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"TRIGONUM RETROMOLARE"
IN RELATION TO THE POSTERIOR LIMIT
OF THE COMPLETE LOWER DENTURE

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INTRODUCTION

There appears to be a certain amount of terminological confusion with regard to some anatomic structures in the retromolar region of the lower jaw. The suffix "retromolaris" has, on different occasions, been added to several of these structures, despite the fact that the lower jaw was often toothless, and that the exact relations of the structures to the surrounding tissues were uncertain.

Trigonum retromolare is a bone structure distal to the third molar. The structure has the shape of a triangle with the apex towards the *crista temporalis mandibulae* and the base towards the distal root of the third molar. The sides consist of the lateral borders, named *crus mediale* and *laterale*. The bone structure is difficult to discern in the toothless specimen. There it is narrow and consists of a ridge posteriorly continuous with the *crista temporalis*, and anteriorly with the residual ridge of the *crista alveolaris* (Barrett & Haines, 1962) (Figs. 1 and 2).

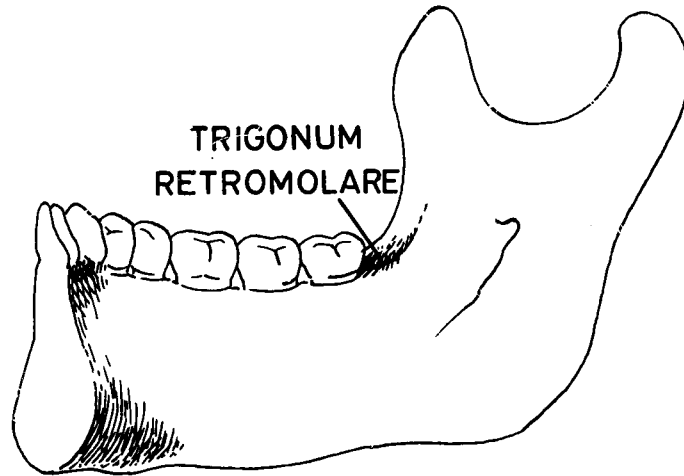


Fig. 1.

The *fovea retromolaris* is clearly distinguishable from the trigonum retromolare. It consists of an oval depression, palpable laterally to the trigonum and bordered laterally by the *linea obliqua* and medially by the *crus laterale*, dorsally by the anterior edge of the ramus, and the *crista temporalis*. In the anterior direction it is open (Fig. 2).

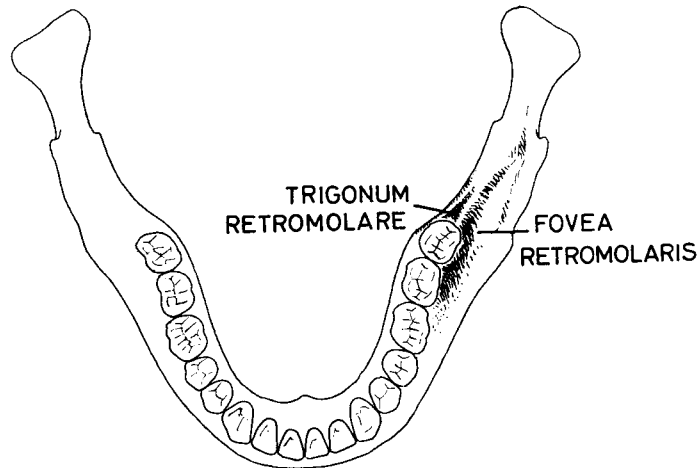


Fig. 2.

Behind the third molar there is usually a round or semilunar mucous protuberance which histologically is seen to contain gingival tissue of a firm and fibrous structure. This protuberance is called, in the Anglo-Saxon Literature, *papilla retromolaris* and it covers the base of the trigonum retromolare (Craddock, 1953). In toothless cases this structure cannot clinically be discerned (Fig. 3).

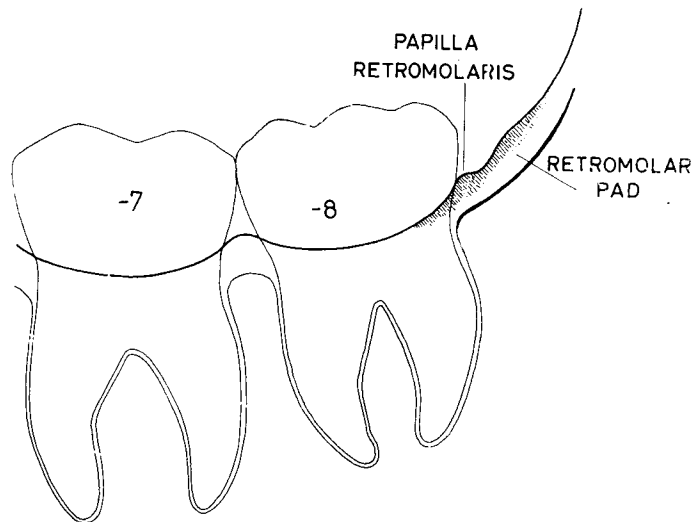


Fig. 3.

