



A historical case of an ameloblastoma, from southern Italy



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ABSTRACT

Jawbones are susceptible to various tumours, some of which originate from dental structures. Here we describe a case of a tumour in a mandible of an old man that was discovered during an archaeological excavation in southern Italy (Torrecuso; 17th–19th centuries). The right mandibular branch presents an extended, multilocular lesion. X-ray analysis shows erosion of the cortical bone layers and the thin trabeculae that circumscribe the lobular areas. Macroscopic and radiological aspects of the mandibular lesion are consistent with an ameloblastoma. This diagnosis is supported by comparative morphological and radiological analyses of the sample from Torrecuso with modern cases. This is a common tumour type reported in the medical literature, which is characterised by a multilocular lesion usually at the branch of the mandible. However, cases of ameloblastoma are not common in archaeological and anthropological reviews. Cases of ameloblastoma were described for two adult female individuals discovered in South America (550–850 CE) and an adult male discovered in Spain (5th–11th centuries CE). The most ancient case comes from the Samnitic archaeological site of Opi (central Italy; 6th–5th centuries BCE). The present case is the second one diagnosed in ancient human remains from Italian archaeological contexts.

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1. Introduction

Jawbones can be affected by specific tumours that derive from dental structures. These lesions simulate neoplasms of osseous derivation (Krishnan Unni, 1996). Odontogenic tumours are abnormal proliferations of undifferentiated cells with a wide range of biological potential and behaviours (Marx and Stern, 2003). These can include unusual groups of lesions that involve the jaws deriving from the embryonic epithelial and ectomesenchymal tissue remnants of tooth formation. Most odontogenic tumours are essentially benign lesions and they tend to be more common in younger patients (i.e., mean age of development is between 20 and 30 years old). According to most studies (Lumerman and Bowe, 2012; Marx and Stern, 2003; Pandolfo and Mazzotti, 2013; Sadowsky et al., 1981), they are asymptomatic and painless, and show only as a swelling on the cheek.

Here we present a new case of a multicystic tumour that dates back to the 17th–19th centuries. This is the second palaeopathological case from Italy, after the first one from the Samnitic necropolis

of Opi–Val Fondillo (5th–3rd centuries BCE; central Italy) (Capasso et al., 2001).

2. Materials and methods

Specimen S177 is a well-preserved mandible of an old individual from Torrecuso (Benevento, central Italy) (Fig. 1). The mandible was found inside a crypt of the SS. Annunziata Church, together with other disarticulated human remains, which were dated by ¹⁴C as from 1616 to 1826 (Fig. 2). During this period, the SS. Annunziata Church was a hospital for the town population and surrounding countryside. The dead bodies were lowered through trapdoors into rooms below the floor, and following the decomposition of the soft tissues, the bone remains were all scattered and mixed. This confusion meant that it was not possible to define single individuals, and therefore this mandible is a unique remnant that did not come from an identifiable individual. The sex and age of the individual were determined according to the skeletal and dental morphological traits (Ferembach et al., 1980; Brothwell, 1981). The teeth were classified according to the World Dental Federation two-digit system (1971).

Macroscopic and microscopic studies were conducted in the laboratories of the University Museum of the 'G. d'Annunzio' University (Chieti, Italy); the X-ray study was carried out by the Radiological Unit of the Villa Serena Hospital (Pescara, Italy). Radio-

