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METASTATIC CARCINOMA OF THE MANDIBLE

TWO CASES

by

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Most authors agree that metastatic carcinoma of the jaws from distant primary tumours is rare (1, 2, 3, 4), even though metastatic carcinoma is the most common malignant tumour in the skeleton as a whole.

This could partly be due to the relatively compact nature of the tissues of the jaws. On the other hand, it is not unlikely that metastases to the jaws occur more frequently than is believed because they are not looked for routinely clinically, radiologically, or at autopsy.

Most of the reported cases seem to represent metastases localized to the distal part of the mandible. This can be explained by the fact that there is relatively more cancellous bone here.

Reviews covering the years from 1902 to 1958 (5, 6) reveal 240 published cases of metastases to the jaws. The primary tumour was usually found in the thyreoid, breast, kidney, lung, prostate or in the gastrointestinal tract.

The following cases are presented to illustrate that it is important for dentists to be aware of the condition and in order to stress the difficulties of early diagnosis in such cases.

CASE HISTORIES

Case No. 1

The patient was a 65 year old man. Except for a long history of maxillary sinusitis he had previously been well.

The present illness started with a painful swelling of the gingiva in the region of the second right lower premolar. The lesion was regarded as inflammatory and the swelling incised. The patient received antibiotics without appreciable effect.

A new incision was carried out one week later by an oral surgeon. X-ray examination of the lower jaw (extraoral film) revealed no structural changes.

A further week passed and then the patient consulted an oto-rhino-laryngologist who found considerable inflammation and a firm swelling in the region of 5—.*) The swelling had ulcerated on the lingual side. Under the middle part of the body of the right mandible there was a firm, ill-defined almost painless tumour approximately the size of a hen's egg. The tumour appeared to be adherent to the mandible. Large doses of antibiotics were given during the next week, again without appreciable effect. No definite bone destruction was seen on radiographs apart from changes around the apices of 6— interpreted as a root granuloma. In spite of this tentative diagnosis of an inflammatory lesion a biopsy (No. 7220/62) was taken. This confirmed the diagnosis of chronic inflammation.

At this time, four weeks after the start of his illness, the patient was febril, the ESR = 30 mm, WBC = 3900 with a shift to the left. Blood cultures were negative. X-ray examination showed a calcified primary focus in the right lung. Other general findings were negative. An intraoral x-ray examination showed several root-filled teeth in both jaws.

The teeth in the area of the swelling were extracted and a second biopsy (No. 7479/62) taken. This showed connective tissue with marked inflammatory changes and massive growth of undifferentiated tumour cells. The cells were large and irregular, with clear cytoplasm, much variation in nuclear staining and some mitoses. The first biopsy was revised and in addition to the inflammatory changes an area was found in which some striated muscle was infiltrated by similar tumour tissue, Fig. 1.

*) According to the Haderup dental stenography + indicates the upper jaw, — the lower jaw. If the sign is placed on the right of the figure, the right tooth is indicated and *vice versa*.