Posteriorly to the papilla and covering the trigonum retromolare lies a soft, almost circular mucous elevation that histologically consists of loose connective tissue with an aggregate of mucous glands and covered by a smoother and less cornified epithelium than the gingiva. In the Anglo-Saxon literature this structure is called "*retromolar pad*". (Fig. 3)

According to Haines & Barrett (1959) the glands in this "pad" consist of an extension from the glandulae palatinae. The "pad" covers the roots of the raphe pterygomandibularis, the musculus buccinator and the upper constrictor.

In a person with loss of the third molar there sometimes occurs an elevation immediately anteriorly to the "retromolar pad" and in connection thereto. In the Anglo-Saxon literature it is named

the "pear-shaped pad" or "pear-shaped area" (Swanson, 1942; Sicher, 1952) (Fig. 4). It consists of the same fibrous tissue as the gingiva and lies in a line with the crista of the alveolar ridge and incorporates the former papilla retromolaris. It is unevenly pear-shaped with its apex pointing anteriorly. To a great extent this structure is found at the place of the third molar and is the result of the healing process that follows the extraction of this tooth. On this structure, which can not be said to lie "retromolarly" usually rests the saddle end of the mandibular denture (Swanson, 1942; Craddock, 1953).

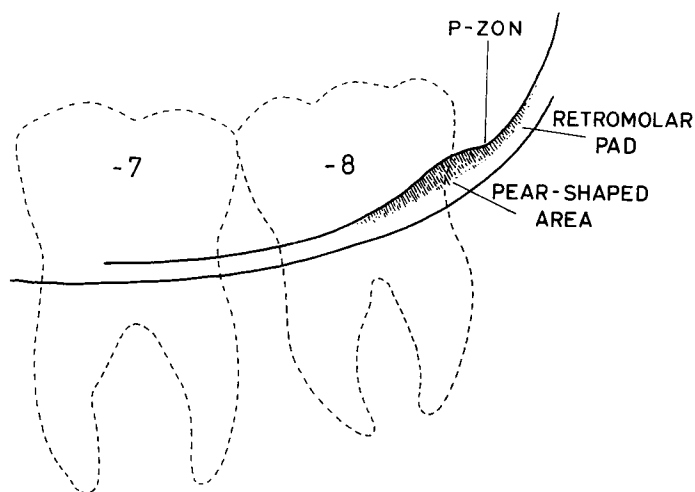


Fig. 4.

Sicher (1952) considers that the term "retromolar pad" should be reserved for the posterior glandular elevation, and that it should be easy to individually differentiate the various structures according to their difference in colour and consistency: the "retromolar pad" is often soft and red, whereas the "pear-shaped area" is firm and pale.

In 1960 the Nomenclature Committee of the Academy of Dental Prosthetics accepted the following definition of "retromolar pad" = "A mass of tissue, frequently pear-shaped, which is located at the distal termination of the mandibular residual

ridge". Thus the fibrous "pear-shaped pad" or "area" and also the glandular "retromolar pad" are considered to be a single structure (Fig. 4).

To summarize it may be said that practically the whole pale and firm "pear-shaped" structure, which can easily be discerned in the indicated area of the toothless individual, is situated in front of and outside the bone structure "trigonum retromolare" and it would thus appear questionable as to whether any part at all of the trigonum is subjected to pressure by the prosthetic base.

Craddock (1953) considers that the "retromolar pad" is an unfavorable region to be stressed, as in this part inter alia the raphe pterygomandibularis inserts and might engage the greater part of the "retromolar pad" during the opening movements of the mandible.

In the field of prosthetics the term "trigonum retromolare" is, e.g. in Sweden, considered to denote both the bone structure and the overlying soft tissue including the pear-shaped area. It is often recommended that the saddle end of the denture in the lower jaw should be extended to the anterior part of the trigonum retromolare partly because of the sealing effect obtained as a result of the compressibility of the soft tissue in this area, and partly because the trigonum retromolare is considered to have a more stable structure with less tendency to resorption than the crista.

The tissues in front of and above the trigonum retromolare lie in the border area between two of the three different mucosa types of the oral mucous membrane, i.e. between the "masticatory mucosa" (the gingiva) and the "lining mucosa" (the alveolar mucosa). (*Schour*, 1960; *Grant, Stern & Everett*, 1963).

The epithelium of the gingiva is often parakeratinized (60—70 %), that of the alveolar mucosa always non-keratinized (*Meyer & Medak*, 1962). A certain parakeratosis is considered to be physiologic in the gingiva and is presumably intensified by increased chronic-mechanical pressure. The keratinization seems to be a function of the degree of inflammation, the more inflammation, the less keratinization (*Weiss, Weinmann & Meyer*, 1959). However, the epithelium has, under certain circumstances, a tendency towards keratin formation and this occurs in defined

pathological changes (e.g. leukoplakia), or as a result of unphysiologic mechanic stress (e.g. denture pressure) (*Fasske & Morgenroth, 1964*).

