

# Children of the villa region: anthropological analysis of Harsánylejtő site

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## Introduction

A number of written sources and bio-archaeological evidence exist on the burial customs of children in the Roman Empire, but we lack information on the Pannonian Province. In the framework of our wider project, in which we explore health and life in the Roman Pannonia, we are also conducting pilot studies on smaller burial sites to learn more about the social structure of local families or smaller communities.

Aquincum as the capital of the former province Pannonia Inferior was located in today's Budapest area. Besides military and civil towns, villa estates were also discovered here, for which Csúcshegy-Harsánylejtő site (AD 2nd-3rd centuries) is one example, where adults and subadults were excavated in an equal ratio. Among the adults, artificial cranial deformations, traumatic alterations, metabolic diseases and signs of infections were revealed.

## Aims and methods

Our aim for this poster presentation is to assess the health status of the subadult individuals and examine the possible reasons their relatively high number in the proximity of the villa estate. The anthropological and paleopathological analysis of new cases were performed by internationally accepted methods (Ubelaker, 1989; Pap et al., 2009; Buikstra, 2019).

## Results and discussion

Altogether 30 individuals were analyzed from Csúcshegy-Harsánylejtő site. Of the 30 individuals we identified 15 subadults and one juvenis-adultus aged male individual (19-22 years old) with healed spondylolysis on the 5th lumbar vertebra. The age distribution based on Martin's classification (Martin and Saller, 1957) of the subadults shows that most of them are belonging to Infans I. and II. age groups (Figure 1.).

