



Letters to the Editor

THE ROLE OF THREE-DIMENSIONAL COMPUTED TOMOGRAPHIC RECONSTRUCTION IN ORTHOGNATHIC SURGERY PLANNING

Sir,

Three-dimensional (3D) surface reconstruction from computed tomographic (CT) data, can be used to plan orthognathic surgery.¹ If routine radiological investigations produce vague positional information concerning anatomical landmarks, then 3D reconstructed CT information should provide a superior and informative image.

A 27-year-old woman with Marfans syndrome attended the Eastman Dental Hospital, seeking treatment of her facial deformity. She exhibited the characteristic phenotypic features of the syndrome namely, tall thin stature, increased arm span in comparison to the height, aortic systolic murmur, arachnodactyly and a high arched palate.

Her orthognathic problem consisted of a severe skeletal class III, with an elongated lower facial height and an hypoplastic maxilla. Her occlusion was marked by a complete bilateral cross-bite, which made efficient mastication difficult.

Initial orthognathic radiological assessment with orthopantomograph (OPT) and lateral skull X-rays, revealed that the lingula radiolucency occupied over half the width of the superior ramus extending into the sigmoid notch area (Figs 1, 2). This obviously made a proposed saggital split osteotomy difficult. To obtain further anatomical confirmation on the exact location and size of the lingula, the patient was sent for CT scanning of the facial skeleton with

a view to utilizing the information to create a 3D image of the mandible (Fig. 3). This imaging demonstrated that although the lingula was high in position, the unusual radiolucency demonstrated on the OPT was due to an abnormally wide and deep groove leading from the sigmoid notch to the lingula. Sufficient bone was demonstrated around

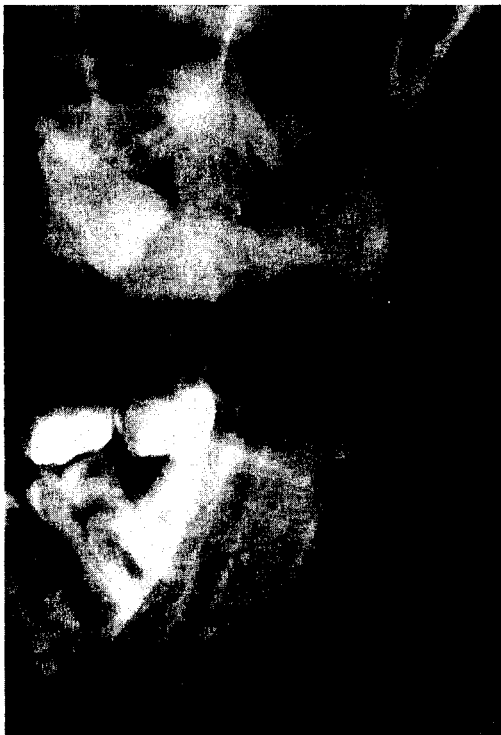


Fig. 1 - Photograph demonstrating radiolucency at the sigmoid notch in continuity with the lingula, on the left hand side.



Fig. 2 - Similar appearance on the right hand side.



Fig. 3 - 3D-reconstructed CT scan of mandible showing the deeply grooved but intact bone between the lingula and the sigmoid notch.

this area to confidently consider a subcondylar pushback osteotomy as part of her overall surgical treatment.

Traditional orthognathic surgery planning has in the past relied on the interpretation of two-dimensional data obtained from cephalometric radiographs in combination with clinical examination and model surgery (X-ray dosage 0.1–0.2 mCi). The introduction of the 3D computerized tomographic reconstruction (X-ray dosage 0.6 mCi), provides the clinician with accurate 3D images of the facial skeleton.¹ Spiral CTs provide improved images without an increase in X-ray dosage. Advances in maxillofacial surgery has resulted in the ability to surgically manipulate the components of the facial skeleton in concert or independently in all of these dimensions. The usual application of these computer derived images is in the preoperative manipulation of the various components and analysing the resulting changes in facial harmony.^{2–5} This case demonstrates the crucial role that this method has in diagnosing potential problems only partially answered or created by conventional radiology.

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LARGE SUBLINGUAL LIPOMA

Sir,

An 89-year-old man was referred by his general dental practitioner with a large swelling of the floor of the mouth displacing his tongue posteriorly. The patient was totally unaware or concerned by the lesion. It was discovered when the patient attended for provision of new dentures as recommended by his cardiologist.

Examination revealed a large, soft, apparently cystic, solitary swelling of the entire floor of the mouth covered by a firm oral mucosa. There was no lymphadenopathy. Plain radiographs revealed no abnormality.

Because of the size of the swelling and potential for serious complication, surgery was proposed. The most likely clinical diagnosis was either a ranula or a dermoid cyst with potential for further enlargement or infection. The patient was unfit for general anaesthesia and the decision was made to simply marsupialise the lesion under local anaesthesia.

At operation, a large encapsulated fatty mass, measuring 5×4×2 cm was delivered by gentle blunt dissection. Histopathological examination confirmed the diagnosis of a benign lipoma.

The finding of a large lipoma in this patient was unexpected, as the lesion was apparently cystic, not doughy as usually described, and in view of its size: lesions over 25 mm being rare.¹ A previous report of a very large sublingual lipoma² describes the presence of a firm mass palpable on bimanual palpation; in the case reported here, the mass was of a very soft consistency. Scans³ may demonstrate the extent and location of the lesion but were omitted as our patient was unable to lie supine for more than a few seconds. In retrospect, an ultrasound examination may have been helpful but these depend critically on the skill and experience of the radiologist.

This case demonstrates that lipoma should be considered in the differential diagnosis of a large soft intra-oral swelling and that, in unfit patients, removal under local anaesthesia is possible.

References

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ROLE OF THE ANSA CERVICALIS

Sir,

The very rare case report of hypoglossal nerve paralysis by Freixinet *et al.*¹ suggests that although damage of muscular branches to the infrahyoid muscles, the longus capitis and colli, the levator scapulae, and the scalenes medius damage could not be identified. The mechanism of action of the ansa cervicalis is closely tied to maintenance of the position of the hyoid bone since the geniohyoid muscle is innervated by cervical spinal cord motor neurons² and the hypoglossal nucleus seemed not to be impaired in this patient. The patient could achieve normal function through sustained rehabilitation, which may be especially important in the patient with a cervical hyperextension. No data on the effects on swallowing of the ansa cervicalis have been seen. With the current evidence, the mechanism of action of the ansa cervicalis must be determined, to plan the form of therapy. Did the position of the tongue improve in relation to the head posture through a rehabilitation, and how was speech affected?

References

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