The masticatory part of the oral mucous membrane has no submucosa. The connective tissue of the lamina propria is firm and fibrous, often relatively poor in cells, and usually has rather deep papillae in which a slight perivascular round cell infiltration is considered quite normal (*Fasske & Morgenroth, 1964*).

"Lining mucosa" contains a submucosa with loose connective tissue rich in cells and provided with glands of various kinds, vessels, nerves, and muscle bundles. Part of this alveolar mucosa, in contrast to the masticatory mucosa, is loosely attached to the underlying bone (*Schour, 1960*). Here the epithelium is generally thin with flattened rete pegs and often nonkeratinized.

The mucous membrane of the "retromolar area" belongs to the "lining mucosa". The pad rests above the trigonum retromolare and attached to the bone tissue in this region are a number of muscles e.g. the buccinator, the constrictor sup., and the mylohyoideus.

The mucous membrane of the "pear-shaped area" belongs to the "masticatory mucosa" and the region, among other things, contains scar tissue following the extraction of the third molar.

The clinical boundary between these two structures is not strictly defined. Most part of the structures can be differentiated by their colour and consistency.

The histological border in these areas is also difficult to indicate. The transitory line is marked by a loosening and vascularization of the connective tissue and a thinning of the epithelium with a flattening of the rete pegs. No difference in the appearance of the compact bone is seen between the two zones, and it is hardly possible to demarcate the trigonum retromolare exactly.

Clinically and histologically it thus seems difficult to differentiate between the two areas mentioned. The use of a mandibular denture might, however, develop some structural dissimilarities, which could be microscopically discerned.

The number of investigations concerning the effect of the denture on the underlying tissue is rather scanty. *Brinch (1932)*

found in a postmortem material an epithelium proliferation in the connective tissue, fat degeneration of the mucous glands, secretory stasis with perivascular chronic inflammation, all of which preceded an acute inflammation in the epithelium and connective tissue. These changes occurred in palatum durum under vulcanite dentures.

Pendleton (1951) found ortho-keratinization of the alveolar ridge and parakeratosis immediately labio-buccally thereof. Te suggests the difference being due to various functional and mechanical effects.

Östlund (1958) asserted that the area immediately in front of the A-line changed progressively with the pressure of denture. Well-defined strata corneum and granulosum decreased and disappeared in favour of an increased parakeratosis. A certain acanthosis arose, the connective tissue became oedematous at an early stage, and a fibrillar proliferation sub-epithelially as well as epithelial protuberances were observed. Östlund found a diminished glandular tissue and presumed that parts of it had been replaced by connective tissue.

Kapur & Shklar (1963) obtained other results. These authors studied the effect of the denture on the alveolar ridge bilaterally in the bicuspid area. They found an increased stratum corneum, mainly "hyperkeratotic", alternating with zones of parakeratosis.

Maj et al (1963) observed in the alveolar process and hard palate atrophic and proliferative changes, disturbances in the keratinization, desquamation and degenerative vacuolization of the nuclei in the epithelium under the denture. In the connective tissue hyalinization, oedema and chronic inflammatory cell infiltration were observed. The most significant changes consisted of circulation disturbances.

The so-called denture sore mouth, observed in elderly patients, may be due to atrophy of the mucosa (*Thoma & Goldman*, 1960). Senile mucous membrane atrophy plays the greater part in atrophic conditions of the mucous membrane.

Histologically it is characterized by a thin epithelium, flattened rete pegs, connective tissue poor in cells and a disintegration of the elastic fibres (*Fasske & Morgenroth*, 1964). *Nyquist* (1952) found that the stratum corneum was often lacking in denture sore mouth cases and that chronic inflammation occurred in the

mucosa. The patient in these cases often complains of aridity and a burning sensation in the mouth, particularly under the denture, and the condition may be aggravated by superficial ulcerations and chronic inflammatory lesions.

The toothless alveolar processes are particularly massive bone structures, except in those cases where advanced resorption occurs. In young people a metabolically conditioned high degree of bone resorption is seen, but normally it is followed by a corresponding new bone formation. Bone of elderly patients have often thinner trabeculae and larger marrow spaces than middle aged ones. Thus resorption appears to increase after middle age; from 60 years of age there often occurs a dramatic endosteal resorption, and individuals of 70 years or more may have as much as 25 per cent surface resorption (*Jowsey, 1960*).

Hedegård (1962) studied the tissue changes under immediate dentures in the upper jaw. He stated, that, after a period of three months, there was a higher degree of cellular infiltration under the immediate denture than in those cases where only extraction and no prosthetic treatment had been performed.

Victorin (1964) studied the degree of resorption under the maxillary complete denture. In a material with an average age of 43 years he found that the age was not decisive for the degree of resorption. The resorption during the first 3 months was 6 to 7 times greater than during the following 9 months and the immediate denture revealed a less degree of resorption of the underlying bone than the conventional one.

