Two Cases of Mixed Tumours of the Salivary Gland Type in the Palate.

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Mixed tumours of the salivary glands make up a well known group of tumours which on account of their complicated histological structure have long interested pathologists. Localization of such tumours in the large salivary glands, specially parotis, constitutes a comparatively frequent and well known form with which every doctor is familiar. However, during the last decades attention has been drawn from various quarters to the not infrequent ectopic localizations of this type of tumour, particularly the oral. Cases of mixed tumours or the salivary glands have been reported on the lips, in the tongue, mucuous membrane of the cheek, alveolar process, palate, nasopharynx, larynx, trachea and bronchi. As LEEGAARD (1) has recently pointed out, mixed tumours of the salivary-gland type seem to be the most frequent form of benign tumour appearing in the bronchi. Tumours of exactly the same histological structure have also been described in the ethmoidal region, orbit and lacrymal glands. As mere curiosities these tumours have been found in the skin of the face, usually in the neighbourhood of the lips. However, a few have been observed situated in the skin of the extremities, of which one case in the sole of the foot. The overwhelming amount of literature, chiefly from pathological-anatomical quarters, proves what a great interest has been and still is taken in mixed tumours of the salivary glands. Their histogenesis and not least their peculiar histological structure have been a constant source of strife. The histological aspect presents many

variations. Ordinarily one finds a basic substance consisting of hyaline tissue mixed with fibre-lacking vascular tissue, myxomatous or cartilage-like tissue ("chondroid" substance). Diffuse particles of fatty tissue and lymphoid tissue are not infrequently found. Various quantites of epithelial formations are incorporated in the basic tissue, these may be in solid masses, webs, cords or strands, often also in a gland-like arrangement limited by a flat or cubical epithelium, and not rarely as large cyst-like cavities, often filled with a colloid substance, which is coloured strongly with eosin. In a fibre-lacking tissue the cell groups often disintegrate to a myxomatous tissue which can change into cartilage-like substances without transition and without sign of perichondrium. On the whole the vague boundary between the different types of cells is characteristic of this type of tumour. Sometimes one sees keratin formations in the shape of horn pearls or concentric epithelium elements which are regarded as hornlamellas. In the ectopic mixed tumours cartilage-like tissue is found more rarely than in parotid tumours. There is a tendency to ascribe this phenomenon to their more rapid growth. Some of the malignant tumours present histological characteristics for which reason they are honoured with special names. This applies for ex. to the so-called cylindromas which are distinguished by their adenoma-like structure. In these tumours unmistakable signs of their mixed nature are, as a rule, found. In the morphological and hystogenetic system of tumour research, mixed tumours of the salivary glands have been placed in the group of complex tumours together with embryomas and teratomas. In the past they have been regarded as endotheliomas. VOLKMANN (2) maintained in 1895 that they arose from vascular endothelium, and for a long time mixed tumours of the salivary glands have counted as the chief representatives of endotheliomas. However, as an independent group these have constantly diminished. The term endothelioma (fibro-myxo-chondro-endothelioma), however, recurs again both in pathological-anatomical and clinical terminology, although the epithelial nature of mixed tumours of the salivary glands is now commonly recognized.

There is constant dispute over the genesis. Most of the theories advanced are only of historical interest now. The theory of these tumours' development from the embryonal branchial anlage in the same manner as the branchiogenic tumours still has its supporters. It is assumed in this case that they originate

during the earliest fetal weeks from cells of the embryonal branchial anlage which are capable of developing tissue of entodermal, mesodermal and ectodermal structure. This accounts for the confusing variety of cell types found in these tumours.

In accordance with the conception that mixed tumours of the salivary glands are of a purely epithelial character, a number of authors have maintained that their origin is from detached embryonal salivary-gland anlage. This isolation of small epithelium, which later in life can give rise to the development of tumours of this type, should take place at such an early stage, probably 8—15 fetal week, that mouth ectoderm cells are still capable of differentiating both gland epithelium and plate epithelium. NORRENBROCK (3) has attempted to apply SPEMANN's organizator theory for the epithelium of the mixed tumours in explaining the presence of characteristic cell formation to the fact that, either a rearrangement of the adjacent connective tissue takes place by the storing of epithelial secretory products, or by the direct transformation of the mesenchym to hyaline, myxamotous and cartilagelike tissue. The genetical theory which now seems to be most widespread accounts for the development of mixed tumours of the salivary glands, not from any fetal anlage, but from the epithelium in the small salivary and mucous glands of the mouth, and from acini and excretory ducts in the large salivary glands. It is assumed that the epithelium grows into the connective tissue and by the secretion of mucous substances changes this to myxamotous tissue which by organization forms the so-called cartilage tissue.

