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Ordine provinciale dei Medici Chirurghi e degli Odontoiatri - L'AQUILA -

II MEETING NAZIONALE

Gruppo Italiano di Paleopatologia

L'AQUILA, AUDITORIUM DEL PARCO

31 OTTOBRE 2015 ore 9:00

INGRESSO LIBERO

the life-style, social behaviour, health condition and diet of ancient populations. Many articles in paleoanthropological literature describe dentoalveolar diseases in the Antiquity, mainly in the low-class societies, and only a few reports regard the oral conditions of the social upper classes.
The purpose of this research is to examine the dental condition in an upper-class family of the Italian Renaissance, in terms of dietary habits and food resources. The research was carried out on the skeletal remains of the Guinigi family from Lucca (Tuscany), dated back between the end of the 14th and first half of the 17th century.
The study of dentoalveolar diseases was performed on 45 individuals and 325 teeth, equally distributed between males and females, and isotopic analysis of ^{13}C and ^{15}N was performed on 13 samples.
The frequency of dentoalveolar diseases was very high in the upper class samples, and varied from 27% to 60% of the teeth/alveoli affected, while the frequencies were lower (16-20%) in the rural samples. Caries was extraordinary frequent in the Guinigi family with a prevalence of 70.8% in females and 43.5% in males, while *ante-mortem* tooth loss and abscesses were more frequent in males, whose life span was higher.
Different factors may promote tooth decay, but dietary habits, as well as physiological or behavioural factors, certainly play an important role in caries development, and may explain the differences observed between sexes.
The results of isotopic analysis indicated a diet based on higher protein intake with respect to the lower social classes, with a good presence of vegetables, but gave no indication about cariogenic foods.
A large consumption of not complex sugars may be responsible, at least in part, for the high frequency of caries among the wealthy classes and in particular in the Guinigi family.
It is well known that expensive and elaborate foods, including sweets, sugar cane and honey, adorned the banquet tables of Renaissance Princes. Moreover, some members of the Guinigi family, in the middle of the 16th century, founded a company for sugar cane refining and trade, probably due to the consumption of very large quantities of this elitarian food.

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Paleonutrition and Paleopathology: Food and Disease at the Renaissance Courts of Naples and Florence

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The study concerns 25 individuals from the Basilica of S. Domenico Maggiore in Naples (15th-17th centuries) and of 20 individuals from the Medici Chapels of the Basilica of S. Lorenzo in Florence (16th-17th centuries). The isotopes clearly reflect the large intake not only of meat but also of marine foods by the Italian aristocratic classes, especially from southern Italy, in the 15th-17th centuries.
I present three important "clinical" cases. The left foot of Ferdinando I de' Medici, Grand Duke of Tuscany (1549-1609), shows, at the peri-articular and articular surface of the interphalangeal joint of the *hallux dorsum* a lesion typical of chronic gout. High values of $\delta^{15}N$ demonstrate a diet very rich in meat from terrestrial animals. This isotopic profile well correlates with the frequent attacks of gout referred by court chroniclers and with the diagnosis of chronic gout of the left big toe revealed by the paleopathological study. The skull of Don Filippino de' Medici (1577-1582) shows non-severe external hydrocephaly. The $\delta^{15}N$ isotope values of don Filippino reveal a diet very rich in proteins of animal origin. The hereditary prince, was a frail and sickly child, affected by rickets. Probably for this reason, his parents and the court doctors forced him to eat more meat, considered at that time "*the first source of physical strength*". Autopsy of the mummy of Ferrante I d'Aragona, king of Naples (1431-1494), revealed a moderately differentiated colon adenocarcinoma extensively infiltrating the muscles of the small pelvis. Ancient DNA amplification of the neoplastic cells by PCR in the mummy of Ferrante I evidenced a typical point mutation of the K-ras gene codon. The portraits of Ferrante reveal growing obesity from youth to maturity. Examination of the mummy of Ferrante, confirms his obesity. The paleonutritional data, with their high level of $\delta^{15}N$, show a massive intake of animal proteins. The alimentary "environment" of the Neapolitan court of the XV century and the sovereign's habits, with his abundance of natural endogenous alkylating agents, well explain the K-ras mutation causing the tumor which killed the Aragonese king over five centuries ago.

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Pulmonary antracosis on natural mummies of XVI-XVIII century AD from Roccapelago (MO, Italy)

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Roccapelago is a small town of the Apennines; during the restoration of the local parish church it was found a burial crypt containing the remains of 300 individuals who lived between the sixteenth and seventeenth century AD, of which at least 60 in natural mummification. Natural mummification was made possible by the unique location of the crypt built on the ruins of the ancient fortress of Roccapelago and equipped