Fig. 5 A. Case 6 D. B.* The crista region. The epithelium is rather broad and shows parakeratosis, slight acanthosis and proliferation of the rete pegs. The connective tissue is relatively fibrous and displays a moderate round cell infiltration.

Fig. 5 B. Case 6. D.B. The glandular region. The epithelium is narrow and shows parakeratosis, lamellated desquamation and flattened rete pegs. The basal cell layer is slightly hyperchromatic. The connective tissue is loose and exhibits a slight round cell infiltration. In the submucosa there are glandular tissue and fat cells.

Fig. 6. Case 11. D.B. The crista region. Orthokeratosis and lamellated keratinous desquamation.

Fig. 7 A. Case 8. D.B. The crista region. Pronounced subepithelial inflammatory reaction.

Fig. 7 B. Case 8. D.B. The glandular region. Subepithelial inflammatory reaction.

* D. B. = Denture bearers.

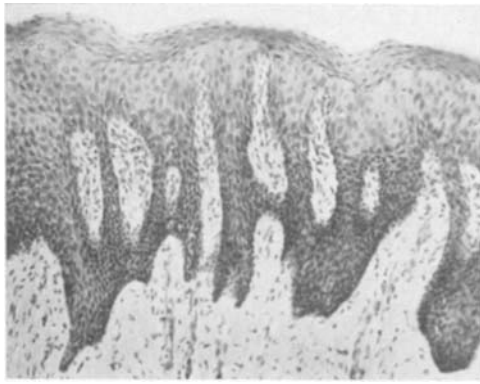


Fig. 5 A.

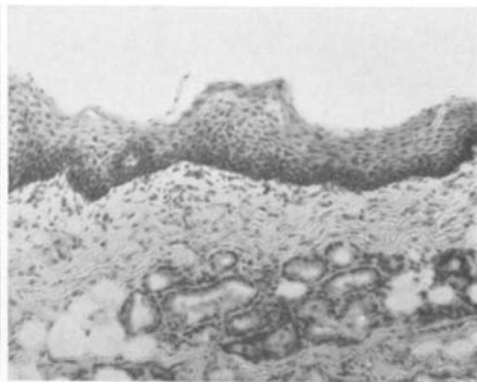


Fig. 5 B.

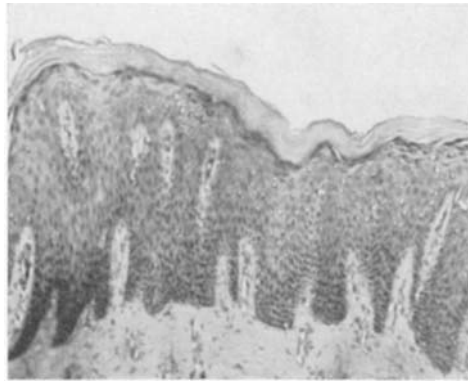


Fig. 6.

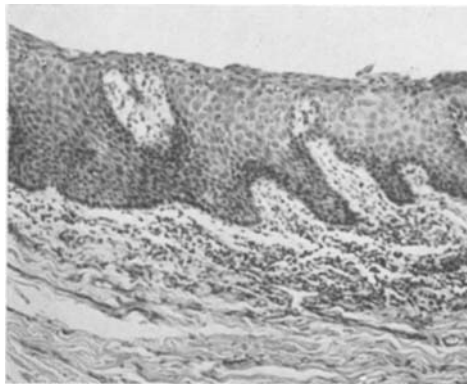


Fig. 7 A.

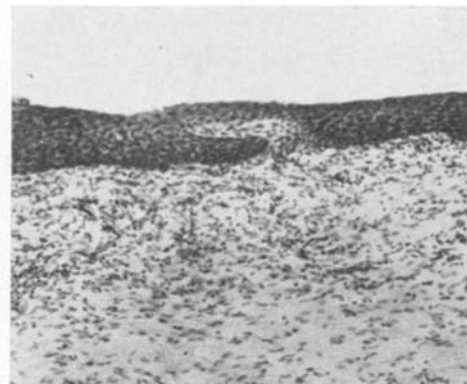


Fig. 7 B.

It may thus often appear difficult to determine if clinical and microscopic changes under a denture are caused only by prosthetic pressure. Factors like age and individual reactivity may be difficult to correlate to other causative factors.

From the foregoing it would appear doubtful as to whether the trigonum retromolare is burdened by the denture base at all. As this condition is clinically difficult to determine, the authors' intention has been to investigate, by means of histological studies, the possibilities of finding such differences between the mandibular cristae of denture bearers and non-bearers, and thus to make certain conclusions on the position of the saddle ends of the denture. The authors have also found it justifiable to discuss, on the basis of available literature, current prosthetic terminology for the distal structures of the mandibular ridge.

MATERIAL AND METHODS

The specimens were taken bilaterally from the mandible in autopsy material at the Department of Pathology, University of Umeå. They were posteriorly dissected at the level of crista temporalis, and anteriorly in the region of the second molar.