Since MINNSEN (4) introduced the term "mixed tumours", ("Mischgeschwülste"), this definition has obtained recognition particularly in pathological—anatomical as well as in clinical terminology. However, the terminology is still rather dissimilar, not least where the malignant forms of mixed tumours of the salivary glands are concerned. In recent years an attempt has been made in various quarters to compile a more uniform and practical nomenclature, the aim being to assemble all the tumours arising from the large salivary glands and also from the small mucous glands of the mouth into a large, fairly well defined group. After a penetrating histological investigation of a large amount of material, KROMPECHER (5) drew up a collective group: "Schleim- und Speicheldrüsengeschwülste", which, apart from the genuine mixed tumours, also included a few other tu-

mours, such as adenomas, cystadenomas and carcinomas, a site of origin in the salivary glands being common to these tumours.

AHLBOM (6) in collaboration with REUTERWALL (7) has built further on this foundation and, mainly with the retention of KROMPECHERS classification theory and on the basis of experience gained by a histological, clinical and therapeutical study of a vast amount of material from Radiumhemmet, Stockholm, has reached the following definition: "The group is made up partly of the tumours which have been called 'tumours of the large salivary glands of the mouth', or 'salivary gland tumours', and partly of similar tumours which occur particularly within or in the neighbourhood of mucous membranes provided with serous, sero-mucous and mucous glands. The last mentioned tumours belong almost exclusively to the regions of the head and neck." The majority of tumours in this collective group are composed of true mixed tumours in benign and malignant forms. But many other tumours are also included here, especially those of a malignant nature, such as adenomas, cylindromas and various types of carcinomas (epitheliomas). Cylindromas belong to the genuine mixed tumours but, as mentioned, are distinguished by their adenoma-like structure. While KROMPECHER collected the genuine mixed tumours under the definition basalioma, AHLBOM and REUTERWALL have reserved this definition for a type of tumour which from a histological point of view is reminiscent of basal-cell carcinoma. As mixed tumours of the salivary gland type are not infrequently found in the lacrymal glands, AHLBOM has suggested that the collective group for the sake of completeness should be called: "Mucous-lacrymal- and salivary-gland tumours".

The line between clinical-histological benignancy and malignancy is very difficult to draw where mixed tumours of the salivary glands are concerned. Some authors are of the opinion that all mixed tumours are of a malignant character or will become so sooner or later. BOENINGHAUS (8) called them "Drüsenkrebse", PAUS (9) was of the same opinion. American authors such as NEW and CHILDREY (10) and WIRTH (11) term them adeno-carcinomas, meaning that they are not all clinically malignant but that the possibility of development in a malignant direction lies latent in all mixed tumours of the salivary glands. AHLBOM stresses, however, that minute histological examination at Radiumhemmet has never been able to prove that a

histological benign tumour has subsequently shown signs of malignancy. Recurrences following removal of benign mixed tumours always showed the same histological structure as the original tumour. However, it appeared that a number of tumours which were both clinically and histologically doubtful could, in later development, become malignant. For therapeutical reasons and on a basis of clinical-histological data, AHLBOM has found it more appropriate to classify mixed tumours of the salivary glands into three groups: A. Benign. B. Semi-malignant (borderline cases) which are either well encapsulated but containing numerous cells and with little differentiated cells, or those which show a tendency to break through the capsule — or have a basaliom structure. C. Malignant, which either show infiltrating and destructive growth without tendency toward encapsulation or give rise to metastases. In AHLBOMs material the benign group consisted almost entirely of genuine mixed tumours. Out of 37 semimalignant tumours, 25 were of the mixed type, whilst among the malignant tumours there were 34 mixed tumours out of a total of 97. The semi-malignant group includes all the borderline cases, which are not few. As a rule they remain for a long time clinically benign, but in older tumours as well as in recurrences and possible metastases definite signs of malignancy are not infrequently found.

