*, 1, 495-506. doi:10.1007/BF02437466
- [9] Capasso, L., Kennedy, K. A. R., & Wilczak, C. A. (1999). Atlas of occupational markers on human remains. *Journal of Paleopathology* (Monographic publication 3), 3, 1-183.

• Open Special Issues

• Published Special Issues

• Special Issues Guideline

AA Subscription

Most popular papers in AA

About AA News

Frequently Asked Questions

Recommend to Peers

Recommend to Library

Contact Us

Downloads: 24,019

Visits: 113,045

Sponsors >>

- [10] Centurion-Lara, A., Castro, C. et al. (1998). The flanking region sequences of the 15-kDa lipoprotein gene differentiate pathogenic treponemes. *Journal of Infectious Diseases*, 177, 1036-1040. doi:10.1086/515247
- [11] El-Najjar, M. Y., Ryan, D. J. et al. (1976). The etiology of porotic hyperostosis among the prehistoric and historic Anasazi Indians of Southwestern United States. *American Journal of Physical Anthropology*, 44, 477-488. doi:10.1002/ajpa.1330440311
- [12] Eshed, V., Gopher, A. et al. (2004). Musculoskeletal stress markers in Natufian hunter-gatherers and Neolithic farmers in the Levant: The upper limb. *American Journal of Physical Anthropology*, 123, 303315. doi:10.1002/ajpa.10312
- [13] Gilbert, B. M., & McKern, T. W. (1973). A method for aging the female os pubis. *American Journal of Physical Anthropology*, 38, 31-38. doi:10.1002/ajpa.1330380109
- [14] Grauer, A. L., & Roberts, C. A. (1996). Paleoepidemiology, healing, and possible treatment of trauma in the Medieval cemetery population of St. Helen-on-the-Walls, York, England. *American Journal of Physical Anthropology*, 100, 531-544. doi:10.1002/(SICI)1096-8644(199608)100:4<531::AID-AJPA7>3.0.CO;2-T
- [15] Goodman, A. H., Martin, D. L. et al. (1984). Indications of stress from bones and teeth. In M. N. Cohen, & G. J. Armelagos (Eds.), *Paleopathology at the origins of agriculture* (pp. 13-49). New York: Academic Press. doi:10.1002/ajpa.1330330506
- [16] Goodman, A. H., & Martin, D. L. (2002). Reconstructing health profiles from skeletal remains. In R. H. Steckel, & J. C. Rose (Eds.), *The Back-bone of history: Health and nutrition in the western hemisphere* (p 11-60). Cambridge: Cambridge University Press.
- [17] Goodman, A. H., & Rose, J. C. (1990). Assessment of systemic physiological perturbations from dental enamel hypoplasias and associated histological structures. *Yearbook of Physical Anthropology*, 33, 59-110. doi:10.1371/journal.pntd.0000148
- [18] Harper, K. N., Ocampo, P. S. et al. (2008). On the origin of the treponematoses: A phylogenetic approach. *PLoS Neglected Tropical Diseases*, 2, e148. doi:10.1371/journal.pntd.0000148
- [19] Hawkey, D. E., & Merbs, C. F. (1995). Activity-induced musculoskeletal stress markers (MSM) and subsistence strategy changes among ancient Hudson Bay Eskimos. *International Journal of Osteoarchaeology*, 5, 324-338. doi:10.1002/oa.1390050403
- [20] Herrer, A. D., Roldan, S. et al. (2000). The periodontal abscess (I): Clinical and microbiological findings. *Journal of Clinical Periodontology*, 27, 387-394. doi:10.1034/j.1600-051x.2000.027006387.x
- [21] Il'inskaya, V. A., & Terenozhkin, A. I. (1983). *Scythia 7th-4th centuries BC*. Kiev.
- [22] Jurmain, R. D. (1991). Paleoepidemiology of trauma in a prehistoric central California population. In D. J. Ortner, & A. C. Aufderheide (Eds.), *Human paleopathology, current synthesis and future options* (pp. 241-248). Washington DC: Washington Smithsonian Institution Press.
- [23] Katz, D., & Suchey, J. M. (1986). Age determination of the male os pubis. *American Journal of Physical Anthropology*, 69, 427-435. doi:10.1002/ajpa.1330690402
- [24] Kelley, J. O., & Angel, J. L. (1987). Life stresses of slavery. *American Journal of Physical Anthropology*, 74, 199-211. doi:10.1002/ajpa.1330740208
- [25] Khudaverdyan, A. Y. (2009). Population of the Armenian highland during a Bronze Age. *Ethnogenesis and ethnohistory*. Yerevan: Van Arian.
- [26] Khudaverdyan A. (2010a). Pattern of disease in II millennium BC-I millennium BC burial from Lchashen, Armenia. *Anthropologie (Brno)*, 3, 239-254.
- [27] Khudaverdyan, A. (2010b). Pattern of disease in three 1st century BC-3rd century AD burials from Beniamin, Vardbakh and the Black Fortress I, Shiraksky plateau (Armenia). *Journal of Paleopathology*, 22, 15-41.
- [28] Khudaverdyan, A. (2010c). Palaeopathology of human remains from Vardbakh and the black fortress I, Armenia. *Bioarchaeology of the Near East*, 4, 1-23. doi:10.2478/v10044-010-0004-1
- [29] Khudaverdyan, A. (2011a). Migrations in the Eurasian steppes in the light of paleoanthropological data. *The Mankind Quarterly*, 4, 387-463.