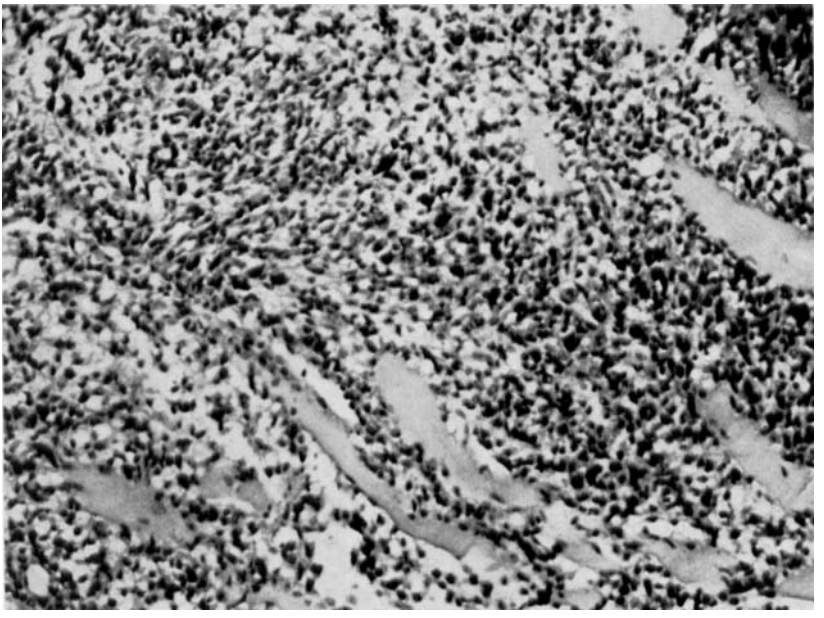

Fig. 1. Biopsy from a swelling in the region of the second right lower premolar in a 65 year old man. In addition to connective tissue with marked inflammatory changes, there is massive growth of undifferentiated tumour cells that also infiltrate striated muscle. The tumour cells are large and irregular, with clear cytoplasm, much variation in nuclear staining and some mitoses. This proved to be a metastasis from the undifferentiated bronchial carcinoma shown in Fig. 2. (H — E. × 150).

The diagnosis of an undifferentiated malignant tumour, possibly a sarcoma, was made.

The patient received local x-ray therapy to the lower jaw. The swelling regressed considerably but his general condition deteriorated and he died two weeks later; six weeks after the start of his illness.

Autopsy (No. 533/62) showed a tumour in the lower lobe bronchus of the right lung, with metastases to the pleura and the hilar and mesenteric lymph nodes.

Microscopy showed, Fig. 2, undifferentiated tumour tissue with large groups of cells, mostly spindle-shaped with varying amounts of eosinophilic cytoplasm and some areas of keratinization. There

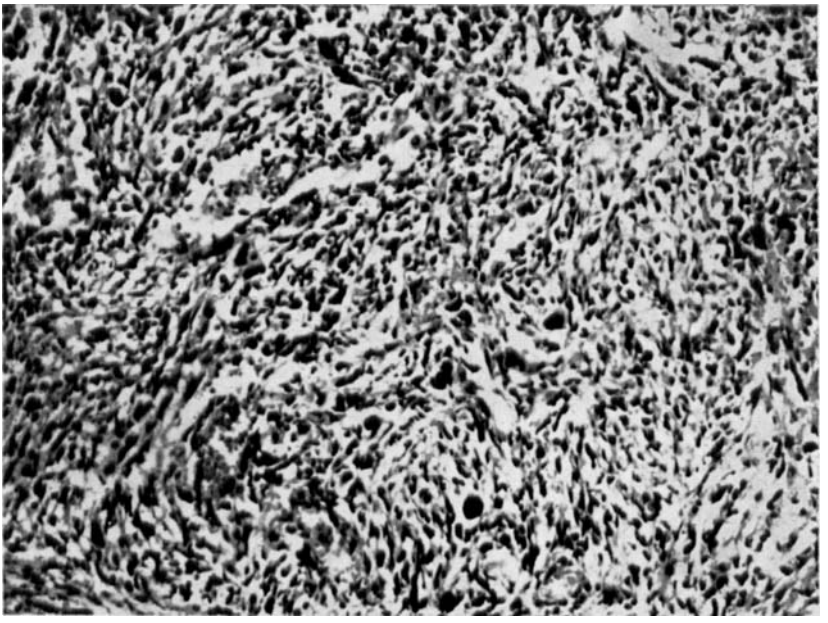

Fig. 2. Autopsy finding in the case presented in Fig. 1. Microscopy of a tumour in the bronchus to the lower lobe of the right lung revealed undifferentiated tumour tissue with large groups of cells, most of which were spindleshaped with varying amounts of eosinophilic cytoplasm and some areas of keratinization. There were considerable nuclear variations and many tumour giant cells. A diagnosis of undifferentiated bronchial carcinoma of epidermoid type was made. (H — E. × 150).

were considerable nuclear variations and many tumour giant cells.

The similarity of the tumour tissue taken from the jaw was marked. In view of the autopsy findings the previous biopsy diagnosis was revised to metastasis from an undifferentiated bronchial carcinoma of epidermoid type.