As remarked, a number of authors have recently dealt with the subject of mixed tumours of the salivary glands frequent, but previously disregarded ectopic localization. Apart from the fact that such tumours are sometimes found in the skin, they have a prediliction for the mouth and upper respiratory passages; and here localization to the hard and soft palate is by far the most frequent according to AHLBOM, GRIBEL (12), PATEY (13), WIRTH and AXHAUSEN (15) and others.

The existence of mixed tumours of the salivary glands in the palate was first described by PAGET (16) in 1886; MALASSEZ (17) had already in 1883 mentioned a tumour of the palate which he called "Krebsiges Cylindrom", — but PAGET was the first to emphasize the fact that tumours of the same histological structure as parotid tumours also occurred in the palate. He collected 31 such cases. EISENMENGER (18) collected in 1894, 81 cases of palatal tumours, and VOLKMANN in a larger work on endotheliomas dealt with in all 138 palatal tumours, most of which were of the mixed type. BOENNINGHAUS collected 33

cases of palatal tumours chiefly of a malignant nature. NEW and CHILDREY discuss 41 cases from Mayo Clinics observed during the period 1917—1930. Out of 254 salivary gland tumours treated in Radiumhemmet in Stockholm from 1909—1933, AHLBOM found 22 cases with location in the palate. Later GRIBEL published a work on 84 "Parotismischtumoren", 9 of which were situated in the hard and soft palate. Casuistic papers have been submitted by, among others, AXHAUSEN, D'AUNOY (19), BARMWATER (20), COENEN (21), HOLMGREN (22), GENZ (23), STICH (24) and WIRTH. Mixed tumours of the salivary glands with a site of origin in the alveolar process are described by AHLBOM, WIRTH and EULER (25). EULER mentions two cases of malignant mixed tumours of the salivary glands with loosening of teeth. Microscopic examination demonstrated that the tumour infiltrated the peridental tissue with resorption of cement and to a certain extent dentin. In one of the sections it could be seen that the tumour cells were starting to enter the pulp chamber through the apical foramen.

Most of the authors mentioned focussed their attention on the frequent localization in the palate. EISENMENGER pointed out that mixed tumours of the salivary glands in the palate were a clinical and pathological-anatomical well characterized form of tumour, which should be regarded as an independent and far from rare palate affliction. In AHLBOM's material, palatal tumours formed 9 % and were more frequent than mixed tumours in the submaxillary gland. Out of 62 palatal tumours treated at Radiumhemmet in the period 1921—1933, 35 were of the mixed tumour of the salivary-gland type. AXHAUSEN, AHLBOM, PATEY, STICH, GRIBEL and WIRTH consider them as the most frequent form of tumour in the palate.

At Gjövik felleskommunale sykehus we have had an opportunity of observing two cases of mixed tumours of the salivary glands in the palate during the course of a year. As these palatal tumours are very little known, and on account of their relative frequency are of considerable interest to dentists and stomatologically interested doctors, a reference to these may therefore not be out of place.

Case no. 1 concerns a 16 year old girl who for about $1^1/_2$ years before admission to hospital had noticed a lump in the palate. It was not tender and had not caused her any great discomfort, but had grown steadily. A general examination showed nothing pathological.

On inspecting the mouth a walnut-sized tumour was discovered on the left side of the hard palate near raphe palati. The tumour bulged semi-spherically into the oral cavity. The tumour's surface was smooth and even, and there was no change in the mucous membrane over the tumour which was movable both in relation to the mucous membrane and the underlaying tissue. The consistency was almost as hard as cartilage without sign of fluctuation. On palpation one obtained the impression that the tumour was very well defined. The clinical diagnosis was: fibroma palati? $^{3}/_{10}$ 39: In general anæstesia: Extirpatio tumoris palati. (Overlæge SCHAANNING.).

Incision parallel to raphe palati. After dividing the mucous membrane a fibrous capsule was exposed and the tumour could without difficulty be enucleated intact. A couple of silk sutures in the mucosa. The course was uncomplicated. The extirpated tumour was entirely encapsulated. On histological examination an irregular tumour tissue was found with areas of cartilage tissue and hyaline masses changing to myxamotous tissue in which there were lymphocyt-like cells. Diagnosis: Mixed tumour of the salivary gland (Prof. KREYBERG). Fig. 1 shows a section from this tumour. Hyaline tissue with groups of small epithelial cells and an abrupt transition to myxamotous and cartilage-like tissue can be seen. The patient was reexamined $^{9}/_{11}$ 40. A firm well grown scar was then found without sign of recurrence. The tumour was interpreted as a typical benign mixed tumour.

