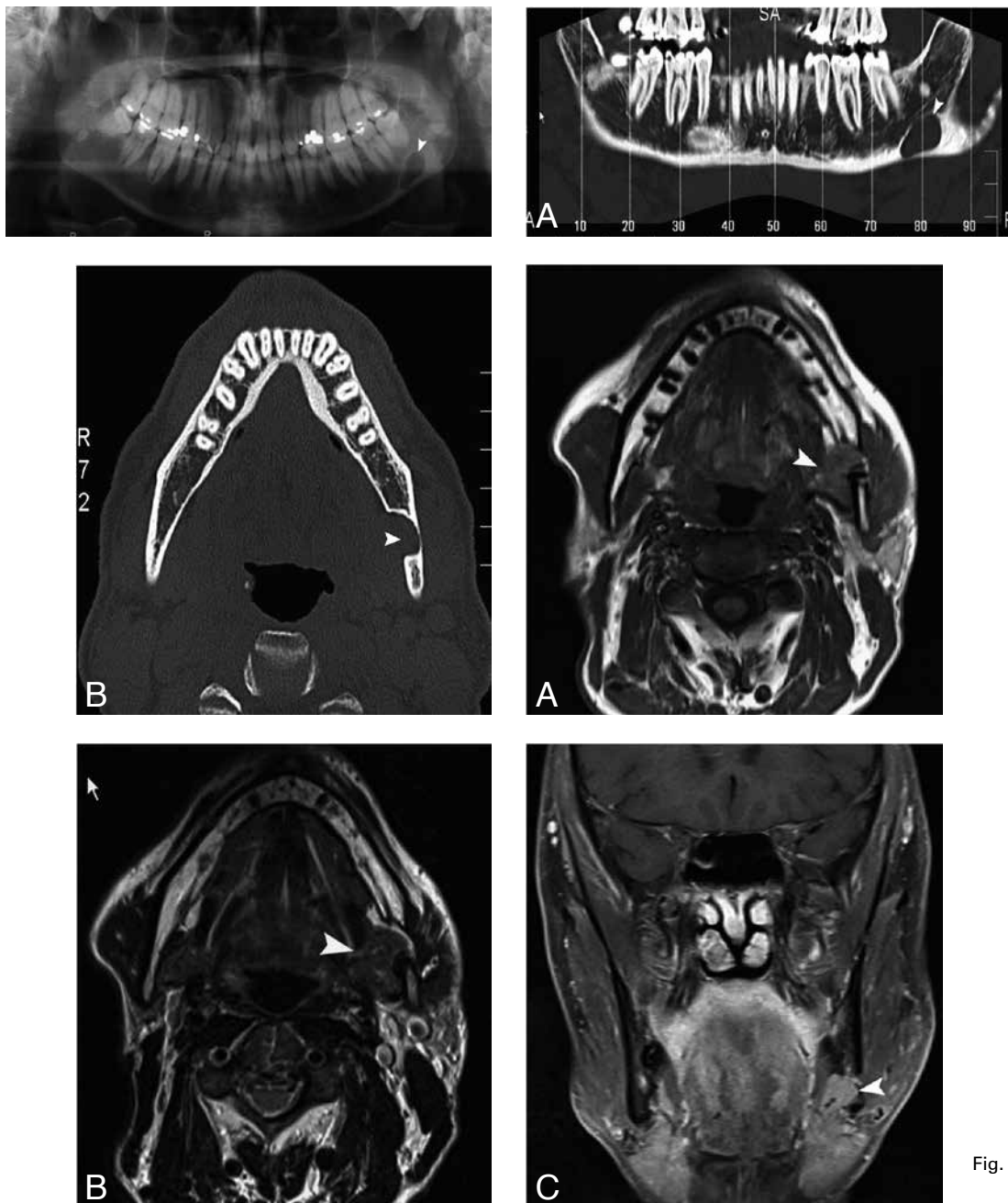


STAFNE BONE CAVITY

D.A. Schaerlaken^{1,2}, M. Dom^{1,2}, J. Hintjens¹, K. Chapelle¹, S. Dekeyzer³, F.M. Vanhoenacker^{3,4,5}

Key-word: Bones, cyst

Background: A 53-year-old male was referred to the department of maxillofacial surgery for the extraction of a destructed wisdom tooth. A preoperative orthopantomogram revealed a well-delineated ovoid, radiolucent lesion at the left angle of the mandible. For further lesion characterization, a dental CT scan and MRI were performed.



	1	2A
Fig.	2B	3A
	3B	3C

1. Department of Oral and Maxillofacial Surgery and 3. Department of Radiology, AZ Sint Maarten, Duffel, Belgium, 2. Department of Oral and Maxillofacial Surgery and 4. Department of Radiology, Antwerp University Hospital, Edegem, Belgium, 5. University of Ghent, Faculty of Medicine and Health Sciences, Ghent, Belgium

Work-up

Orthopantomogram (Fig. 1) shows an ovoid radiolucency with well-delineated borders at the left mandibular angle (arrow).

Dental CT of the mandible (Fig. 2) reveals on coronal reformatted image (A) a lesion located in the inferior half of the left mandible causing slight pressure erosion of the adjacent mandibular canal (arrow). Note on axial image (B) a well-defined defect with absence of the lingual cortex of the left mandible (arrow).

MRI of the mandible consisted of an axial T1-weighted image (A), an axial T2-weighted image (B) and a coronal fat-suppressed T1-weighted image after intravenous administration of gadolinium contrast medium (C). These images show that the defect at the lingual cortex is filled with soft tissue, with signal intensity and contrast enhancement pattern similar to the submandibular gland (arrows).

Radiological diagnosis

Based on the imaging findings the diagnosis of *Stafne bone cavity* was made. No further therapy was installed.

Discussion

Stafne bone cavity is a rare abnormality, named after Edward Stafne, who first described the lesion in 1942. The lesion is known by many synonyms, such as Stafne lacune, static bone cavity, latent bone cyst and lingual mandibular bone depression. Lingual mandibular depressions represent a group of focal defects in the lingual surface of the mandible, mimicking a cystic lesion on plain radiographs. The most frequent variant is the posterior lingual type located within the submandibular gland fossa at the inferior border of the mandible. The anterior lingual type is located between the incisors and the premolar areas, above the insertion of the mylohyoid muscle. Bone cavities located at the lingual or buccal aspect of the ascending ramus of the mandible are very infrequent.

The lesion mostly presents in males in 5th or 6th decade. It is asymptomatic and is often an incidental finding on imaging. The pathogenesis is believed to be caused by the pressure of the submandibular glands against lingual cortical bone of the mandible. A congenital origin is less probable.

On plain radiography, a well-circumscribed ovoid or round, radiolucency is seen at the mandibular angle underneath the course mandibular nerve. A peripheral rim of sclerosis may be seen, which is usually thicker on the superior border. This results from the x-rays passing tangentially through the wall of the pseudocystic depression. On CT scan, the focal defect at the lingual cortex is continuous with adjacent soft tissues.

MR imaging is the preferred technique to confirm direct herniation of the submandibular gland into the defect, thereby supporting the developmental origin of the lesion.

The differential diagnosis of mandibular radiolucencies includes a variety of odontogenic and non-odontogenic cystic lesions. The clue to the correct diagnosis is the characteristic location at the mandibular angle below the inferior alveolar nerve canal, whereas odontogenic lesions are located above the mandibular canal. Cross-sectional imaging may confirm the diagnosis by demonstrating submandibular glandular tissue within the defect.

Treatment is not required.

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