Mandibular coronoid process hyperplasia causing restricted mouth opening

Introduction

Hyperplasia of the coronoid process of the mandible is a rare cause of restricted mouth opening. This article presents a patient with restricted mouth opening which was discovered during routine pre-anaesthetic evaluation. Plain X-ray and computed tomography confirmed a diagnosis of bilateral mandibular process coronoid hyperplasia.

Discussion

Hyperplasia of the mandibular coronoid process is rare and usually presents during puberty as a painless restriction of mouth opening. Its pathogenesis is not well understood. Possible causative factors includes osteochondroma of the coronoid process, hormonal imbalance and hyperactivity of the temporal muscles (Wenghoefer et al, 2006; Fernández Ferro et al, 2008).

Imaging is vital in the diagnosis of this condition (McLoughlin et al, 1995; Pregarz et al, 1998). A coronoid process which protrudes more than 1 cm above the inferior rim of the zygomatic arch is a characteristic imaging finding. In this patient, computed tomography in the open mouth position delineated the impingement of the coronoid process against the inner wall of the zygomatic arch.

Treatment of this condition is surgical excision of the enlarged coronoid process (McLoughlin et al, 1995; Wenghoefer et al, 2006), resulting in significant improvement of mouth opening.

Case Report

A 52-year-old Caucasian woman underwent pre-anaesthetic evaluation before myomectomy for uterine fibroids. She had limited mouth opening of 10 mm (intra-incisal) and her lateral excursive movements were poor. There was no history of trauma or known temporomandibular dysfunction. The patient had not previously undergone surgery under general anaesthesia. She was not concerned about her limited mouth opening and had not sought medical help for it.

Orthopantomogram (*Figure 1*) and unenhanced computed tomography of the mandible in the closed (*Figure 2a*) and open mouth (*Figure 2b*) positions were performed. The orthopantomogram and computed tomography showed bilateral mandibular coronoid process hyperplasia. In the open mouth position, the elongated coronoid processes impinge on the zygomatic arch, limiting the mouth opening.

The patient underwent bilateral mandibular coronoidectomy (*Figure 3*). Intra-incisal opening improved to 28 mm following surgery and she subsequently underwent myomectomy.

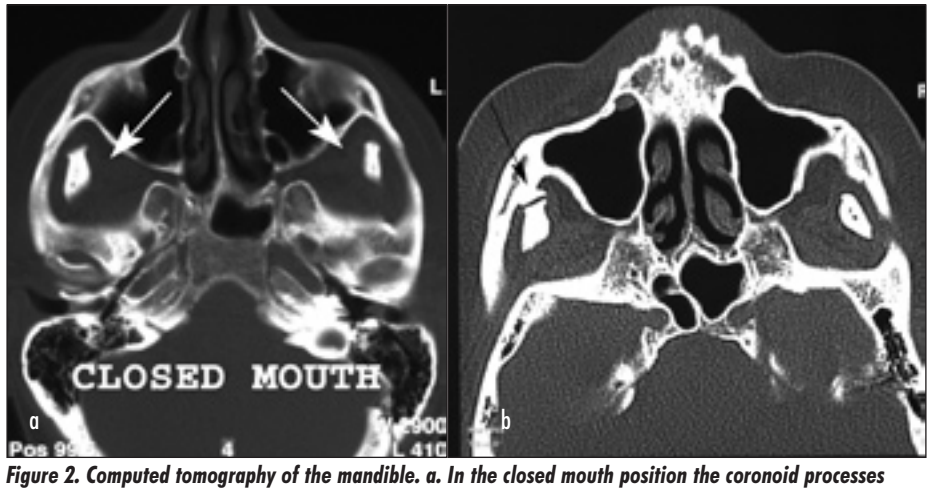
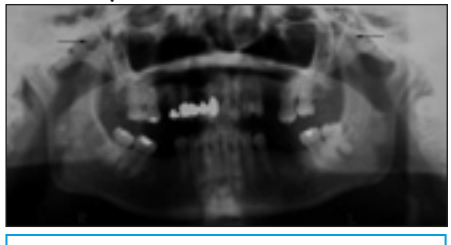


Figure 2. Computed tomography of the mandible. a. In the closed mouth position the coronoid processes are seen above the level of the zygomatic arch (long white arrows). b. In the open mouth position the right coronoid process impinges against the zygomatic arch forming a pseudo joint (long black arrow).

Figure 1. Orthopantomogram showing hypertrophy of mandibular coronoid process bilaterally (long black arrows).



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Conclusions

Mandibular coronoid hyperplasia is a rare cause of restricted mouth opening. Characteristic imaging findings help in the appropriate management of this condition. BJHM

Fernández Ferro M, Fernández Sanromán J, Sandoval Gutierrez J, Costas López A, López de Sánchez A, Etayo Pérez A (2008) Treatment of bilateral hyperplasia of the coronoid process of the mandible-Presentation of a case and review of the literature. *Med Oral Patol Oral Cir Bucal* **13**(9): E595–8

McLoughlin PM, Hopper C, Bowley NB (1995) Hyperplasia of the mandibular coronoid process: an analysis of 31 cases and a review of the literature. *J Oral Maxillofac Surg* **53**(3): 250–5

Pregarz M, Fugazzola C, Consolo U, Andreis IA, Beltramello A, Gotte P (1998) Computed tomography and magnetic resonance imaging in the management of coronoid process hyperplasia: review of five cases. *Dentomaxillofac Radiol* **27**(4): 215–20

Wenghoefer M, Martini M, Anwander T, Götz W, Reich R, Bergé SJ (2006) Hyperplasia of coronoid process: diagnosis and treatment. *Mund Kiefer Gesichtschir* **10**(6): 409–14

Figure 3. Orthopantomogram performed following bilateral coronoidectomy (small white arrows).