Case No. 2

The patient was a 50 year old man who had previously been well. His illness began in December 1956 when on several occasions he noticed blood in his urine. The diagnosis of renal tuberculosis was considered most likely and tuberculostatic therapy started. Repeated investigation of urine, expectorate and lar-

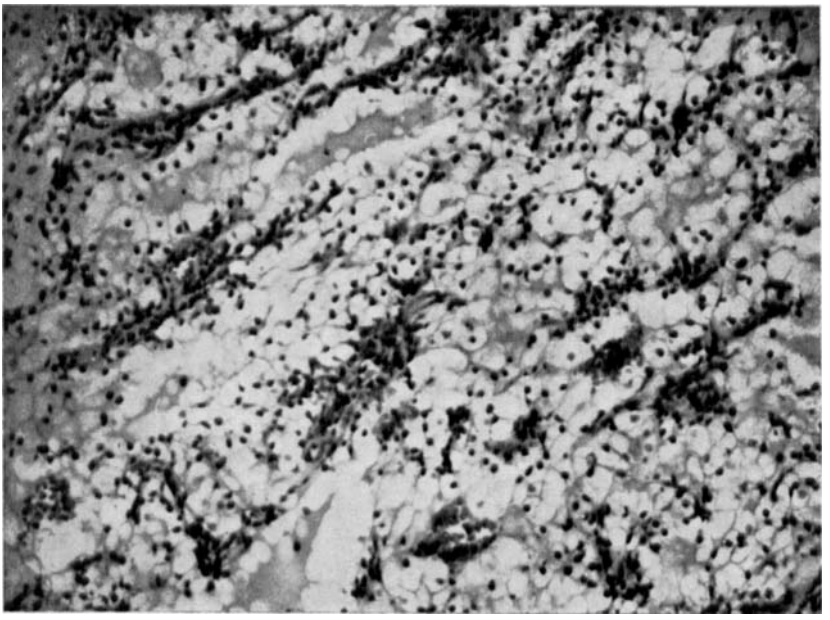

Fig. 3. Biopsy from a renal tumour in a 50 year old man showing a renal carcinoma of the clear cell type. The tumour tissue consists of groups of large cells with clear cytoplasm and small nuclei separated by narrow strands of connective tissue. (H — E. × 150).

yngeal swabs failed to reveal the presence of tubercle bacilli. However, his haematuria continued and in September 1957 an aortography was carried out. This showed a vascular tumour in the right kidney and a diagnosis of hypernephroma was made. The diagnosis was confirmed at operation and histologically (Biopsy No. 5266/57), Fig. 3. It was also found that the tumour had spread into the renal vein.

A year later there was no sign of metastases. In November 1961 the patient complained of pain in his left temporo-mandibular joint and x-ray examination showed arthrosis with possible effusion. In March 1962 he developed a transient swelling in front of his left ear. In May this recurred and persisted. Radiographs taken in June showed extensive osteolytic destruction of the left mandibular ramus and the articular process. Other skeletal radiographs were negative but a possible single meta-