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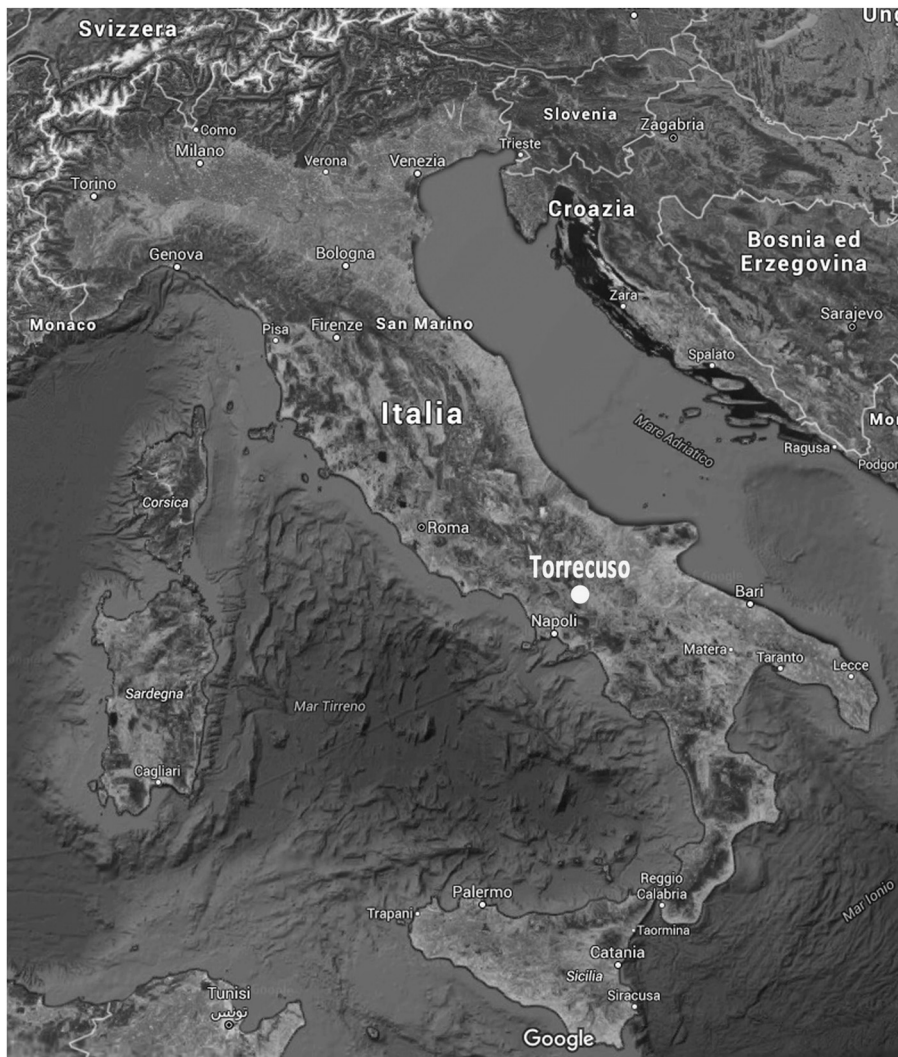


Fig. 1. The city of Torrecuso is located near Neaples in south Italy.



Fig. 2. Frontal view of the mandible with the multicystic ameloblastic lesions (Specimen S177, Torrecuso, XVII–XIX CE).

carbon dating of the bone samples from deep and superficial stratigraphic layers were performed by the CEDAD Lab (Center for DAting e Diagnostics) at the University of Salento (Lecce, Italy).

3. Results

Mandible S177 belonged to an old male individual of more than 45 years of age. The specimen shows several oral pathologies, with *intra-vitam* molars and premolar loss (teeth 48, 47, 46, 45, 36, 37, 38) with reabsorption of the alveolar bone, two peri-radicular abscesses (teeth 43, 31), severe wear, and calculus on the anterior teeth. Teeth 44, 42 and 41 were lost *post-mortem*.

The right mandibular branch presents an extended multilocular lesion of 9.0 cm in height, 8.5 cm in width, and 6.3 cm in thickness. The alteration involves and destroys the alveolus of the third molar extending towards the condyloid and coronoid processes. The right angle of the mandible is morphologically altered. The bone shows an expansile osteolytic lesion. The cortical bone is very thin, with a parchment-like, translucent, and irregular look to it, and it has small compartments with very thin walls.

The macroscopic aspects of the lesion show a 'soap bubble' pattern with numerous internal chambers. These chambers have similar spherical shapes, but different sizes, with their widths varying from a minimum of 2 mm to a maximum of 53 mm.

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