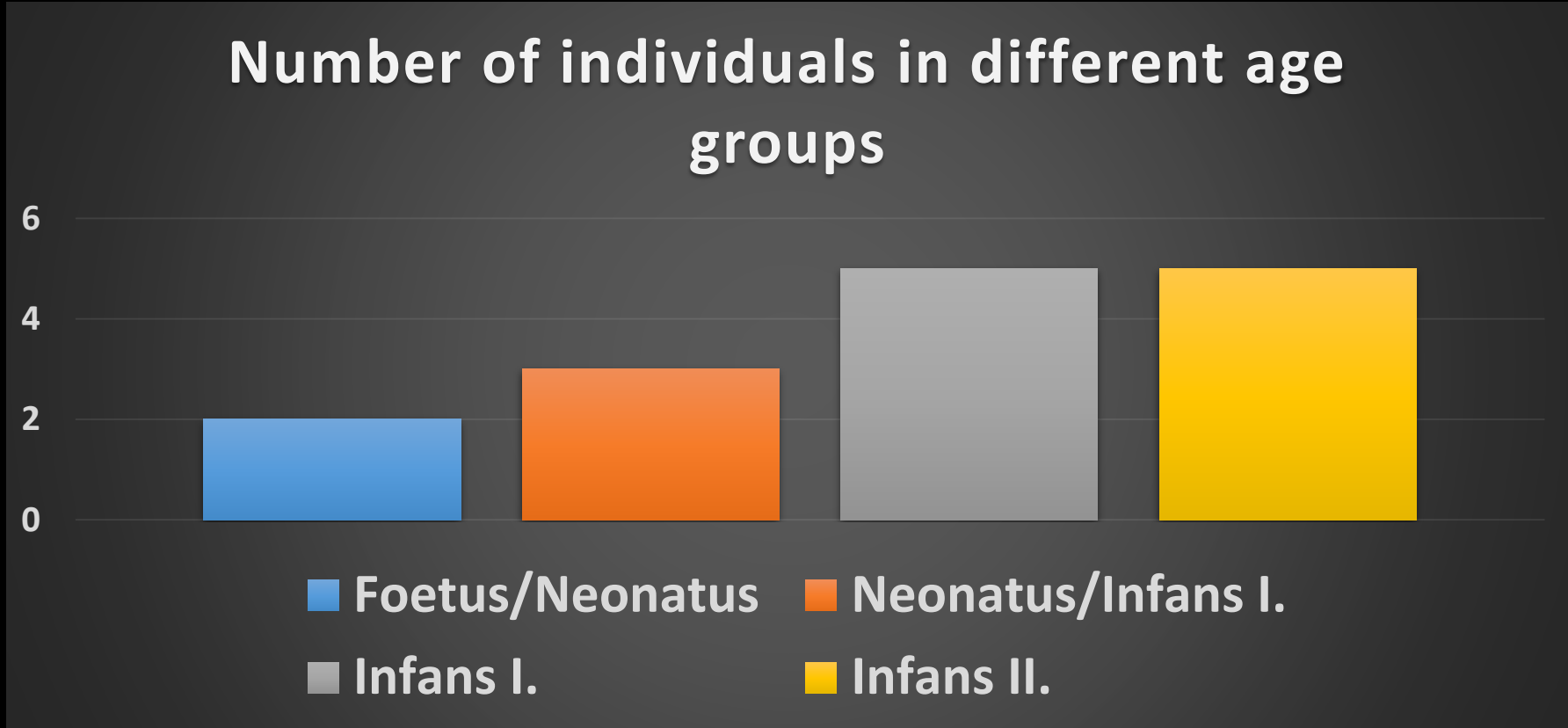


Fig 1.: Number of subadult individuals along age categories

Multiple pathologies were observed for subadults (Figure 2.), for which presence and absence were recorded systematically. The current poster is presenting frequencies through the aspect of individual count method. Endocranial lesions (Figure 4.), which can arise due to the presence of pathogenes, tumorous alterations, or vitamin deficiency. These were found on 5 individuals (Waldron, 2008; Nikita, 2017).