- [30] Khudaverdyan, A. (2011b). The anthropology of infectious diseases of Bronze Age and Early Iron Age from Armenia. *Dental Anthropology*, 2 (2):42-54.
- [31] Khudaverdyan, A. (2011c). Trepanation and artificial cranial deformations in ancient Armenia. *Anthropological Review*, 74, 39-55.
- [32] Khudaverdyan, A. Y. (2012) A bioarchaeological analysis of the population of the Armenian highland and transcaucasus in the antiquity age. *The Mankind Quarterly*, 53, 3-35.
- [33] Lagunas, Z., & Hernández, P. (2000). Manual de osteología, Mexico: Consejo nacional para la cultura y las Artes. Instituto nacional de antropología e historia. Escuela Nacional de Antropología e Historia: Secretaría de Educación Pública.
- [34] Larsen, C. S. (1985). Dental modification and tool use in the Western Great Basin. *American Journal of Physical Anthropology*, 67, 393-402. doi:10.1002/ajpa.1330670411
- [35] Erdal, Y. S. (2008). Occlusal grooves in anterior dentition among Kovuklukaya inhabitants (Sinop. Northern Anatolia, 10th century AD). *International Journal of Osteoarchaeology*, 18, 152-166. doi:10.1002/oa.925
- [36] Lallo, J., Armelagos, G. J., & Mensforth, R. P. (1977). The role of diet, disease and physiology in the origin of porotic hyperostosis. *Human Biology*, 49, 471-483.
- [37] Larsen, C. (1997). Bioarchaeology. Interpreting behavior from the human skeleton. Cambridge: Cambridge University Press. doi:10.1017/CBO9780511802676
- [38] Larsen, C. S. (2000). Skeletons in our closet: Revealing our past through bioarchaeology. Princeton, NJ: Princeton University Press.
- [39] Larsen, C. S., Teaford, M. F., & Sandford. M. K. (1988). Teeth as tools at Tutu: Extramasticatory behavior in prehistoric St. Thomas, US Virgin Islands. In J. R. Lukacs (Ed.), *Human dental development, morphology, and pathology: A tribute to Albert A. Dahlberg* (pp. 401-420). Eugene, OR: University of Oregon Anthropological Papers, No.54.
- [40] Lewis, M. A. O., Macfarlane, T. W., & McGowan, D. A. (1986). Quantitative bacteriology of acute dento-alveolar abscesses. *Journal of Medical Microbiology*, 21, 101-104. doi:10.1099/00222615-21-2-101
- [41] Liston, M. A., & Baker, B. J. (1996). Reconstructing the massacre at Fort William Henry, New York. *International Journal of Osteoarchaeology*, 6, 28-41. doi:10.1002/(SICI)1099-1212(199601)6:1<28::AID-OA242>3.0.CO;2-W
- [42] Lovejoy, C. O., & Heiple, K. G. (1981). The analysis of fractures in skeletal populations with an example from the Libben Site, Ottawa County Ohio. *American Journal of Physical Anthropology*, 55, 529-541. doi:10.1002/ajpa.1330550414
- [43] Lukacs, J. R., & Pastor, R. F. (1988). Activity-induced patterns of dental abrasion in prehistoric Pakistan: Evidence from Mehrgarh and Harappa. *American Journal of Physical Anthropology*, 76, 377-398. doi:10.1002/ajpa.1330760310
- [44] Mariotti, V., Facchini, F., & Belcastro, M. G. (2004). Enthesopathies— Proposal of a standardized scoring method and applications. *Collegium Antropologicum*, 28, 145-159.
- [45] Mariotti, V., Facchini, F., & Belcastro, M. G. (2007). The study of enthuses: proposal of a standardised scoring method of twenty-three enthuses of the postcranial skeleton. *Collegium Antropologicum*, 31, 291-313.
- [46] Martirosyan, A. A. (1974). Argishtikhinili. Archaeological monuments from Armenia. Urartian monuments. Yerevan: Science.
- [47] Meindl, R. S., Lovejoy, C. O. et al. (1985). Accuracy and direction of error in the sexing of the skeleton: Implications for paleodemography. *American Journal of Physical Anthropology*, 68, 79-85. doi:10.1002/ajpa.1330680108
- [48] Merbs, C. F. (1983). Patterns of activity-induced pathology in a Canadian Inuit population. national museum of man mercury series, archaeological survey of Canada, Paper No.119. Ottawa: National Museums of Canada.
- [49] Movsesyan, A. A. (1990). To the paleoanthropology of the Bronze Age in Armenia. *Biological Journal of Armenia*, 4, 277-283.

