

Anatomy. — *Margoid differentiation of the tuberculum dentis.* (Second Communication.) By TH. E. DE JONGE. (Communicated by Prof. M. W. WOERDEMAN.)

(Communicated at the meeting of December 20, 1947.)

When describing at the time in the *Proceedings* of this Academy (I) and afterwards also elsewhere (II and III) the margoid differentiation of the tuberculum dentis in the incisors, we regarded as the essential feature of this deviation from the standard, "that an independent manifestation of the deuteromere is accompanied by the development of a ridge, effecting a continuous connection between vestibular surface and tuberculum dentis. The most noteworthy fact however is an — apparently consecutive — from basally to incisally gradually increasing crook of the vestibular crown-surface, at the very place where this surface is passing into the connective ridge resp. tuberculum. The fact, that this crook is the more strongly marked as the connective ridge, too, has the more developed, must be more than a coincidence.

The most marked instance we may see in Fig. 2¹⁾: in both incisors the angle is so acute as to make the vestibular surface appear to be divided into two parts — besides, such a prominency of connective ridge resp. tuberculum, that the latter has simply specialized into *margo incisalis*: this way of development it is, which may be expressed by the description "margoid development"²⁾. In view of the conclusion of our speculations on this subject both cuspids, originating from the same upper jaw, for which we are indebted to our colleague H. BOS, give us reason to claim the attention once more for this subject.

It is easily to be understood that their strongly developed tuberculum dentis — different from the case of the incisors — does not quite extend to the level of the margo incisalis, when taking into consideration the praedominant character of the labial crown-cusp of the canine. Nevertheless it shows the manifest characteristics of a margoid differentiation in both cuspids.

As in the case of the incisors it has not grown into an element of a clearly outlined individuality: remaining linked up, as far as its cusp, with the dorsal surface of the labial half of the crown, it has — in the same way as in praecanine dental elements — materially modified the original construction-pattern of the crown. Its lingual zone is divided into two clearly separated halves, of which only the mesial one does present a labio-lingual connective ridge or marginal crest. The convexity of the labial crown-

¹⁾ Fig. 1 in this communication.

²⁾ L.c. pag. 590—591 [english translation (III)].

surface, which is so characteristic of the cuspids, has entirely got lost, to be replaced by a concavity. This concavity, which does not constitute an essential, but a merely gradual difference with the crook of the crown of the incisors, is undoubtedly related to the much more massive structure of the cuspids.

The distal crown-surface, being almost smooth and but slightly differentiated, which presents in both elements a close resemblance to a labial surface of normal configuration, constitutes a striking contrast. It is therefore to be understood, that one might feel inclined, at first glance, to determine it as a labial crown-surface! And only on the basis of some more subtle details of structure, of which we will mention here the course of the so called "enamel line" (junction of crown and root) it was possible to establish a differential diagnosis.

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So far the descriptive-anatomical details of our two cases. Their unusual rarity did not constitute the main motive of this description, but in this connection it may not pass by undiscussed. For, what we already observed at the time in respect of the gemination of the canine (IV) holds equally good for the latter's deviation from normal shape *mutatis mutandis*: "even when not looking closely into the matter it becomes apparent that the data, we may find in literature as regards the phenomenon of more cuspids breaking through, are unusually scarce — no matter whether a gemination of the canine is concerned or supernumerary cuspids. This should not come to us as too great a surprise: from morphotic point of view the canine unquestionably represents the most fixed element in human denture: anomalies of its shape occur even more rarely than those of the medial incisor or first molar" ³⁾.

And interpretation of their anomalies proved not to be possible until the incisors, owing to their much more numerous transition forms had opened a way for us.

We will wind up these contemplations by two conclusions: firstly that in our former communication on this subject we have revealed the character, which is universal to a certain extent, of this anomaly of the incisors, "which proves to realize almost all theoretical developmental potencies. For our material shows that in its development it is not limited to the upper jaw, but also presents itself in the lower jaw. Furthermore not only in the permanent dentition but in the deciduous dentition as well. Finally however — and this is exceedingly noteworthy — in both dentitions moreover in superfluous dental elements" ⁴⁾.

We will admit at once that the present publication is exclusively pertaining to the cuspids of the permanent dentition. In our opinion

³⁾ L.c. pag. 679 (IV).

⁴⁾ L.c. pag. 591 (III).

however it is an ascertained fact that, in principle, the margoïd developmental potency of the lingual crown-tubercle extends to all dental elements that may receive consideration in this respect, consequently to the canines as well!

Our second conclusion reaches further: all morphologic variations of the incisors that are known so far we may find — be it as anomalies of form, that occur considerably more rarely — in the cuspids as well.

Samenvatting:

Beschrijving en afbeelding van twee cuspidati, bij welke de margoïde differentiatie van hun tuberculum dentis het universele karakter dezer vormanomalie — immers manifestatie bij alle daarvoor in aanmerking komende gebitselementen, derhalve bij medialen incisivus, bij lateralen incisivus en bij den cuspidatus — in het licht stelde.

Résumé:

Description et illustration de deux cuspides, chez lesquelles la différenciation margoïde de leur tuberculum dentis démontre le caractère universel de cette anomalie morphologique. En effet cette manifestation se rencontre dans tous les éléments dentaires, qui entrent en ligne de compte dans ce domaine, ainsi l'incisive médiane, l'incisive latérale et le cuspidé.

Zusammenfassung:

Beschreibung und Abbildung zweier cuspidati, bei denen die margoïde Differenzierung ihres tuberculum dentis den universellen Charakter dieser Formanomalie — Manifestation bei allen in Frage kommenden Gebisselementen, folglich beim medialen incisivus, lateralen incisivus und cuspidatus — bestätigt.

Summary.

Description and illustration of two canines, in which the margoïd differentiation of their cusp revealed the universal character of this anomaly — manifestation occurs in all dental elements, that deserve consideration in this respect, thus in medial incisor, lateral incisor and in the cuspid.

LITERATURE.

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Fig. 1.



Fig. 2.