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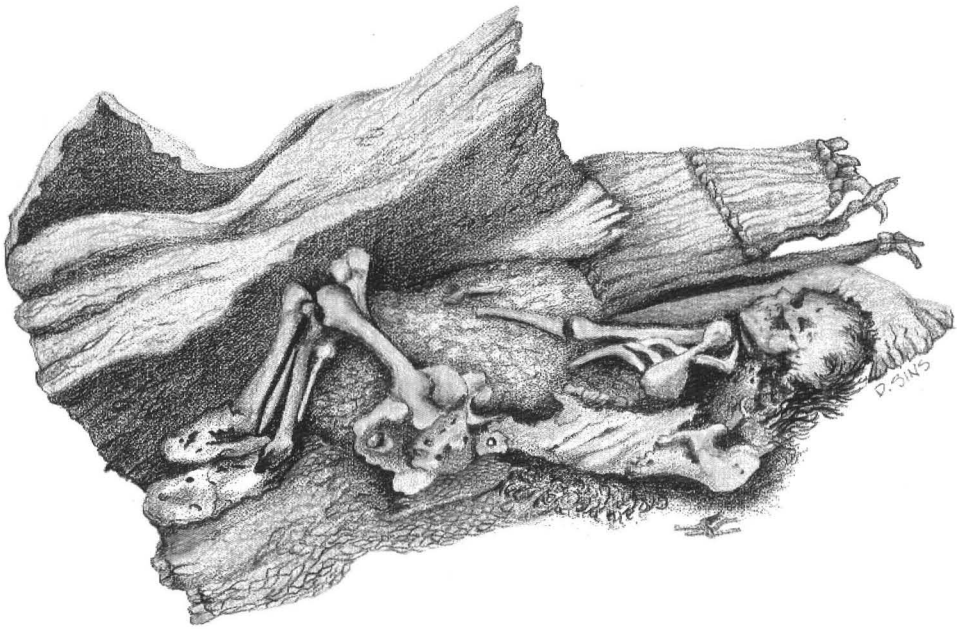

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The *Nevada Historical Society Quarterly* solicits contributions of scholarly or popular interest dealing with the following subjects: the general (e.g., the political, social, economic, constitutional) or the natural history of Nevada and the Great Basin; the literature, languages, anthropology, and archaeology of these areas; reprints of historic documents; reviews and essays concerning the historical literature of Nevada, the Great Basin, and the West.

Prospective authors should send their work to The Editor, *Nevada Historical Society Quarterly,* 1650 N. Virginia St., Reno, Nevada 89503. Papers should be typed double-spaced and sent in duplicate. All manuscripts, whether articles, edited documents, or essays, should conform to the most recent edition of the University of Chicago Press *Manual of Style.* Footnotes should be typed double-spaced on separate pages and numbered consecutively. Correspondence concerning articles and essays is welcomed, and should be addressed to The Editor.

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PALEOPATHOLOGY OF THE WIZARDS BEACH MAN (AHUR 2023) AND THE SPIRIT CAVE MUMMY (AHUR 2064)

Heather Joy Hecht Edgar

In January of 1996 a study was made of remains from forty-nine individuals housed at the Nevada State Museum. Of these forty-nine, only forty-five are from the permanent collection and four were from a possible forensic investigation that turned out to be historic burials. The study included analysis of age, sex, morphometrics, and dental and osteopathology, as well as complete photo documentation.

This article is of narrow focus. It describes the pathological changes evidenced in the remains of two of the forty-nine individuals, AHUR 2023 and AHUR 2064, known as the Wizards Beach Man and the Spirit Cave Mummy, respectively. Although it is generally more informative to describe paleopathology in terms of an entire skeletal series (giving information about the over-all lifestyle of a group of people) the uniqueness of these two individuals warrants a complete, detailed description of the observable pathological changes. Indeed, the informational value of these remains is evidenced by the Twenty-fifth Great Basin Anthropological Conference, and dedicated to their analysis.