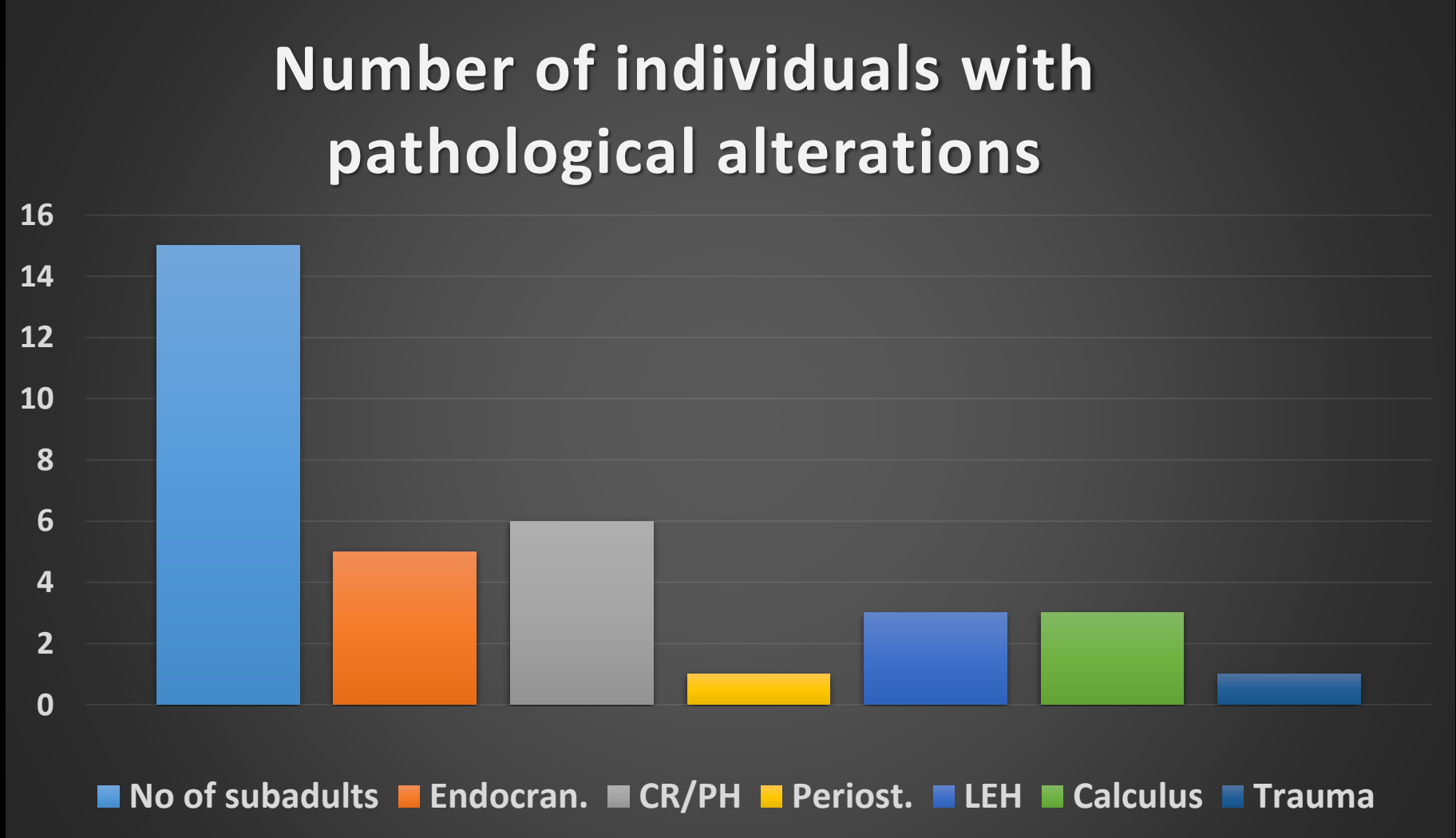


Fig 3.: Number of individuals affected by observed pathological alterations

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Fig 3.: Inflammation on the left maxilla (11-12 yrs old, Grave no. 8.)

Cribra orbitalia/porotic hyperostosis (CB/PH) which is the result of bone marrow hypertrophy was observable on 6 individuals and is usually considered as a general stress marker indicating mostly iron-deficiency anemia arising for instance due to intestinal parasitic infections or malnutrition (Nikita, 2017). Periosteal alterations on the medial side of both tibiae of a 7-8 years old individual was also observed, which can be a non-specific sign of infection, physical injury, abnormal mechanical load, or tumours. One individual showed signs of inflammation on both sides of maxillae around the nasal cavity (Figure 3.).

Another general stress marker indicating events of malnutrition or infection is linear enamel hypoplasia (LEH), which was observable on multiple teeth of three individuals, who also had calculus on multiple teeth. One case of traumatic alteration was also identified. A 7-8 years old child possessed a poorly healed depression fracture on the right side of the frontal bone from where a linear fracture spreading through the right parietal bone (Figure 5.). Signs of healing, which are indicating a still active regeneration process and/or infection are observable in the form of resorption of fracture edges and new bone formation on the endocranial surface.