The specimens were divided as follows:

1. Control specimens, where at least the second and third molars were missing bilaterally, and the toothless crista was not burdened by any denture.
2. Denture bearers, where the toothless crista had been burdened by a dental plate (Table I).

Fig. 8 A. Case 7. D.B.^o The crista region. The compact bone is crenated with osteoclasts in Howship's lacunae. At the other side there is a well developed osteoblastema. Restitution lines indicate a remodelling of the bone.

Fig. 8 B. Case 7. D.B. The glandular region. The remodelling reaction of the bone is less conspicuous than in the crista region.

Fig. 9 A. Case 13 N.D.B. The crista region. The epithelium shows parakeratosis, slight vacuolar degeneration and well developed rete pegs. Very few inflammatory cells.

Fig. 9 B. Case 4. N.D.B. The glandular region. The epithelium shows parakeratosis, slight vacuolar degeneration and spongiosis, flattened rete pegs. The connective tissue fibres are very loosely arranged. No inflammation.

Fig. 10. Case 4. N.D.B. The glandular region. Pronounced round cell infiltration in the glandular tissue.

^o N.D.B. = Non denture bearers.

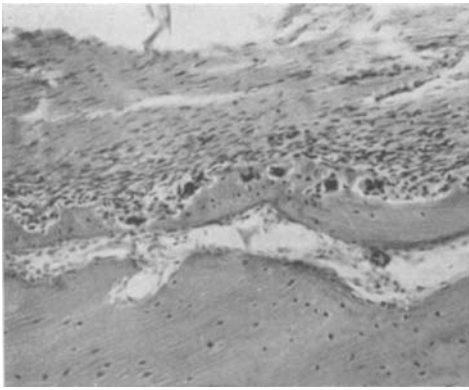


Fig. 8 A.

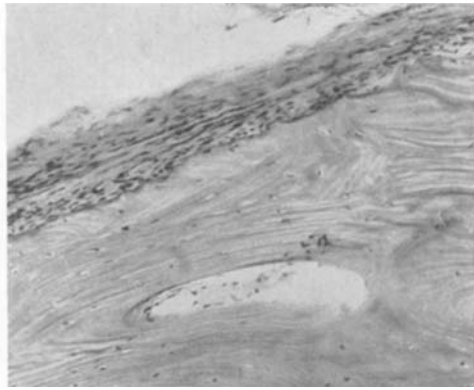


Fig. 8 B.

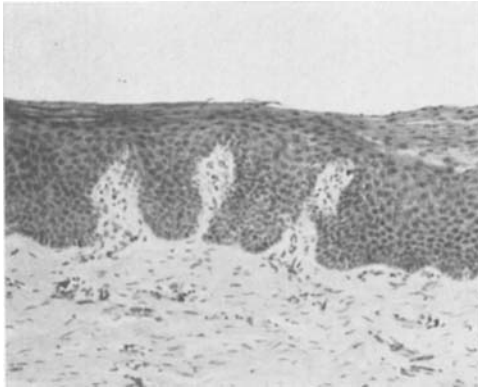


Fig. 9 A.

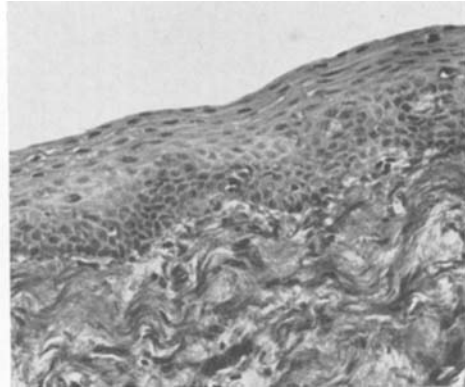


Fig. 9 B.

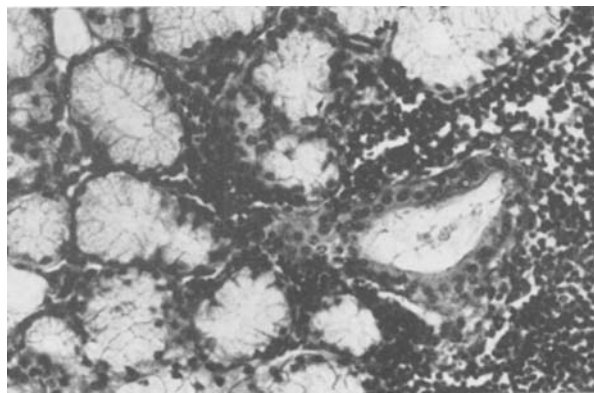


Fig. 10.

All the patients died from some disease. Data concerning these patients were obtained from their respective medical reports. Records on earlier prosthetic treatment were, however, very few, but in the denture cases, the dentures were considered to be at least three years old. No partial dentures were registered.

