Paleopathology Club - Newsletter No. 145

http://www.pathology.vcu.edu/research-labs/gerszten-lab-research/paleopathology-club/

March, 2017

IMPORTANT NEWS

Our Newsletter is **ONLY** available via E-mail.

Dear Members:

The 41st Scientific Session of the Paleopathology Club will be held Sunday, March 18, 2018 from 1:30-3:00 p.m. during the:

107th Annual Meeting of
The United States and Canadian Academy of Pathology
Sunday, March 18, 2018
Vancouver, BC, Canada

If you would like to submit a paper for platform presentation, please send us the title and author.

The 40th Scientific Session of the Paleopathology Club was held Sunday, March 5, 2017 from 1:30-3:00 p.m. during the:

106th Annual Meeting of
The United States and Canadian Academy of Pathology
Sunday, March 5, 2017
San Antonio, TX, U.S.A.

Enclosed are the abstracts of the papers presented at the meeting in San Antonio.

From Left to Right: Drs. Paine, Gerszten, Hamilton and Fernández

Drs. Gerszten and Fernández with the speakers of the program in Seattle.

Answer to Case #140
Diagnosis: Heart.

Submitted by: Dr. Enrique Gerszten, Virginia Commonwealth University, Department of Pathology, MCV Campus; Richmond, Virginia, USA.

The answer to Case #140 can be viewed and printed in Internet Explorer 6.0 at:
http://www.pathology.vcu.edu/research-labs/gerszten-lab-research/case-studies/case-140/

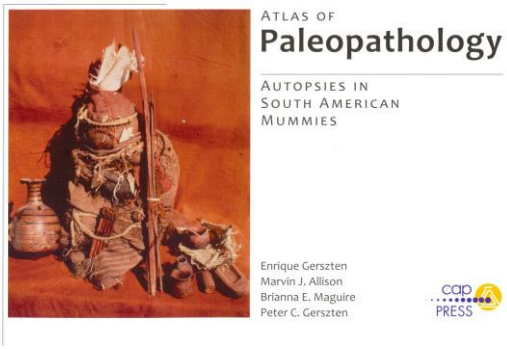
Case #141:
History: Skin: (Left) Right pretibial region. Young adult male, Chimu culture (Late Intermediate Period, ca. 1100-1400 AD)
(Right) Microscopic picture of the skin.

Submitted by: Jordi Esteban, MD and Pedro L. Fernandez, MD, PhD, from Dept. of Pathology, Hospital Clínic of Barcelona and University of Barcelona.

The slide of Case #141 can be best viewed and printed in Internet Explorer 6.0 at:
http://www.pathology.vcu.edu/research-labs/gerszten-lab-research/case-studies/case-141/

Notice!

1. If you have an interesting slide you would like to share with other members, please send it along with the history.



2. We published an "Atlas" of Paleopathology, which is a synopsis of 40 years of investigation in South American Mummies. This publication is available at CAP Press. Northfield, IL, 60093, phone: 800-323-4040 option 1, and is directed mainly at those interested in Archeology, Anthropology, History of Medicine, Forensic Pathology and Pathology (Cost $35.00).

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Health Trends Among Roman Period Burials

Robert R. Paine
Professor of Anthropology
Director of Forensic Sciences Graduate and Undergraduate Programs
Texas Tech University
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Changes in the overall health of Romans from the Republic to the Imperial period are explored. To do so, dry bone skeletal lesions are recorded among adult burials from two important Roman period sites; the Roman city of Aquinum found in current town of Casilina (Republic Romans) and the Roman necropolis of San Donato and Bivio CH found in the city of Urbino, Italy (Imperial Romans). The Republic is traditionally dated to 509 BC, and ending in 27 BC; while the Imperial Period covers the period of AD 1 to 375. In total, 145 burials are examined. Lesions include those associated with Degenerative Joint Disease of long bones, osteophytes from the vertebral bones (Osteoarthritis), Periostitis of long bone shafts, dental defects (enamel hypoplasia, cavities, and abscesses), healed fractures, healed cranial pitting (parietals and eye orbits). Results of a Fisher's Exact two-tailed test on the frequencies of skeletal lesions between Aquinum Republic burials and Imperial burials from Aquinum and Urbino are presented and it is clear that the Imperial period burials show higher frequency of most skeletal lesions. There are other indicators of a trend of poor health among Imperial Romans, they include an estimated life expectancy for Urbino, Romans at birth of under 27 years of age and a height trend among them that show that the Imperial Italian males and females are smaller than previous cultural periods. In summary, the health status for Romans changed over time resulting in an increase set of problems related to inter-personal violence and diet. This may reflect the difficulty in maintaining the Empire by the common people as they served in the military and provided resources to support its expansion and maintenance. Despite the considerable advantage that the Roman Imperial culture offered its citizens, it came at a very high price that appears to be reflected in numerous ailments seen in the Imperial burials.

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Oral and Dental Pathology in Native Americans from the Late Mississippian period

Michelle Hamilton, Texas State University, San Marcos, Texas

This presentation examines the prevalence and patterning of dental caries and enamel hypoplasia among the prehistoric Averbuch people, a Late Mississippian period population from middle Tennessee dating from 1200-1450 A.D. Converging lines of archaeological and osteological evidence reveal the profile of an unusually disadvantaged people who experienced episodes of chronic stress throughout the duration of site occupation. Research has posited multi-causal catastrophic agents as potential explanations for the poor health and collapse of this culture, chief among them epidemic disease, warfare, nutritional stress, and depletion of natural resources (Buikstra 1992; Eisenberg 1991; Klippel and Bass 1984a, 1984b).

This research examines cultural collapse via oral health in the permanent dentition of 304 adults from Averbuch. In order to understand the environmental and physiological stressors affecting this population, caries and enamel hypolasia rates are assessed, functioning as proxies for overall levels of health and disease in populations (Hillson 1996). Caries is the progressive destruction of the tooth surface by microbial agents including *Lactobacillus acidophilus* and *Streptococcus mutans*. It is known that foods high in carbohydrates and soft in texture (such as maize) are very cariogenic in nature, so assessment of caries can provide information regarding subsistence and cultural practices. Enamel hypoplasias are developmental defects in enamel thickness resulting from disruptions in ameloblast activity due to systemic stressors such as malnutrition and infectious disease (Goodman et al. 1980). Hypoplastic defects are useful because they reflect the health status of the individual during early development, since metabolic growth rates are theoretically known (Goodman and Rose 1990). Thus, it is possible to observe on the permanent adult dentition a record of juvenile morbidity.

Results of the analysis on the Averbuch dental material reveal high prevalence in both categories, with 77% of the total population having one or more caries lesions, and 87% of the population manifesting enamel hypoplasias. These rates are the highest recorded among other geographically and temporally contemporaneous populations. They point to underlying biological and social stressors affecting this atypical Late Mississippian site, including over-reliance on maize as an agricultural staple, increased disease loads, and escalating violence and regional hostilities. The implications of these dental health conditions are discussed in relationship to broader regional events, including warfare, interpersonal violence, and the mysterious large-scale abandonment of the entire Middle Mississippian region by 1450 A.D.

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