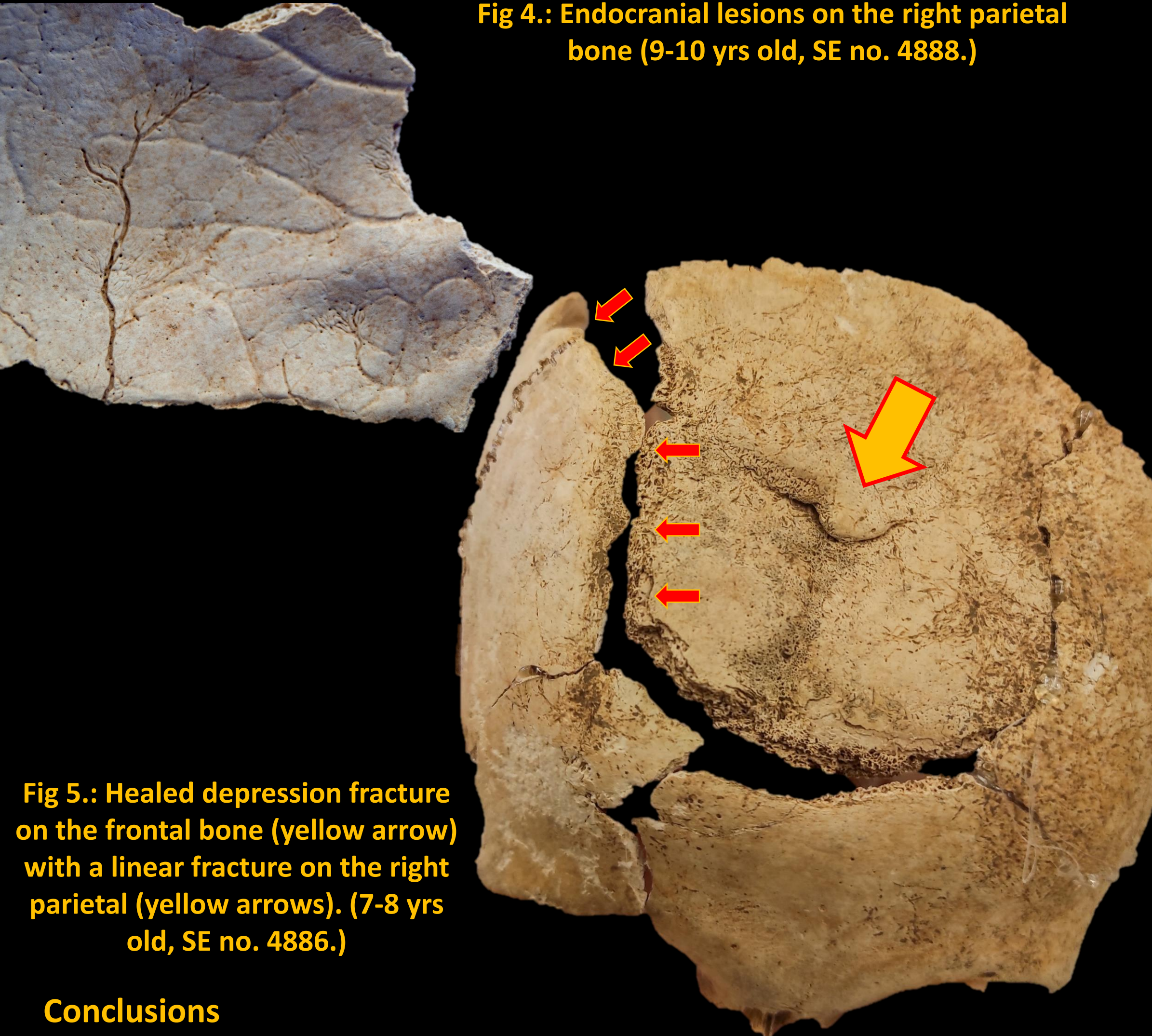


Fig 4.: Endocranial lesions on the right parietal bone (9-10 yrs old, SE no. 4888.)

Fig 5.: Healed depression fracture on the frontal bone (yellow arrow) with a linear fracture on the right parietal (yellow arrows). (7-8 yrs old, SE no. 4886.)

## Conclusions

The question of why so many subadults were buried around the villa building is difficult to answer based on anthropological observations alone. Many of the children had alterations that can be interpreted non-specifically as signs of general pathophysiological stress. This does not exclude the presence of an infection in this small community, especially if they were buried around the same time. Signs of inflammation around the piriform aperture provide a slight indication, with leprosy being a possible consideration.

The anthropological investigations will be followed by molecular analyzes: archaeogenetics for pathogen screening and for reconstructing population structure, furthermore stable isotopes for providing a deeper insight into these individual's diet, which can not be performed in great details only with the examinations of oral pathologies.

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