The specimens were fixed in 10 per cent formalin and decalcified in 45 per cent formic acid plus 15 per cent sodium-formiate. Paraffin wax was used as embedding medium. Serial sections about $6\ \mu$ were cut and the following staining methods were used: Mayer's hemalum-eosin, Hansen's trioxyhematein, Heidenhain's azan and Bock's calcium-stain.

The specimens in both groups were compared in,

- A. *The glandular region*, i.e. the part of the specimen that contained mucous glands.
- B. *The crista region*, mesial to the glandular tissue, clearly supported by compact bone. The comparison was made with regard to
 - (1) the epithelium,
 - (2) the connective tissue,
 - (3) the compact bone in both regions, and
 - (4) the glandular tissue.

TABLE I
Distribution of the 14 cases

Case	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Sex	f	f	f	m	m	f	f	m	m	f	f	m	m	f	
Age	67	64	76	66	41	68	56	72	75	62	50	64	46	38	
Cause of death		colla- genosis	ca. riele	ca. infaret	ca. riele	ca. hosis	ca. riele	ca. sarcoma	ca. sclero- sis	uter- us ca.	ca. brai haem- orr- hage	ca. cere- brai	ca. pro- leuk-	ca. aemia tubercu- losis	ca. lymph. miliar
Prosthetic pressure	+	+	+	-	-	+	+	+	-	+	+	-	-	+	

OBSERVATIONS

DENTURE BEARERS

Cases 1, 2, 3, 6, 7, 8, 10, 11, 14

Crista Region

1. Epithelium:

parakeratosis — all (Fig. 5 A)
 orthokeratosis (local) — 10, 11 (Fig. 6)
 acanthosis and proliferating rete pegs —
 1, 2, 6, 7, 8, 10, 14 (Figs A and 6)
 relatively broad — all (Fig. 5 A)

2. Connective tissue:

relatively fibrous and poor in cells — all (Figs 5 A, 6)
 no subepithelial round cell infiltration — 10, 14 (Fig. 6)
 moderate subepithelial round cell
 infiltration — 1, 2, 3, 6, 7, 11 (Fig. 5 A)
 pronounced subepithelial round cell
 infiltration — 8 (Fig. 7 A)

3. Compact bone:

crenated with local restitution line — 2, 3, 7, 8 (Fig. 8 A)
 crenated without restitution line — 1, 11, 14
 slight lacunar resorption, inactive osteoblastema,
 no periosteal cell accumulation — 6, 10

Glandular Region

1. Epithelium:

parakeratosis — 1, 2, 3, 6, 11 (Fig. 5 B)
 non-keratosis — 7, 8, 10, 14
 relatively narrow — all (Fig. 5 B)
 relatively flattened rete pegs — all (Fig. 5 B)

2. Connective tissue:

relatively loose — all (Fig. 5 B)
 no subepithelial round cell
 infiltration — 10, 14

moderate subepithelial round cell
infiltration — 1, 2, 3, 6, 7, 11 (Fig. 5 B)
pronounced subepithelial round cell
infiltration — 8 (Fig. 7 B)

3. Compact bone:

= approximately the crista region
(Fig. 8 B)

4. Glandular tissue:

abundant round cell infiltration — 6
slight round cell infiltration — 1, 3, 6, 7 (Fig. 5 B)
fat — 6 (Fig. 5 B)

PARTLY EDENTULOS CASES.

(Non denture bearers)

Cases 4, 5, 9, 12, 13

Crista Region

1. The epithelium:

parakeratosis and local
orthokeratosis — 4, 13
parakeratosis — 5, 9, 12 (Fig. 9 A)
acanthosis — all (Fig. 9 A)
relatively broad — all (Fig. 9 A)

2. Connective tissue:

relatively loose — all (Fig. 9 A)
local circumvascular round cell
infiltration — 4, 12 (Fig. 9 A)
pronounced cellular infiltration — 9, 13

3. Compact bone:

lacunar resorption and periosteal
cell accumulation — 12
smooth periosteal bone line — 4, 5, 9, 13

Glandular Region

1. Epithelium:
 - parakeratosis — all (Fig. 9 B)
 - relatively narrow — all (Fig. 9 B)
 - proliferating rete pegs — no cases

2. Connective tissue:
 - looser than in the crista region — all
(Fig. 9 B)
 - local round cell infiltration — 4, 12
 - pronounced cellular infiltration — 9, 13

3. Compact bone:
 - = the crista region.

4. Glandular tissue:
 - pronounced round cell infiltration — 4, 12, 13 (Fig. 10)
 - fat — 4

DISCUSSION

The term "trigonum retromolare" may be considered to be extremely vague as denomination of the structures that are usually burdened by the distal ends of the mandibular denture. The term has probably been adopted with the intention to localize the denture base to the refractive bone triangle with the indicated name, but in practice it has been used to characterize the whole region.