Case no. 2 was a 65 year old woman who on the whole had been quite well in the past. For over a year's time she had noticed a swelling on the left side of the palate. When she first discovered the swelling it was about the size of a hazelnut, it had grown steadily although somewhat more rapidly during the last four months before admission. Now and then during the last weeks she had felt light stabbing pains on the left side of the palate which radiated towards the forehead and left ear. She had also noticed slight difficulty in talking, but there had been no sign of dysphagia. A week before admission she consulted a doctor and an attempt at incision was made. She was admitted under the diagnosis: Epulis? Tumor regio palati.

The general examination revealed, apart from widespread varicose veins and slight hypertension, nothing specially abnormal. There were no palpable glands lymph-nodes. On the boundary between the hard and soft palate an almost egg-sized tumour was visible. Its foremost border extended to the 1st molar, at the back it reached the anterior part of the palatal arch which was rather pressed back. The uvula was free but somewhat pushed to the right. The lateral portion involved the alveolar process and the tumour reached raphe palate medially. An incision about 1 cm. long, corresponding to the tumour's most prominent part, was seen. Otherwise the mucous membrane was smooth with numerous fine, winding blood-vessels. The membrane was not adherent to the tumour, but its movement against the hard palate and the palatal aponeurosis in the soft palate was not quite free. The consistency was firmly elastic without sign of fluctua-

tion. Rhinoscopy anterior and posterior showed nothing pathological. X-ray fig. 2 showed no definite erosion of the hard palate, but illustrates otherwise the size and extent of the tumour. The clinical diagnosis based on experience gained in the previously mentioned case was: mixed tumour of the salivary gland type. $^{25}/_{10}$ 40: In general anæsthesia: Extirpatio tumoris palati. (Overlæge SCHAANNING).

Incision over the tumour in sagittal direction, encircling incision opening. The correct layer was easily accessible, and the tumour which was entirely encapsulated could be enucleated without difficulty until the stalk facing the nose was reached where it was more difficult to loosen. However, removal of the whole capsule by means of blunt dissection was succeeded in without perforating to the nasal cavity. After haemostatic precautions, suture of the muscular layer and mucosa. The course was uncomplicated.

The extirpated tumour revealed, on being cut over, a grey, homogenous rather dry cut surface. The histological examination showed tumour tissue consisting of epithelial cells growing partly in gland formation and partly in solid piles and cords, also with formation of horn pearls. Several areas were found with loose connective tissue resembling myxamotous tissue but not cartilage. In some parts the cells showed a moderate hyperchromia. Diagnosis: Mixed tumour of the salivary gland (prosector E. WAALER). Fig. 3 is taken from a section of this tumour and shows several acini-like formations with colloid contents lying in the loose connective tissue and limited by a shallow cubical epithelium. There was no sign of infiltrating growth anywhere. In fig. 4 epithelial cells with polymorfous nuclei and hyperchromia are seen as well as a few mitoses. This tumour has, as far as can be judged, existed for some time before the patient discovered it. It was entirely encapsulated and there was no evidence of infiltrating growth or metastases, but the rapid growth and the atypical appearance of the epithelial cells give reason to conclude that according to AHLBOM's principal of classification it is a case of so-called semi-malignant tumour. The tumour was not treated radiologically either before or after the operation, the possibility of recurrence cannot therefore be ignored. As the patient is under observation any possible recurrence eventually showing signs of clinical and histological malignancy will as soon as possible come under treatment.

The clinical diagnosis of mixed tumours of the salivary glands in the palate is easy when one is first aware of their comparatively frequent localization in this region. The tumour appears as a rule in the form of a semi-spherical formation, from the size