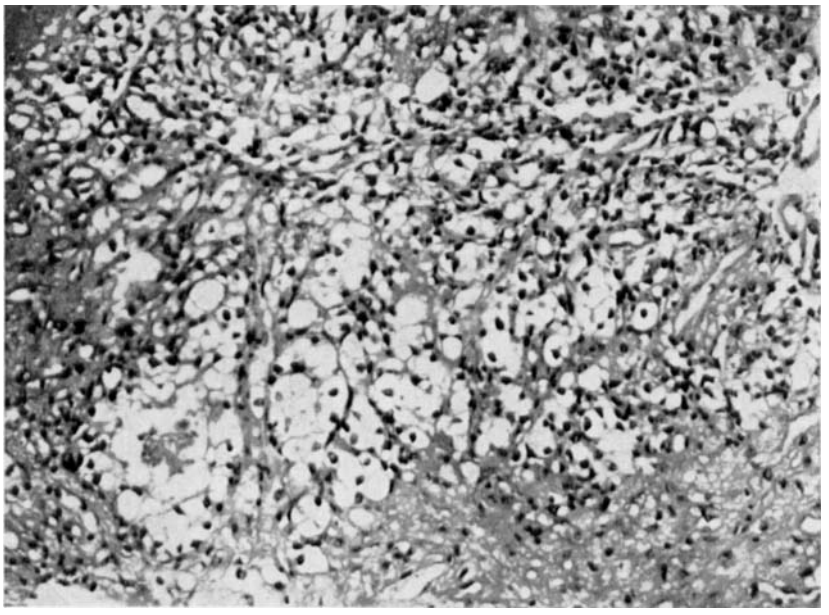

Fig. 4. Biopsy from a swelling in the jaw presenting 4 years after the removal of the renal tumour shown in Fig. 3. The microscopic picture is similar to that of the primary renal carcinoma. (H — E. × 150).

stasis was seen in the lower lobe of the right lung. The general condition of the patient was, however, good.

A biopsy from the swelling in the jaw showed tumour tissue (Biopsy No. 5671/62) similar in structure to that of the primary renal tumour, Fig. 4.

The patient was given x-ray treatment to the left side of the jaw and a year later there appeared to be some regression of the process in the mandibular ramus. However, some signs of destruction were seen in the walls of the left maxillary sinus for which further radiotherapy was given.

In April 1964 the condition, both local and general, was unchanged, although the patient was troubled by xerostomia.

DISCUSSION

The first case illustrates the possibility that a malignant tumour can present with symptoms from a metastasis in the jaw. The most common symptoms in such cases are said to be pain, swelling, paresthesia and loosening of the teeth.

The patient first consulted his dentist complaining of pain and swelling of the gingiva in the region of 5—. The condition was interpreted as local inflammation and treated with antibiotics.

The radiological findings can vary, but one would as a rule expect to see signs of an osteolytic process. However, some metastatic carcinomas, for example prostatic carcinomas, can give osteosclerotic areas. In the present case the radiological findings were not characteristic.

An early diagnosis can only be made from a biopsy. If the tumour is undifferentiated as in the present case it may, however, be difficult to determine the site of the primary tumour.

Once a definite metastatic tumour has been found the prognosis is grave, but cases of long survival after surgical treatment of a primary tumour and a solitary metastasis are on record.

In all events early recognition of a metastasis may protect the patient from uncomfortable and avoidable treatment.

In the second case the patient was symptom-free for over four years after the radical treatment of his primary tumour before the first symptoms of a metastasis appeared in the lower jaw. This secondary tumour could possibly have been removed radically, particularly as it was a metastasis from a hypernephroma which relatively often give solitary metastasis. However, at about the same time a possible metastasis was also seen in the lung. So local radio-therapy to the jaw metastasis was chosen.

The present cases remind us that one should think of the possibility of a metastasis when one is confronted with symptoms from the jaws presenting diagnostic difficulties.

A full history and thorough general examination, and last but not least, a representative biopsy are important for an early diagnosis.

SUMMARY

Metastatic carcinoma of the jaws is considered rare. Two cases are presented; an undiagnosed, undifferentiated epidermoid bronchial carcinoma presenting with symptoms from a metastasis in the mandible, and a metastasis from a renal carcinoma that presented 4 years after the primary tumour had been removed.

RÉSUMÉ

ÉPITHÉLIOMAS SECONDAIRES DES MAXILLAIRES. DEUX CAS.

Les épithéliomas secondaires des maxillaires surviennent rarement. On en présente deux cas; un épithélioma épidermoïde, anaplastique de la mâchoire provenant d'une tumeur bronchique cliniquement non diagnostiquée. L'autre cas fût une metastase d'un épithélioma rénal se manifestant 4 ans après l'ablation de la tumeur primitive.

ZUSAMMENFASSUNG

KIEFERMETASTASEN VON KARZINOMEN. ZWEI FÄLLE.

Karzinommetastasen zu den Kieferknochen sind selten. Zwei Fälle werden beschrieben. Der eine Fall ist ein undiagnostisierter, wenig differentierter Bronchialplattenepithelgeschwulst, der sich durch einer Metastase im Unterkiefer manifestierte. Im zweiten Falle handelt es sich um eine Metastase von einem Nierenkarzinom, die sich 4 Jahre nach der Entfernung des Primärgeschwulsts zukennen gab.

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