Sicher's description of the "retromolar pad" as being soft and dark red in contradiction to the more firm and pale "pear-shaped area" represents the views of the majority of authors on the clinical picture of the region. The definition launched by the 1960 Nomenclature Committee may be considered inadequate for exact description of the structures. This definition was probably necessary for clinical reasons and, therefore, to a certain extent, justifiable. On the other hand such reasons cannot justify the

use of the term "trigonum retromolare" as a clinical conception, as this name only refers to a structural detail in the region (osseous part) which is moreover difficult to distinguish. In current anatomy textbooks the term "trigonum retromolare" solely denotes the aforementioned bone triangle and never the adjoining soft tissue.

The most pronounced differences between the two groups investigated were as follows:

	<i>The crista region</i>	<i>The glandular region</i>
The epithelium:	proliferating rete pegs in 7 denture cases, but in no partly edentulous cases.	nonkeratosis in 4 denture cases, not recorded in the partly edentulous cases.
The connective tissue:	fibrous and poor in cells in the denture cases, relatively loose in the partly edentulous cases.	
Compact bone:	crenated with or without restitution lines in 7 denture cases, but only in one partly edentulous case.	

The probable effect of the denture pressure in the *crista region* was according to the observations made:

The epithelium:	proliferation,
the connective tissue:	fibrillization,
the compact bone:	increased resorption.

In the *glandular region* the possible effects of the denture were definitely more difficult to define. The nonkeratosis, which was observed in 4 denture cases, may very well have been physiologic, as the area lies within the "lining mucosa". In only one case (7) there was a moderate chronic inflammation which

could effect a non-keratosis. The causes of death vary in this group, and one of the 4 cases (14) was the youngest, another (8) was nearly the oldest.

The main similarities in the glandular regions between the two groups investigated were: —

- The connective tissue: thin, no proliferating rete pegs,
 The epithelium: looser than in the crista region in every case,
 The compact bone: no major differences compared with the crista region in every case,
 The glandular tissue: no structural differences (certain amount of fat formation in one partly edentulous case) (4).

The appearance of the epithelium supports the notion of the glandular region belonging to the "lining mucosa".

If the denture pressure has had any effect at all, the similarities in the glandular region and the differences in the crista region signify that the distal end of the denture has engaged the border area between these two regions.

A comparison of this border area in the lower jaw with that of the area just above the A-line in the upper jaw, as investigated by *Östlund* (1958), shows that both have been subject to a pressure of the extreme parts of the denture base (the same kind of functional-mechanical effects). But while the burdened mucous membrane in the upper jaw contains mucous glands, an extension of the prosthetic base over the lining mucosa in the lower jaw is necessary if the glandular aggregates are to be stressed. Our observations of prosthetic effects deviate somewhat from those of *Östlund's* investigation which was longitudinal and permits absolute measurement of the effects. In common with both investigations are the parakeratosis, and, to a certain extent, the fibrillar proliferation. In our denture cases the relative fibrous and cell deficient connective tissue does not give the impression of proliferation, but rather a fibrosis of the lamina propria. Quantitative measurements of the glandular tissues could obviously not be carried out in our investigation.

The results reported by *Kapur and Shklar* (1963) which revealed an increased degree of keratinization at the alveolar ridge support the notion that the probable effects of denture pressure on the mucous membranes are due to two essential factors:

1. the structure of the burdened tissue
2. the type of functional-mechanical effect.

The appearance of the compact bone in the glandular region did in no case obviously deviate from that of the crista region. As the denture cases appeared to show a higher degree of periosteal resorption activity than the partial edentulous cases this could possibly be ascribed to the denture pressure.

The resorbent effects of the prosthetic pressure are greatest during the primary period, due to the adaptability of the tissues to external conditions. This might be the reason why resorptive activity in the tissues under the denture is reported three months after the insertion of an immediate denture, while extraction without prosthetic treatment does not reveal any similar activity (*Hedegård*, 1962). A recent investigation by *Carlsson, Thilander & Hedegård* (1967), however, does not reveal any differences in the resorption rate of the alveolar bone of the maxilla after total extraction between an immediate and a conventional denture group after three months. As to whether denture pressure aggravates a physiologically increased resorption still remains an open question. Should this be the case, one might expect such aggravation in elderly persons as stated by *Jowsey* (1960). *Victorin's* (1964) results suggest that such a connection is not apparent, and consequently it has not been our desire to draw any conclusions in this investigation as regards the increasing resorption effect of denture pressure.

The most obvious difference between denture bearers and non-bearers appears to be fibrillization of the connective tissue and proliferation of the epithelial rete pegs in the crista region of the former cases. Healing brings about a certain scar tissue formation following the extraction of the third molar. In the partial edentulous cases this goes no further than to a loose connective tissue, whereas the use of a denture appears to stimulate the fibroblasts to continued production of the collagenous fibrils.