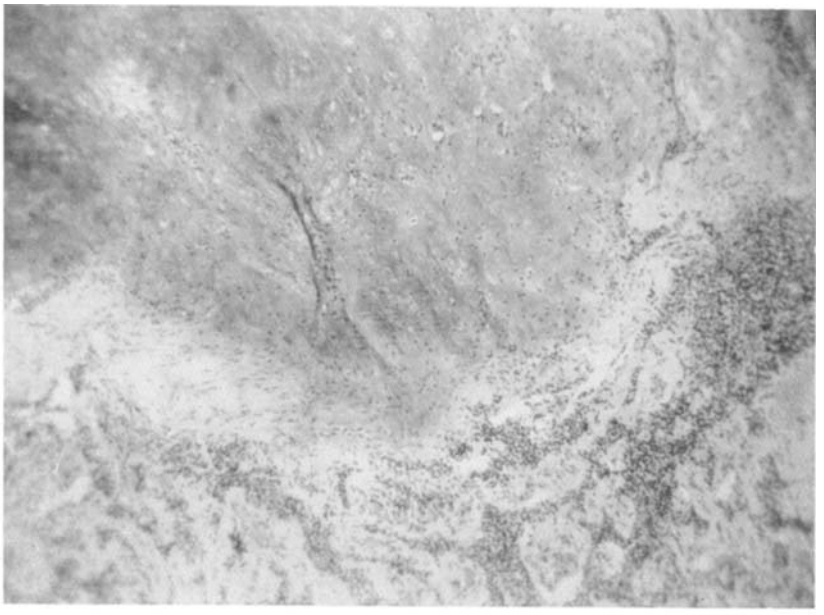

Fig. 1.

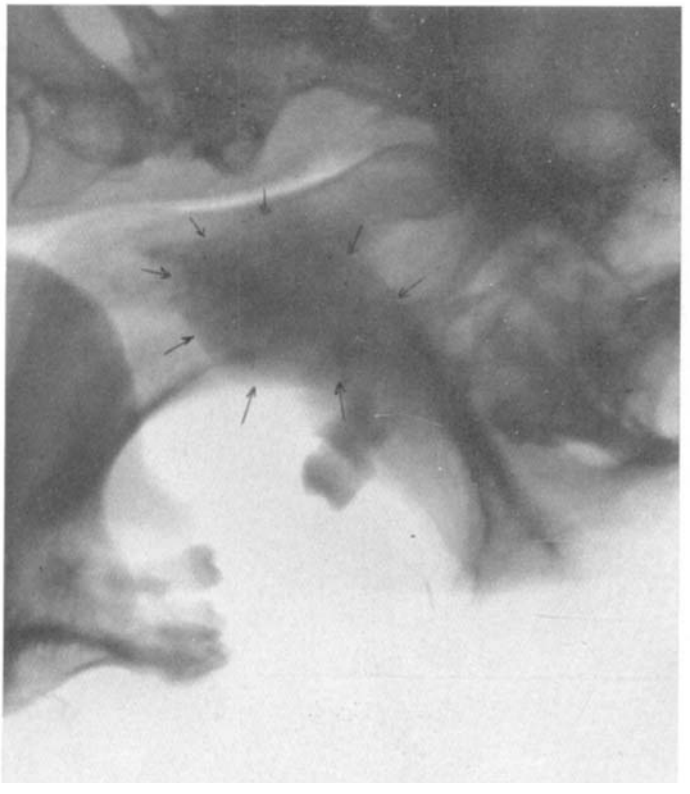

Fig. 3.

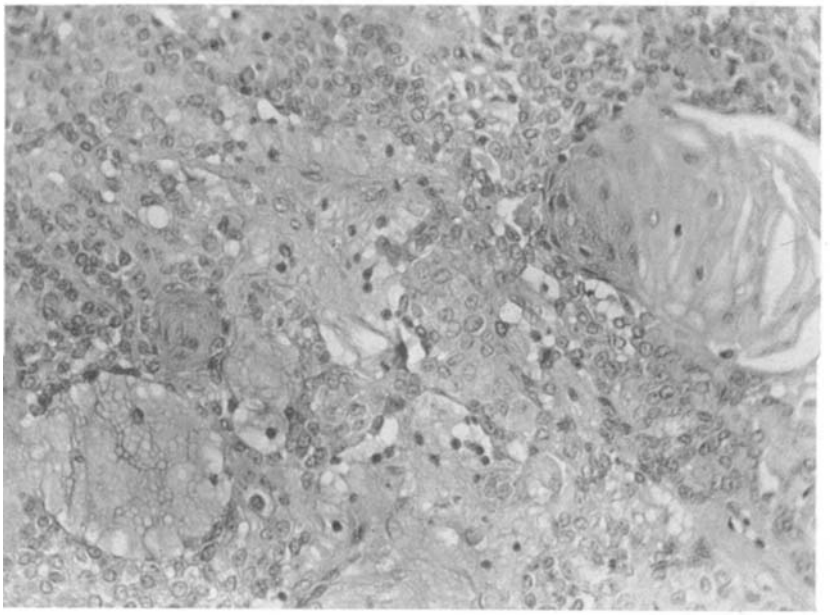

Fig. 4.

