Growth characteristics of large mandibular ameloblastomas: report of 5 cases with implications for the approach to surgery

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Abstract

The aim of this study was to establish surgical guidelines based on the growth pattern of ameloblastomas in relation to the possible infiltration of the cortical bone, the inferior alveolar nerve, the periosteal layer and the surrounding soft tissues.

Five male patients with voluminous mandibular ameloblastomas were treated by means of radical surgery. Ameloblastomas showed an invasive growth pattern in the cancellous bone with small tumour nests at a maximum distance of 5 mm away from the bulk of the tumour. Expansive and invasive growth in the Haversian canals was observed. There was no invasion of the inferior alveolar nerve. The mucoperiosteal layer was invaded but not perforated. No invasion was observed in the surrounding soft tissues of the periosteum and in the skin tissue. A local resection with a surgical margin of spongious bone of 1 cm is suggested. When the tumour is radiologically closer than 1 cm to the inferior border of the mandible, a continuity resection is mandatory. A conservative approach concerning the inferior alveolar nerve is suggested. Removal of an excess of perimandibular soft tissue is not indicated. The overlying attached mucosal surface should however be excised together with the underlying bone.

Key words: ameloblastoma; odontogenic neoplasm

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