The localization of the distal end of the dental base and its relation to the bone triangle "trigonum retromolare" could only be determined with less exactitude. However, we would point to the term "trigonum retromolare" as a denomination for this border area. The term should be used solely as an anatomic expression for the bone structure previously described. The "glandular region" is approximately the same area as the "retromolar pad", and the described "crista region" equals the "pear-shaped area". The border area between these two regions, which should constitute the most suitable localization for the posterior limit of the denture ought to be comparable with the A-line. The authors suggest this border area to be called the *P-zone* (posterior zone), where the best sealing effect can be expected.

SUMMARY

An account was given of the terminological confusion concerning the mandibular distal parts which constitute the limit area for the distal ends of the denture. In Sweden, these distal parts generally are named "trigonum retromolare" without nearer definition. A brief description was given of the histology of the area.

As there appears to be some doubt as to whether the bone triangle "trigonum retromolare" is, on the whole, burdened by the denture base, a histopathological investigation was carried out on post-mortem material consisting of denture bearers and as a control group, non-bearers. The intention was to ascertain if the limit of the denture base can be traced by effects of the denture pressure on the mucous membrane or the compact bone.

The findings suggest that prosthetic pressure brings about a certain effect in the form of fibrosis of the connective tissue and proliferation of the epithelial rete pegs in the crista region.

It appears that the posterior border of the denture plate should be located to the border area crista region-glandular region if clinically possible in order to obtain the best sealing effect.

The authors suggest that the term "trigonum retromolare"

should be reserved for the bone triangle with this name and that the area, which is burdened by the distal ends of the mandibular denture, be named *P-zone* (posterior zone). It can be considered to be comparable with the *A-line* in the upper jaw.

RÉSUMÉ

LE "TRIGONUM RETROMOLARE" ET SES RAPPORTS AVEC LA LIMITE POSTÉRIEURE DES PROTHÈSES COMPLÈTES DU BAS

Les auteurs rendent compte de la confusion terminologique concernant les parties distales de la mandibule constituant la zone limite pour les extrémités distales de la prothèse. En Suède, ces parties distales sont en général appelées "trigonum retromolare" sans plus de précisions sur la définition. L'histologie de la région est brièvement décrite.

Étant donné qu'il semble exister un certain doute au sujet du rôle que joue le triangle osseux "trigonum retromolare" dans la sustentation de la prothèse, et qu'on ne soit pas bien sûr qu'il supporte réellement la charge de la base prothétique, une étude histopathologique a été faite au cours d'autopsies effectuées sur des porteurs de prothèses d'une part et sur des sujets non porteurs de prothèses d'autre part, à titre de groupe témoin. Le but de cette étude était de contrôler si l'on peut distinguer la limite de la base prothétique sur les tissus en observant les effets de la pression exercée sur la muqueuse et sur l'os compact par la prothèse.

Les résultats indiquent que la pression exercée par la prothèse a un effet certain: fibrose du conjonctif et prolifération des digitations épithéliales dans la région de la crête.

La limite postérieure de la plaque prothétique devrait, semble-t-il donc, être placée à la limite de la région de la crête et de la région glandulaire, si cela est possible du point de vue clinique, pour obtenir le meilleur joint possible.

Les auteurs proposent que le terme "trigonum retromolare" soit réservé au triangle osseux portant ce nom et que la zone supportant la charge des extrémités distales de la prothèse inférieure soit appelée *zone P* (zone postérieure), d'une manière analogue à la *ligne A* de la mâchoire supérieure (limite entre palais mobile et fixe).

ZUSAMMENFASSUNG

"TRIGONUM RETROMOLARE" IN BEZIEHUNG DER TOTALEN
UNTERKIEFERPROTHESE ZUR GEWEBSUNTERLAGE

Eine Bericht über die terminologische Vermischung der distalen Parteien des Unterkiefers, wo die Unterkieferprothesen gewöhnlich enden, ist gegeben. In Schweden werden diese Teile oftmals "Trigonum retromolare" ohne genauere Definition genannt. Die Histologie dieses Abschnittes ist kurz beschrieben.

Da es etwas unsicher schien, ob das ossöse Dreieck "Trigonum retromolare" überhaupt durch eine Prothese belastet wird, wurde eine histologische Untersuchung über post-mortem Material von Prothesenträgern und Nichtträgern (insgesamt 14 Fälle) ausgeführt. Die Absicht war nachzusehen, ob die Prothesengrenze durch Druckveränderungen an der Schleimhaut oder dem Kieferbein zu spüren wäre.

Die Ergebnisse deuten an, dass der Druck einer Prothese Veränderungen in der Form einer Fibrosis in der Lamina propria und Epithelproliferationen in dem Cristagebiet bewirken. Man kann daraus schliessen, dass die totale Unterkieferprothese im Grenzbezirk zwischen Crista- und Drüsengebieten enden soll, um den besten Saugeffekt zu bekommen.

Die Verfasser schlagen vor, dass der Ausdruck "Trigonum retromolare" dem ossösen Dreieck mit demselben Namen reserviert werden sollte, und dass man das Gebiet, welches die distalen Enden der Unterkieferprothesen belasten, vorzugsweise die *P-Zone* (posteriore Zone) nennen könnte.

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