of a pea to almost that of an orange, with a site in the hard or soft palate or on the transition between them, but never or rarely on the midline. The mucous membrane does not as a rule undergo any pathological change, but in cases of malignant forms will ulcerate sooner or later. A fact, however, to which BOENNINGHAUS has drawn particular attention, is that it seems to be the rule that the malignant tumours first invade the hard palate either by infiltrating growth or by mere pressure atrophy, and then force their way to the nasal cavity or antrum Highmori before the mucous membrane covering the tumour is attacked. The surface of the tumour is usually smooth and even, but when the tumour becomes large can at times be nodulated or even lobular. The benign forms have a firm, sometimes elastic consistency, not rarely pseudofluctuating. The malignant and semi-malignant tumours are of a somewhat softer consistency and are not infrequently flatter in shape and attached to the palate by a broader base. As a rule the benign and semi-malignant tumours are rather freely movable both in connection with the mucous membrane and the underlayer, respective of the periostium of the hard palate and the palatal aponeurosis in the soft palate, whereas the clinical and histological unmistakably malignant tumours have a vaguer boundary and a much limited or entirely checked movability, and with ulceration of the mucous membrane in the advanced stages.

The subjective symptoms are few and little stated. As in the case referred to here, there may be light stabbing pains. Large tumours situated in the soft palate can give rise to difficulty in speech and dysphagia. Only rarely do secondary inflammatory changes due to mechanical factors, for ex. pressure of a prothesis, cause the patient any discomfort. More frequently the first symptom of a new formation in the palate is that a previously well-fitting maxillar prothesis no longer fits. As the tumours grow very slowly they cause surprisingly little discomfort in spite of their site. It is worth noting that in their early stages they are not rarely discovered quite accidently in less observant patients through a visit to the dentist or an examination of the throat. If a malignant tumour is allowed to develop in peace, however, it can, in the later stages give rise to great neuralgic pains on account of it reaching the base of the skull.

From a differential diagnosis standpoint a number of tumours come under consideration. Fibromas, lipomas, osteomas, and

chondromas are very rare in the palate. Fibromas are, as a rule, small and of a hard consistency. AXHAUSEN (15) has, however, reported a case of soft, symmetrical fibromas in the palate in connection with nevrofibromatosis generalisita (RECKLINGHAUSEN). A well developed and prominent torus palatinis (exostosis mediopalatina) has several times been misinterpreted as a tumour. Situation on the midline and a bone-hard consistency give some guidance. Angiomas in the palate are uncommon. Here one finds the mucous membrane covered with numerous teleangiectases, and as a rule compressibility and pulsation can be demonstrated. Now and then representatives of forms of rare tumours are found such as psammomas, nevrinomas, teratoid (epignatus), amyloid tumours and melanosarcomas situated in the palate. Apart from the fact that the tumour's colour can give an indication, as in the case of melanosarcomas and amyloid tumours, the diagnosis of such tumours can only be made after the histological examination.

Adamantimonas in the upper jaw can now and then give rise to mistakes. However, their site of origin in the alveolar process, their consistency and lastly the X-ray will bring enlightment. Carcinomas which break through the hard palate from the antrum Highmori to the mouth can illude a primary tumour. But in such cases the diagnosis will rarely cause any difficulty. Gummas and tertiary luetic ulcerations in the palate can resemble an ulcerating malignant tumour in every respect. Other luetic stigmata and WR will reveal the true nature of the disease.

Now and then mixed tumours of the salivary glands have been regarded as palatal abscesses with consequent incision as in case no. 2 referred to here. Even if pseudofluctuation is present the anamnestic data and the absence of symptomes of infection will exclude this possibility. Dental root-cysts and dentigerous cysts are, as a rule, localized in the alveolar process and on account of their form and consistency are easy to diagnose.

