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A case of mixed odontoma of a mandible – diagnostic and therapeutic proceedings

Odontomas belong to mild odontogenic tumours of jaws which develop from teeth tissues (enamel, dentine, cement). These tumours derive from epithelial and mesenchymal tissue and they are characterised by a slow and expanding growth and having a connective tissue capule. Odontomas constitute around 22% of all odontogenic tumours. Their most frequent location is in the front part of a jaw, in contrast to the side part of a jaw where the frequency of their occurrence is below 2%.

They most frequently develop during the second teething. Usually, at the beginning, they do not bring any ailments and they are found accidentally during check-up x-ray images. Etiopathogenesis of these tumours is probably connected with the action of a traumatic factor or infection, which leads to the disorders in the development of tissues of a teeth organ. A gradually growing tumour can give ailments connected with a pressure onto branches of a trigeminal nerve, as well as it can constitute a reason for the fact that neighbouring teeth become loose and they move. Odontomas can also be a reason of a delayed teething, in particular in the case of incisors.

In relation to the histological structure tumours can be divided into soft odontomas (*odontoma molle*) and hard odontomas (*odontoma durum*). Hard odontomas consist of enamel, dentine, cement and soft odontomas consist of connective tissue in which there are islets of enamel, dentine, root cement. Apart from that, there are mixed odontomas (compound odontoma) and complex odontomas (complex odontoma). Mixed odontomas occur mainly in children under 15 years of age and are located most frequently in the neighbourhood of an incisive part of a jaw. In an x-ray image, a tumour is seen well as a delineated focal point related to rarefying the bone structure in which there are many tiny odontogenic forms. Complex odontomas occur in children, as well as in the second and third decade of life, regardless gender and they most frequently are located in the side part of the mandible and the jaw. Usually in their neighbourhood there is an additionally retained tooth. A saturated focus of a bone concentration is seen inhomogeneously from a radiological point of view. The focus is surrounded by a zone of a bone rarefaction. Microscopically incorrectly placed tooth tissues in different proportions are found. The specific structure and location of odontomas makes it possible for the majority of authors categorise these changes as developmental disorders.

Treating odontomas is exclusively surgical in nature and is related to a thorough removal of a change including a capsule. The damage to a capsule or an incomplete removal of a change can be a reason for its renewal.

DESCRIPTION OF THE CASE

A patient M.B. (15) came to a dental surgery clinic. She was sent by an orthodontist physician for a surgical consultation. In the medical history the patient complained of periodic independent

pains in the neighbourhood of the body of the mandible on the left. They first appeared a few months ago. After taking an x-ray pantomographic image the presence of an encapsulated formation in the neighbourhood of 34–35 was found. Inside it there were several saturated focuses seen, and they looked like tooth crowns.

Fig. 1. The patient M.B. (15) – the odontogenic tumour visible in the pantomographic image in the neighbourhood of 34–35

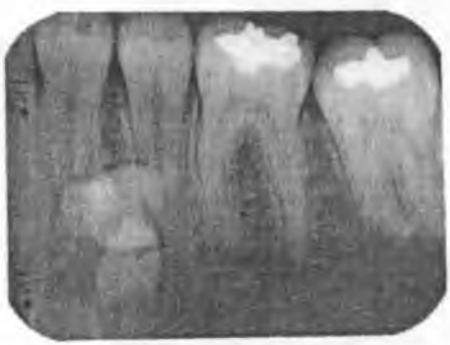

Fig. 2 and 3. The teeth images in the orthoradial position with a deviation of a lamp from a distal side

After conducting the medical interview and a clinical examination the patient was recommended to have additional intraoral teeth images taken in order to specify precisely the location of the changes with the use of a parallax method. This method is based on taking several teeth images, from which one is taken in an orthoradial position, and the remaining ones when a lamp is turned aside a bit from a distal or mesial side and is directed towards the examined area. Depending on the change of the location of an examined area towards the neighbouring teeth one can specify its location from a cheek or tongue side. In the teeth images taken in two positions: the orthoradial position, when a lamp is turned aside from a distal side, one can see the displacement of the examined change in the upper part towards the front and in the lower part towards the back. This indicates the double location of the change both from the cheek and tongue side. The change was removed with the use of the local anaesthetic: 2% *Lidocainum hydrochloricum cum n.*

After a trapezium cut from the cheek side and an angle cut from the tongue side in the neighbourhood of 33–36 and detaching mucous and periosteum cuts the compact lamella of the bone

was removed and the content of the capsule was gently chiselled. After preparing the capsule follicle a checkup of the bone walls was conducted with the use of a surgical spoon, and then the wound was sewed up. After the operation the damage to the roots of the neigbouring teeth was avoided. The patient was informed about the necessity to periodically check the vitality of the teeth: 34 and 35. After seven days the stitches were removed. The process of healing went without any problems, and the pains, reported by the patients, ceased.

