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### *Compound odontoma – a case report*

Odontomas are a heterogeneous group of jaw bone lesions, classified as odontogenic tumors which usually include well diversified dental tissues. Odontoma is a term introduced to the literature by Broca in 1868 (1). Trauma, infection and hereditary factors are possible causes of forming this kind of lesions (6). Among odontogenic tumors they constitute about 2/3 of cases, and localize in the same percentage both in the mandible and the maxilla (1). These lesions usually develop slowly and asymptotically, and in most cases they do not cross the bone borders (4), however, there were sparse cases of “peripheral soft odontoma” described in the literature, developing out beyond the bone in the soft tissues (6). Odontomas are diagnosed in each age, the most frequently as a single bone lesions, however, there are reports of multiple odontomas of the facial bones (4). What should be highlighted is the fact of the simultaneous existence of odontomas together with other pathological changes of facial bones, like impacted teeth, supernumerary teeth and osteomas together with familial adenomatous polyposis coli. The simultaneous existence of these pathological changes is known as the Gardner syndrome (6).

The main reason of radiological diagnosis in the asymptomatic course of the disease is the impaction of the tooth after its physiological eruption time (4). In rare cases, large odontomas compressing branches of trigeminal nerve can be the reason of neurophatic pain, teeth mobility and dislocation (1).

In 1992 the second edition of *Histological Typing of Odontogenic Tumors* was published. This classification distinguishes odontoameloblastoma, ameloblastic fibro-odontoma, compound odontoma and complex odontoma, as separate forms of benign tumors developing from odontogenic epithelium with odontogenic ectomesenchyme, with or without dental hard tissue formation (3).

Complex odontomas consist of all dental tissues which occur in more or less disorderly pattern, whereas in compound odontomas the pattern of the dental tissues exists more orderly, so that it forms tooth-like structures (4). Odontoameloblastoma is a neoplasm that resembles ameloblastoma both in structure and in behaviour (3) and because of its aggressive nature it should be treated with wide excision and close follow-up for at least 5 years, exactly like ameloblastoma (5). It should be noticed that odontoameloblastoma and ameloblastic fibro-odontoma are enclosed in *Histological Typing of Odontogenic Tumors* as separate forms of tumors. Ameloblastic fibro-odontoma is a lesion that does not present recurrences or local invasion and is treated by enucleation<sup>2</sup>, like complex and compound odontoma (1).

## CASE REPORT

A 15-year-old female was seen by maxillofacial surgeon for evaluation and treatment of swelling and periodical pain, located in the area of the right mandibular angle. The patient stated that the first episode of the pain took place 5 months before. At the beginning the pain revealed after analgesic administration. After two months the swelling of the right mandibular angle and the presence of the pus in oral cavity were noticed by the patient aside from pain. It was the reason why she reported to the dentist, who undertook the treatment of the first, right mandibular molar without having diagnosed the purpose of the symptoms. Because the symptoms did not regress after the administered dental treatment, the patient was referred to the department of maxillofacial surgery. Extraoral and intraoral inspection revealed the soft tissues swelling of the right mandibular angle, painful on palpation, vestibular and vertical expansion of the mandibular alveolar crest in the region from the first to the third molar. The second and the third molars were not detected in the oral cavity. Both on the panoramic radiograph and CT scans (Fig. 1, 2, 3) there was a dense shadow visible in the right mandibular angle. The diameters of the lesion were 2.5 x 1.9 cm on the axial plane and 1.9 x 1.7 cm on the frontal plane. The lesion was encapsulated and below the tumor there was the second molar dislocated, visible on the inferior border of the mandible.



Fig. 1. Well-circumscribed lesion in the right mandibular angle and impacted second molar



Fig. 2. CT scan showing mineralized tissue expanding the bone



Fig. 3. CT scan showing the weakened cortical bone enclosing the lesion and impacted tooth

Before the surgical treatment the endodontic treatment of the first, right mandibular molar was carried out. Under general endotracheal anesthesia, using intraoral approach the tumor consisting of hard tissue was enucleated together with its fibrous capsule, after forming mucoperiosteum flap and removing the bone covering the upper and lateral surface of the lesion. Subsequently the second mandibular molar was extracted from the bottom of the enucleated tumor site. Although a large bone defect with smooth and thin walls was created as a consequence of the surgical procedure, the continuity of both the mandible and neurovascular bundle was preserved (Fig. 4).

The result of histopathological evaluation of the lesion confirmed the initial diagnosis of compound odontoma.



Fig. 4. Bone defect after removed lesion and impacted second molar

## CONCLUSIONS

Described in this paper the case of compound odontoma, taking into account both its clinical course and diagnosis, together with the treatment, is similar to those reported in the literature. This kind of lesions can be associated with disturbed teeth eruption. Therefore, the absence of the tooth in the dental arch during examination, after its physiological eruption time, should always induce to seek the reason of this condition. The radiological evaluation is then indicated, which can disclose not only the impacted tooth but also the presence of odontoma.

## REFERENCES

1. Dominiak M., Pakulski K.: Zębiaki. *Lek. Wojsk.*, 76, 49, 2000.
2. Favia G. F. et al.: Ameloblastic fibro-odontoma: Report of two cases. *Oral Oncology*, 33, 444, 1997.
3. Kramer I. R. H. et al.: *Histological Typing of Odontogenic Tumours*. Springer Verlag, Berlin 1992.
4. Malara P. et al.: Zębiaki jako przyczyna zębów zatrzymanych. *Czas. Stomat.*, 57, 183, 2004.
5. Mosqueda-Taylor A. et al.: Odontoameloblastoma. Clinico-pathologic study of three cases and critical review of the literature. *Oral Oncology*, 38, 800, 2002.
6. Stypułkowska J.: Nowotwory zębopochodne i zmiany nowotworopodobne kości szczękowych. *Folia Medica Cracoviensia*, Kraków 1998.

## SUMMARY

Following the description of odontomas' features and their surgical treatment, there is a case of a 15-year-old female patient presented in the paper, treated for a facial deformity and pain, caused by a tumor located in the right molars region of the mandible. The tumor was initially diagnosed after clinical and radiological examination, as a compound odontoma. The lesion was the factor of the impaction of the mandibular second molar. Despite the large bone defect after tumor enucleation and impacted tooth extraction, the continuity of the mandible was preserved. The histopathological evaluation of the tumor confirmed earlier diagnosis. One may come into conclusion that the absence of the tooth in the oral cavity after its physiological eruption time, is an indication for radiological evaluation of jaw bones.

## Zębiak złożony – opis przypadku

Po opisie cech zębiaków i ich leczenia chirurgicznego przedstawiony jest przypadek 15-letniej pacjentki leczonej z powodu deformacji twarzy i dolegliwości bólowych, spowodowanych guzem zlokalizowanym po prawej stronie w okolicy trzonowców żuchwy. Guza wstępnie rozpoznano po badaniu klinicznym i radiologicznym jako zębiaka złożonego. Ta zmiana chorobowa była czynnikiem zatrzymania drugiego zęba trzonowego żuchwy. Pomimo dużego ubytku kostnego po wyluszczeniu guza i usunięciu zęba zatrzymanego ciągłość żuchwy została zachowana. Badanie histopatologiczne guza potwierdziło wcześniejsze rozpoznanie. Można wnioskować, że brak zęba w jamie ustnej po okresie jego fizjologicznego wyrzynania stanowi wskazanie do oceny radiologicznej kości szczękowych.