DAILY LIFE, HEALTH, AND DIET OF THE SOPOLLI CULTURE POPULATION: EVIDENCE FROM PALEOPATHOLOGY AND ARCHAEOLOGICAL SOURCES

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Abstract
This study presents a comprehensive analysis of the daily life, biological health, and diet of the Bronze Age Sopolli culture population, based on paleoanthropological, archaeobotanical, and archaeozoological evidence collected from excavations since the 1970s. The study examines skeletal and dental remains to evaluate disease patterns, trauma, and nutritional habits. In addition, the analysis considers the socio-economic context, including domestic livestock, wild animals, and cultivated crops, to reconstruct the dietary and occupational practices of the population. These findings contribute to understanding the health status, mortality patterns, and social organization of the Sopolli culture in Southern Uzbekistan.
Keywords: paleoeconomy, paleopathology, osteomyelitis, odontological analysis, dental caries, Bronze Age, Sopolli culture

SOPOLLI MADANIYATI AHOLISI KUNDALIK HAYOTI, SOG‘LIGI VA RATSIONI: PALEOPATOLOGIYA VA ARXEOLOGIK MANBALAR ASOSIDA

Annotatsiya
Ushbu tadqiqot bronza davri Sopolli madaniyati aholining kundalik hayoti, biologik sog‘ligi va oziqlanish odatlarini keng qamrovli tahlil qiladi. Tadqiqot 1970-yillardan boshlab qazishmalarda topilgan paleoantropologik, arxeobotanik va arxeozoologik manbalarni asos qilib oladi. Skelet va tish qoldiqlari tahlili orqali kasalliklar, jarohatlar va oziqlanish odatlari aniqlanadi. Bundan tashqari, tahlilda aholining ijtimoiy-iqtisodiy konteksti – chorva mollari, yovvoyi hayvonlar va yetishtirilgan ekinlar hisobga olinadi, bu orqali aholining ratsion va mehnat odatlarini rekonstruksiya qilish imkonini beradi. Ushbu natijalar Janubiy O‘zbekistonda Sopolli madaniyati aholisi sog‘lig‘i, o‘lim darajasi va ijtimoiy tuzilmasini yaxshiroq tushunishga yordam beradi.
Kalit so‘zlar: paleoekonomika, paleopatologiya, osteomielit, odontologik tahlil, tish kariyesi, bronza davri, Sopolli madaniyati

ПОВСЕДНЕВНАЯ ЖИЗНЬ, ЗДОРОВЬЕ И РАЦИОН НАСЕЛЕНИЯ КУЛЬТУРЫ СОПОЛЛИ: ДАННЫЕ ПАЛЕОПАТОЛОГИИ И АРХЕОЛОГИЧЕСКИЕ ИСТОЧНИКИ

Аннотация
Данное исследование представляет собой комплексный анализ повседневной жизни, биологического здоровья и питания населения культуры Сополли бронзового века, основанный на палеоантропологических, археоботанических и археозоологических данных, собранных в ходе раскопок с 1970-х годов. Анализ скелетных и зубных останков позволяет выявить модели заболеваний, травмы и пищевые привычки. Кроме того, учитывается социально-экономический контекст, включая домашний скот, диких животных и возделываемые культуры, что позволяет реконструировать рацион и трудовые практики населения. Эти результаты способствуют лучшему пониманию состояния здоровья, структуры смертности и социальной организации населения культуры Сополли в Южном Узбекистане.
Ключевые слова: палеоэкономика, палеопатология, остеомиелит, одонтологический анализ, кариес зубов, бронзовый век, культура Сополли

INTRODUCTION

Ancient Bactria, situated between the Amu Darya River, the Hindukush, and Hisor Mountains, has long been recognized for its historical and cultural significance. Archaeological studies indicate that favorable ecological and geographic conditions allowed for the development of advanced urban centers during the Bronze Age. Among these, the Sopolli culture, identified by A. Asqarov, represents a sedentary agricultural society characterized by social stratification, organized settlements, and intensive farming practices.

Subsequent research by Shirinov, Shaydullayev, and other scholars has explored Sopolli architecture, burial practices, material culture, and urbanization processes, highlighting the role of cemeteries and paleoanthropological remains in reconstructing demographic, health, and social patterns. Excavations of Sopollitepa, Jarqo'ton, and Bostonsay sites have provided crucial insights into the biological and physical conditions of the Bronze Age population.

Methodology

This study employs historical-comparative analysis, stratigraphic sequencing, and bioarchaeological examination. Skeletal remains were analyzed using craniometric and osteometric methods following Martin's system, while stature and body mass were estimated using formulas by Pearson, Debets, Bunak, Trotter, and Glezer. Dental analysis followed Brothwell's methodology, and paleopathological conditions were recorded based on macroscopic examination of skeletal material.