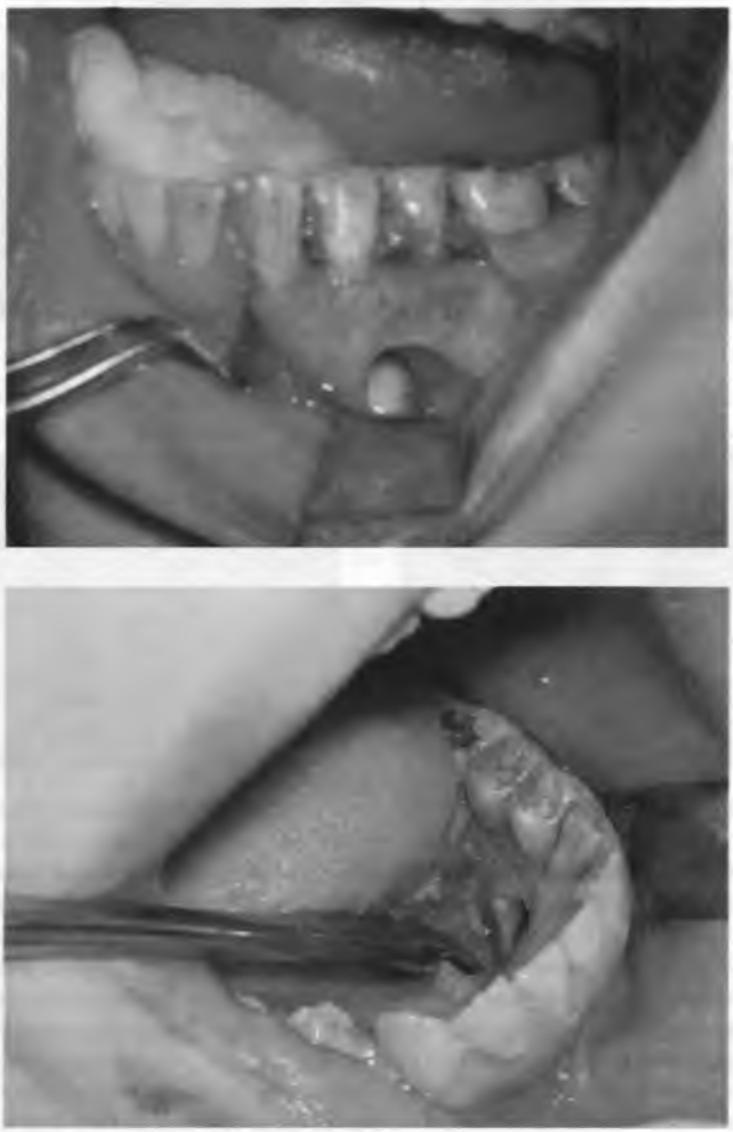

Fig. 4 and 5.The images taken during the operation after removing the lamella of bone from the cheek and tongue side

Fig. 6. The check-up pantomographic image after the operation

Fig. 7. The removed change – the content including the capsule follicle

CONCLUSIONS

In the described case, the occurrence of the pains and the willingness to treat the teeth in an orthodontic way made the patient visit a dentist. However, odontomas often develop without symptoms and can be found by chance in the taken check-up x-ray images. These tumours should be removed thoroughly, including the capsule follicle. Leaving a part of a change can result in its renewal.

REFERENCES

1. Bodner L. et al. : Mental nerve neuropathy associated with compound odontoma. Oral Surg. Oral Med. Oral Pathol., 6, 658, 1987.

2. Cildir S. K. et al.: Delayed eruption of a mandibular primary cuspid associated with compound odontoma., J. Cont. Dent. Pract., 6, 152, 2005.
3. Kamakura S. et al.: Surgical and orthodontic management of compound odontoma without removal of the impacted permanent tooth. Oral Surg. Oral Med. Oral Pathol. Oral Radiol. Endod., 5, 540, 2002.
4. Lagaya C. T. et al.: Cystic complex odontoma associated with an impacted canine, J. Philipp Dent. Assoc., 3, 32, 1988.
5. Morning P.: Impacted teeth in relation to odontomas., Int. J. Oral Surg., 2, 81, 1980.
6. Piattelli M. et al.: Compound odontoma associated with a primary molar., Acta Stom. Belg., 3, 129, 1995.
7. Shelton J. T. et al.: Compound odontoma associated with an impacted permanent central incisor, J. Tenn. Dent. Assoc., 4, 46, 1997.
8. Solares Aguilar R.: Compound composite odontoma. Report of two cases., Rev. ADM., 46, 7, 1989.

SUMMARY

The authors presented a case of mixed odontoma in the body of the mandible in the neighbourhood of 34–35 as an example of diagnostic and therapeutic proceedings in the case of odontomas.

Przypadek zębiaka mieszanego żuchwy – postępowanie diagnostyczno-terapeutyczne

Autorzy przedstawili przypadek zębiaka mieszanego w trzonie żuchwy w okolicy 34–35 jako przykład postępowania diagnostyczno-terapeutycznego w przypadku zębiaków.