Most of the mixed tumours of the salivary glands in the palate are, according to AHLBOM, of a semi-malignant or malignant character. Out of his material only 5 were benign, whereas 7 were semi-malignant and 12 malignant. BOENNINGHAUS reported 33 cases which he regarded as malignant or having latent malignancy. Some of the tumours in AHLBOM's material are obviously carcinomas (basaliomas), but on the basis of their development from the small salivary and mucous glands in the

membrane of the palate, are classed in the collective group which he has proposed. AHLBOM stresses that all malignant palatal tumours belonging to this group exhibit a very mild degree of clinical malignancy. The palatal tumours' rate of growth is distinctly more rapid than that of the parotid tumours. The average duration before the patient came for treatment was 3 years for cases of palatal tumours and 7 for parotid tumours. The faster growth is attributed to the fact that cartilage tissue is rarely found in ectopically occurring tumours. Persons of the age 40—60 are those most frequently affected, but the tumours are found in persons of all ages. Both sexes seem to be affected equally often.

All mixed tumours of the salivary glands have a marked recurring tendency. This applies to both benign and malignant forms. The frequency of recurrence varies. GRIBEL estimates it at 20—40 %. The ectopical occuring tumours appear to have just as great a tendency to recurrence as parotid tumours. Recurrence is particularly frequent after a purely surgical therapy, whereas the combined surgical-radiological therapy shows better results, although even after this form of treatment recurrence is not rare. In AHLBOM's material there were no recurrences among the benign palatal tumours, whilst two of the semi-malignant and six of the malignant were recurrences or recurred even after preoperative and postoperative radium treatment.

In cases of malignant tumours metastases are, on the other hand, comparatively rare and first appear in the later stages of the illness. Palatal tumours only very rarely give rise to metastases. Only one of AHLBOM's malignant palatal tumours produced metastases and then in the submaxillary lymph nodes. On the other hand malignant tumours in the alveolar process and bucca presented both lymph node and distant metastases in 3 out of 8 cases.

In spite of these malignant palatal tumours' apparently insignificant clinical malignancy compared to other malignant tumours, and in spite of their comparatively slow rate of growth and the fact that they seldom show a tendency to metastasize, their infiltrating growth and marked tendency to recurrence make it perfectly clear how important an early and exact diagnosis is for the final therapeutical result. The frequent recurrences which even after radiological therapy can occur several years after the removal of the tumour, often lead to continually

larger and more mutilating operations up to entire upper jaw resection, and demand an early and effective action as well as strict control several years after the termination of treatment. A clinical diagnosis is often not possible without resorting to diagnostic aids. In the early stages a malignant tumour may have a relatively innocent appearance, but not infrequently its true nature can be revealed by a röntgenogram which shows invasion of the bone in the hard palate. On the whole one should not omit taking a röntgenogram in any case of palatal tumour. In doubtful cases a trial radiation with röntgen or radium will be useful. Even if most cases of mixed tumours of the salivary glands are rather radioresistant, the malignant forms will as a rule, show distinctly greater radiosensitivity. Biopsy is the diagnostic aid which seems to lie nearest. As far as can be judged, however, this entails certain not quite harmless disadvantages. It has thus been emphasized that the trial incision can act as an irritant inciting the growth of the tumour; and at the same time extension of the tumour via lymph streams which are opened during the procedure cannot be avoided. Even a trial puncture, often giving uncertain results, seems not to be unharmful. AHLBOM also warns against trial incision of encapsulated tumours as this increases in no little degree the difficulty of complete removal of the tumour later. Moreover he is of the opinion that a biopsy is only permissable in cases of malignant tumours where ulceration is present, and then only under a course of radiological treatment. The correct procedure may be to arrive at a clinical diagnosis which is later verified by a histological examination of the operation preparation. In doubtful cases, where a biopsy is considered unavoidable, a large incision should be made followed by a quick histological examination, eventually with the use of frozen sections in order that therapy may be proceeded with as soon as possible.

In those cases where a malignant tumour has an opportunity of developing without disturbance or defies any form of therapy, the respiration, speech and swallowing restrictions and intoxication will gradually reduce the patient's general condition almost to a state of cachexia. Death is usually due to an intercurrent disease, often a broncho-pneumonia.

Every mixed tumour of the salivary glands should be removed. Formerly, therapy was purely surgical, but now extirpation alone is usually reserved for the small, well defined, easily enu-

cleated benign tumours. As mentioned, mixed tumours of the salivary glands are rather radioresistant, but the malignant and to a certain extent the semi-malignant forms, probably on account of the increased content of epithelial tissue, have shown such radiosensitivity that a combined surgical radiological treatment has come to the foreground during the recent decades. This method has proved to give better and more lasting results than surgical therapy alone. Simultaneously the recurrence procentage has been less.