THE WIZARDS BEACH MAN FROM PYRAMID LAKE, NEVADA

Preservation

Analysis of AHUR 2023, the Wizards Beach Man, is complicated by the pattern of its burial. It may have been commingled with the remains of another burial, AHUR 2022. Dates for AHUR 2023 range from 9,200+60 (UCR-3445) to 9,515+155 (GX-19422G) years B.P. Ribs from AHUR 2022 dated at 5,905+125 (GX-19421-G). The age difference between these remains ranges between 3,370 and 3,800 years. Obviously, the two did not live contemporaneously. Both skeletons appear to be males, although this can be said securely about only one of them, as there is only one pelvis, the area of the body that provides the most reliable sexual indicators.

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Curation

A separation of the two individuals has been made. Fortunately, there is a duplication of all the bones assigned to AHUR 2023 in AHUR 2022, except for seven bones of the left hand. The only secure way to separate all the bones from the two individuals would be to date each one individually, thereby destroying, or at least limiting, their scientific value. For purposes of this analysis, the remains stored in the box labeled 2022 will be ignored, and the bones included under the number 2023 will be described as the Wizards Beach Man. The bones represented are a skull and mandible, one cervical vertebra, the left shoulder and arm complex, parts of the left hand, the right forearm, the left thigh, and the right lower leg.

Sex

While the lack of a preserved pelvic girdle makes definite sex assignment impossible, the skull, which is the second best sexual indicator, is masculine in form. A central ridge over the nose and eyes is pronounced, as are the mastoid processes, the bony protuberances behind the ears. The shape of the lower jaw is very masculine, with a square chin and flaring gonia, the angles of the jaw.

Age

The estimate of age in the Wizards Beach Man is based mainly on the amount of external cranial suture closure. During one's life, these sutures are obliterated at a fairly measurable rate. In most cases, the more obliteration of sutures observed on a skull, the older the individual was at the time of death. Application of this method produced an age in this individual of 32 years, with a standard deviation of 20-42 years. The wear of the teeth may indicate that this person was in the older part of this estimate, between 32 and 42 years. The lack of a complete skeleton prevents a more specific estimate.

Pathological Conditions

First, it should be mentioned that this description is based on the observable remains only. It may not fully describe all the disease processes the individual suffered. For example, only one vertebra is present. It is a cervical, or neck vertebra. Therefore, if 2023 had any lower back disease, it was not observable.

Osteopathology. This individual is very robust, with well marked muscle attachments throughout the preserved remains and especially at the shoulder. There is evidence of osteoarthritis at the left elbow and both wrists. Some of the joint surfaces show enlargement, porosities, and osteophytic bone growth, all signs of degenerative joint disease. These changes are not severe, but probably caused some discomfort.

New bone laid down by the periosteum, the sheath that covers all bones, is present on the left and right radii, the left femur, and the right tibia and fibula. The collateral lower limb bones are not observable. Some of the new bone is remodeled

into fine striae paralleling the main axis of the bones, and some is newly applied and disorganized. Bone laid down on the cortex of long bones like this indicates a periosteal reaction to infection. The presence of remodeled as well as new bone indicates that the infection lasted for some duration and was active at the time of death. The infection is not necessarily in the affected bones, but is rather diffuse throughout the system. People can live with such infections for extended periods of time, so this may or may not give some indication of the cause of death.

Dental pathology. There are seventeen teeth observable, out of the total thirty-two in the average adult. The rest are either missing due to post mortem loss or are present, but broken. All the teeth present have heavy wear. Almost all the crowns are obliterated, so that the occlusal, or chewing, surface at the time of death was root stubs. This amount of wear is not uncommon for prehistoric specimens. There are no caries present, but this is associated with the heavy wear: In life, the teeth are worn too fast to allow caries to form. There is, however, one abscess on tooth number 30, the lower right first molar. This abscess was due to direct infection of the bone through the open pulp chamber of the tooth. Also associated with heavy wear, this condition, too, was common in prehistory, and it can be a cause of death.

THE SPIRIT CAVE MUMMY FROM THE FOOTHILLS OF THE STILLWATER RANGE NEAR FALLON, NEVADA

The dates on this individual range between 9,350±70 (UCR-3261-4) and 9,460 ±60 B.P. (UCR-3324-2). Its completeness, provenience, and associated artifacts give us an incredible opportunity to learn about the past in the Great Basin, and all of North America.