- [50] Ortner, D. J. (2003). Identification of pathological conditions in human skeletal remains (2nd ed.). London: London Academic Press.
- [51] Ortner, D. J., & Putschar, W. G. J. (1985). Identification of pathological conditions in human skeletal remains. Washington DC: Smithsonian Institution Press.
- [52] Petrenko, V. G. (1983). Scythian culture in the Northern Caucasus. Archaeological Collection of Articles of the State Hermitage, 23, Leningrad.
- [53] Phenice, T. W. (1969). A newly developed visual method of sexing the os pubis. American Journal of Physical Anthropology, 30, 297-302. doi:10.1002/ajpa.1330300214
- [54] Resnick, D., & Niwayama, G. (1983). Entheses and enthesopathies. Radiology, 146, 1-9.
- [55] Robb, J. E. (1998). The interpretation of skeletal muscle sites: A statistical approach. International Journal of Osteoarchaeology, 8, 363377. doi:10.1002/(SICI)1099-1212(1998090)8:5<363::AID-OA438>3.0.CO;2-K
- [56] Roberts, C., & Manchester, K. (1995). The archaeology of disease. New York: Cornell University Press.
- [57] Scott, G. R., & Jolie, R. B. (2008). Tooth-tool use and yarn production in Norse Greenland. Alaska Journal of Anthropology, 6, 253-264.
- [58] Steckel, R. H., & Rose, J. C. (2002). The backbone of history: Health and nutrition in the Western Hemisphere. Cambridge: Cambridge University Press. doi:10.1017/CBO9780511549953
- [59] Steckel, R. H., Rose, J. C. et al. (2002). Skeletal health in the Western Hemisphere from 4000 BC to the present. Evolutionary Anthropology, 11, 142-155. doi:10.1002/evan.10030
- [60] Steinbock, R. (1976). Paleopathological diagnosis and interpretation: Bone disease in ancient human populations. Springfield, IL: Charles Thomas Publisher.
- [61] Stewart, T. D. (1974). Nonunion of fractures in antiquity, with descriptions of five cases from the New World involving the forearm. The New York Academy of Sciences, 50, 876-891.
- [62] Stuart-Macadam, P. (1992). Porotic hyperostosis: A new perspective. American Journal of Physical Anthropology, 87, 39-47. doi:10.1002/ajpa.1330870105
- [63] Torosyan, R. M., Hnkikyan, O. S., & Petrosyan, L. A. (2002). Ancient Shirakavan (the results of excavations 1977-1981). Archaeological excavations in Armenia. Yerevan: Gitutyun: Science.
- [64] Villotte, S., Castex, D. et al. (2010a). Enthesopathies as occupational stress markers: Evidence from the upper limb. American Journal of Physical Anthropology, 142, 224-234.
- [65] Villotte, S., Churchill, S. E. et al. (2010b). Subsistence activities and the sexual division of labor in the European Upper Paleolithic and Mesolithic: Evidence from upper limb enthesopathies. Journal of Human Evolution, 59, 35-43. doi:10.1016/j.jhevol.2010.02.001
- [66] Vinogradov, V. B., & Dudarev, S. L. (1983). Chronology of some monuments and complexes at the beginning of the 1st millennium BC from Karachaev-Cherkessia and pyatigore. Problems of archaeology and ethnography of Karachaev-Cherkessia). Cherkessk.
- [67] Walker, P. L. (1989). Cranial injuries as evidence of violence in prehistoric southern California. American Journal of Physical Anthropology, 80, 313-323. doi:10.1002/ajpa.1330800305
- [68] Waters-Rist, A., Bazaliiskii, V. I. et al. (2010). Activity-induced dental modification in holocene Siberian hunter-fisher-gatherers. American Journal of Physical Anthropology, 143, 266-278. doi:10.1002/ajpa.21313
- [69] Weiss, E. (2007). Muscle markers revisited: Activity pattern reconstructed with controls in a central California amerind population. American Journal of Physical Anthropology, 133, 931-940. doi:10.1002/ajpa.20607
- [70] Wood, J. W., Milner, G. R. et al. (1992). The osteological paradox problems of inferring prehistoric health from skeletal samples. Current Anthropology, 33, 343-370. doi:10.1086/204084