The radiotherapeutical technique varies considerably, although at most clinics both preoperative, eventually intratumoural, and postoperative treatment is given. Radium is mostly employed, but röntgen also seems to give good results. The advantages of preoperative radiotherapy are evident as the tumour usually diminishes in size, thereby increasing the chances of a radical removal and at the same time enabling one to operate while the cells are in a phase of reduced activity. Preoperative radiological treatment is administered in such small doses that the reaction of the mucous membranes does not in any way hinder a primary healing or increase the danger of infection. The malignant tumours are removed as radically as possible, electrosurgical methods being often employed. Any remnants are sutured, if possible, after the postoperative radiological treatment is terminated, or covered with a prothesis. The postoperative treatment, not infrequently given in the form of local radium packs corresponding to the tumour's earlier site, is often carried out in several seances. Frequent and accurate control is part of the treatment. Although purely radiological therapy without operative removal of the tumour seems to give good results, this form of therapy is usually confined to cases of large inoperable tumours of the palate for palliative reasons. It may also occur that a previously inoperable tumour becomes operable during such treatment. In rare cases where there is a suspicion of metastases in the lymphoid gland region the radiological treatment is extended so as to include these, if necessary the treatment is combined with lymph node dissection.

After introduction of the combined surgical-radiological therapy, the benign mixed tumours of the salivary glands in the palate offer a very good prognosis. The same applies to the semi-malignant forms, but in a more limited degree, as tumours in this group can recur in spite of the best possible therapy. How-

ever, with thorough control and an early and effective intervention of any recurrences appearing, the prognosis for these tumours can also be characterized as good. The prospects are not so good for malignant tumours, but seen in relation to many other malignant forms the prognosis is not so poor. A correct prognosis can, however, only be given for each individual case, as the tumours' histological structure and the stage at which there is an opportunity of intervention are decisive factors. AHLBOM reckons with a complete cure of about 25 % after 5 years for all malignant mixed tumours of the salivary glands, while the prognosis for the ectopic localizations seems somewhat better.

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Summary.

After a short report on the histology and histogenesis of mixed tumours of the salivary glands, the author draws attention to the relatively frequent occurrence of these tumours in the palate. In this connection the essential literature on the subject has been reviewed.

Reference is made to two cases observed by the author, the first being a typical benign mixed tumour, whilst the tumour in the other case was an obviously semi-malignant type. A brief account of the diagnosis, differential diagnosis, therapy and prognosis is given. The author points out the importance of an early and correct clinical-histological diagnosis, if necessary with the use of diagnostic aids such as röntgen, radiological trial radiation and biopsy. The treatment is combined surgical-radiological.

Zusammenfassung.

Die Histologie und Histogenese der Mischgeschwülste der Speicheldrüsen wird kurz besprochen. Der Verf. macht auf die relativ häufige Lokalisation diesen Geschwülste im Gaumen aufmerksam. Zwei vom Verf. beobachtete Fälle werden referiert, ein typischer Mischgeschwulst von benigner Natur, und ein Tumor der augenscheinlich zu dem semi-malignen Typus gerechnet werden muss. Diagnose, Differentialdiagnose, Therapie

und Prognose dieser Gaumentumoren wird behandelt. Die Bedeutung eine frühe und exakte klinisch-histologische Diagnose wird pointiert, wenn nötig unter Anwendung von diagnostischem Hilfsmittel wie Röntgenphotographie, Probebestrahlung mit Röntgen oder Radium und Biopsie. Die Behandlung ist kombiniert kirurgisch-radiologisch.

Résumé.

Après une courte mention de l'histologie et de l'histogenèse des tumeurs mixtes des glandes salivaires, l'auteur attire l'attention sur l'existence relativement fréquente de ces tumeurs dans le palais, et, en connexion avec cela, la littérature la plus essentielle sur ce sujet a été étudiée. Il est référé deux observations personnelles de l'auteur, l'une était une forme typique d'une tumeur mixte bénigne tandis que la tumeur de l'autre observation était évidemment du type semi-malin. Il est brièvement rendu compte du diagnostic, de la thérapie et de la prognose de ces tumeurs du palais. L'auteur fait ressortir l'importance d'un diagnostic clinique-histologique précoce et exact, en utilisant éventuellement les moyens diagnostiques d'aide comme les rayons X, les irradiations d'essai et la biopsie. Le traitement est combiné: chirurgical et radiothérapique.

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