Preservation

The bones of this mummy were in excellent condition. Some observations were impeded by mummified tissue. To limit the destruction of the mummy, the bones of the exposed left arm were analyzed, but the embedded right arm was not exposed.

Sex

The pelvis is masculine, with narrow sciatic notches and subpubic concavities. The skull is somewhat masculine, with large mastoids and glabella, although the chin is pointed, a more feminine trait. Over-all, it can be said with assurance that these remains are those of a male, although not a very robust one.

Age

In the pelvis, age estimates were made using the pubic symphyses (the bony joint at the front of the pelvic girdle), and the auricular surfaces (which connect

the pelvis to the spine). These figures were reinforced by examination of the external cranial suture closure. A consensus age of 45 + 5 was reached. It should be noted that the observed dental wear seemed a little light for this age when compared to the over-all series of forty-nine analyzed in this study.

Pathological Conditions

Osteopathology. First, it is interesting that there is a general absence of osteoarthritis at joints in the appendages. While there may be some slight degeneration of the distal humerus at the left elbow, this seems to be the only degenerative joint disease outside the spine.

The spine itself, however, presents a very different picture. There are some genetic anomalies present that led to degenerative processes. The average person has thirty-three vertebrae, seven cervical, twelve thoracic, five lumbar, five sacral, and four coccygeal. The Spirit Cave Mummy has thirty-four, the extra one being an atypical thirteenth thoracic. It has one rib present, although there may have been two with only one observable. Anomalies continue down the spinal column. The last lumbar vertebra, the fifth, looks on the left somewhat like the first sacral vertebra, the one below it. However, there are still five complete sacral elements. The fifth lumbar articulates with the left os coxa, or pelvic bone, an abnormal condition. The fifth lumbar also exhibits incipient spondylolysis at the left pars interarticularis. This is a stress fracture of the arch of the vertebra. The fracture is surrounded by osteophytic bone growth. In addition to these abnormalities, the superior sacral facets, the ones that join the sacrum to the spinal column above, are at irregular angles. The left facet is smaller and at a much flatter angle than the right. Over-all these variations led to instability in the spine, as evidenced by the spondylolysis of the fifth lumbar. Although these conditions were not life threatening, they certainly would have made day-to-day activities more uncomfortable.

One other major pathological condition will be described: a well-healed fracture of the skull. The point of impact, though obscured by the dense bone associated with a healed fracture, can be described as being on the frontal bone, just anterior to the coronal suture, 30 mm left of bregma. There are two radiating fractures from the point of impact. The first is directed posteriorly for 35 mm. The second descends for 83 mm from the impact to the temporal suture. The amount of remodeling indicates that the individual lived at least for more than a year after the injury. The most common cause of this type of fracture is interpersonal violence. It is not possible to determine what type of object caused these fractures.

Dental pathology. All thirty-two teeth are available for study, a rarity in prehistory. In addition to pathological analysis, morphometric observations were made, and are available on request. The anterior teeth show linear indentations, evidence that the teeth were used for processing sinew. There are three abscessed teeth, the

upper right and left first molars (numbers 3 and 14) and the lower right 1st molar (number 30). It is likely that the infection related to these abscessed teeth led to the death of this individual.

Conclusion

AHUR 2023, Wizards Beach Man, lived around 9,225 years ago. He was a robust man, between 40 and 45 years old when he died. He suffered from mild osteoarthritis in his elbows and wrists, and had some sort of diffuse infection in his body. His teeth were very worn, and he had one abscessed molar, not atypical for a prehistoric man. Because of incomplete preservation, we cannot know all of the disease processes that may have affected his bones .

AHUR 2064, the Spirit Cave Mummy, lived about 9,400 years before the present. He lived to around the age of 45, and was not very robust or muscular. He had many genetic abnormalities of the spine that lead to some pathological changes and probably caused him quite a bit of lower back pain. However, he had little or no osteoarthritis in his arms or legs. Some time before his death the front of his head was fractured, possibly by the action of another person. He survived this injury, but may have died because of three severely abscessed teeth.