Archaeobotanical and archaeozoological data were integrated to evaluate diet and subsistence patterns. Stratigraphic analysis of cemeteries allowed for the chronological classification of graves into the Jarqo'ton, Ko'zali, and Molali phases. International collaborative research, including Uzbek-French expeditions since 2007, employed advanced techniques such as microstratigraphy, isotopic, and DNA analyses to study biological and dietary aspects of the population.

Results

Demography and Burial Patterns

Excavations at Sopollitepa revealed 138 graves containing 147 skeletons, of which 125 were single burials and 13 collective. Among the buried, 104 were adults, 7 adolescents, and 47 children under 10 years of age. Four graves contained only animal bones, while six were cenotaphs. Over 90% of

graves were well-preserved with anatomically intact skeletons. Grave goods included pottery, metal, wood, leather, and straw artifacts.

Jarqo'ton cemeteries contained 673 skeletons from 719 graves. Osteometric and paleodemographic studies indicate that the average life expectancy of Sopolli people was 30.6 years (males: 33, females: 33.4). Infant mortality was high, with 37% at Sopollitepa and 28.5% at Jarqo'ton, indicating that approximately one in three children died before the age of three.

Graves were categorized by structure: **yorma** (underfloor), **katakomba** (chamber), and **chuqur-yama** (pit). Children's graves often lacked grave goods and showed variation in orientation. Skeletal orientation was mostly standardized in adults, demonstrating cultural consistency across chronological phases.

Physical Characteristics and Paleopathology

Skeletal analysis indicates that Sopolli people exhibited primarily Europoid traits. Craniometric comparisons with populations in northeastern Iran, southwestern Tajikistan, and other Bactrian sites suggest strong regional affinity.

Paleopathological analysis identified trauma and disease, including osteomyelitis, osteoporosis, spinal anomalies, and fractures in six individuals. Dental wear analysis indicates a diet dominated by cereals and dairy, with minimal caries (observed in only six skeletons). Overall, bone diseases were relatively rare, suggesting that despite environmental and dietary challenges, skeletal health was moderately maintained.

Socio-economic Context and Diet

Archaeobotanical evidence shows the consumption of cultivated cereals (wheat, barley, millet) and dairy products, while archaeozoological remains indicate the integration of domestic livestock and hunted wild animals into daily diet. Labor-related physical activity, combined with dietary insufficiency, contributed to moderate protein deficiency and the prevalence of specific bone pathologies. Dental and skeletal data support a reconstruction of daily occupational routines, including agriculture, animal husbandry, and hunting.

Discussion

The combination of paleoanthropological, paleopathological, and archaeobotanical evidence provides a nuanced understanding of the Sopolli population's health, diet, and lifestyle. High infant mortality, moderate life expectancy, and evidence of nutritional stress reflect the challenges faced by a Bronze Age agricultural community. Burial practices, grave goods, and skeletal analyses demonstrate the socio-economic organization, cultural continuity, and health status of the population.

International collaborations since the 1990s have introduced advanced laboratory techniques, including isotopic and DNA analyses, enhancing the study of dietary habits, population mobility, and genetic relationships. These analyses allow for a more detailed reconstruction of the daily life and health of Sopolli culture people, highlighting the interplay between environment, labor, nutrition, and social structure.

Conclusion and Recommendations

Sopolli culture cemeteries and skeletal collections offer invaluable insights into the Bronze Age population of Southern Uzbekistan. Future research should continue integrating osteological, isotopic, and genetic data to provide a comprehensive understanding of diet, health, and social organization. Furthermore, archaeological and bioarchaeological evidence should be synthesized to

reconstruct daily life, environmental adaptation, and the socio-economic role of the population. Such studies will provide a holistic view of the Sopolli culture, bridging past human behavior with material culture and environmental conditions.

Bibliography:

1. Аскаров А. А. Сапаллитепа. – Ташкент, 1973
2. Аскаров А. А. Древнеземледельческая культура эпохи бронзы юга Узбекистана. – Ташкент, 1977.
3. Аскаров А. А, Абдуллаев Б. Н. Джаркутан. Ташкент. «Фан». 1983.
4. Аскаров А, Ширинов Т. Ранняя городская культура эпохи бронзы юга Средней Азии. Самарканд. 1993.
5. Абдуллаев Б. Могильник Джаркутан. — ИМКУ, вып. 15, Ташкент, 1979.
6. Алексеев В.П, Дебец Г.Ф. Краниометрия. Методика антропологических исследовании. М. 1964.
7. Алексеев В.П. Остеометрия. Методика антропологических исследовании. М. 1966.
8. Алексеев В. П, Ходжайов Т, Халилов Х. Население верховьев Амударьи по данным палеоантропологии. Т.,1984.