

From:
The Department of Pathology,
Dental Faculty,
University of Oslo,
Norway

SQUAMOUS CELL CARCINOMA ARISING IN MANDIBULAR CYST REPORT OF A CASE

by

TORVALD STOKKE
HANNA S. KOPPANG

INTRODUCTION

Malignant development of the epithelium of dental cysts is a rare incident. In a review of all available literature on this subject, *Falkmer, Herberts and Olvén* (1957) concluded that only 8 out of 48 reported cases could be accepted as carcinomas developed in dental cysts. The possibility of a secondary invasion of a dental cyst by an adjacent malignant tumor, or a cystic degeneration in an intraalveolar carcinoma, must be excluded before the diagnosis of malignant transformation in a dental cyst can be considered as verified (*Bradfield & Broadway, 1958; Bernier, 1960; Banerjee, 1967*).

In the last decade a few new cases have been reported. *Banerjee* (1967) collected 6 cases from the literature without attempting critical appraisal, and added one case of his own.

CASE REPORT

A 90-year-old woman was referred to the Clinic for Oral Surgery and Medicine in Oslo, because of a swelling in the right mandible. The swelling had been present for 2—3 months. She had never been seriously ill.

Local examination revealed a swelling the size of an egg, located in the bicuspid-molar region of the right mandible. Only the front teeth were present. X-ray examination showed a well-circumscribed cystic cavity extending to the

lower margin of the horizontal ramus. The X-ray picture was consistent with a residual dental cyst. The possibility of an ameloblastoma could not be excluded.

The cyst was incised, and a biopsy from the cyst wall was examined histologically, showing an inflamed cyst wall with a squamous cell lining. No evidence of malignancy was found. The incision opening closed, and a larger fenestration was carried out about 3 weeks later. The histological examination of this excised specimen revealed a squamous cell carcinoma (Fig. 1).

No other cancer manifestations could be demonstrated. The age of the patient and a condition of senile dementia made radical surgery as well as curative radiotherapy inadvisable. The condition was treated as a simple cyst.

About 4 months later the patient contracted a fracture of the right femur and was admitted to the Municipal Hospital. However, her general condition deteriorated rapidly, and she died 2 weeks later from a purulent tracheobronchitis.

The post mortem examination revealed no cancer-suspect areas in the oral cavity, and no metastases. The femur fracture was a traumatic one.

The right mandible was removed *in toto*. The cyst cavity measured $3 \times 2.5 \times 1.5$ cm and contained soft masses. The histological examination of the cyst wall (Fig. 2) showed regular squamous epithelium in the areas adjacent to the oral cavity. In other parts of the cyst the epithelium was replaced by a squamous cell carcinoma. The tumor tissue grew into the cyst cavity as a papillomatous projection, and infiltrated deep into the cyst wall but not into the surrounding bone.

The squamous cell carcinoma was confined only to a part of the cyst wall. A cystic degeneration in a primary intraalveolar carcinoma might be excluded as large areas of the cyst were covered by normal cyst epithelium.

Thus this case must be considered as a verified occurrence of a squamous cell carcinoma arising in a residual dental cyst.

Acknowledgement

The authors are indebted to Professor Eigil Aas, Dr. Odont., Clinic for Oral Surgery and Medicine, Dental Faculty, University of Oslo, and to Professor Kr. Arnesen, Dr. Med., and Dr. E. Berntzen, Department of Pathology, Oslo Municipal Hospital, for clinical informations and access to the postmortem report and material.

SUMMARY

A case of a squamous cell carcinoma arising in a mandibular dental cyst is reported. The diagnosis is verified by post-mortem examination.

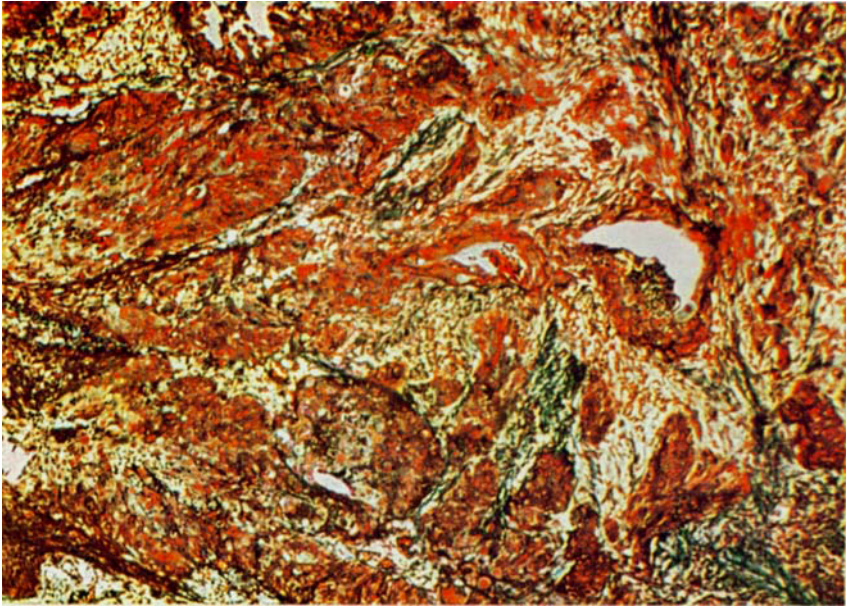


Fig. 1. Biopsy specimen. Epithelial tumor tissue infiltrates the cyst wall. Masson stain. $300\times$.

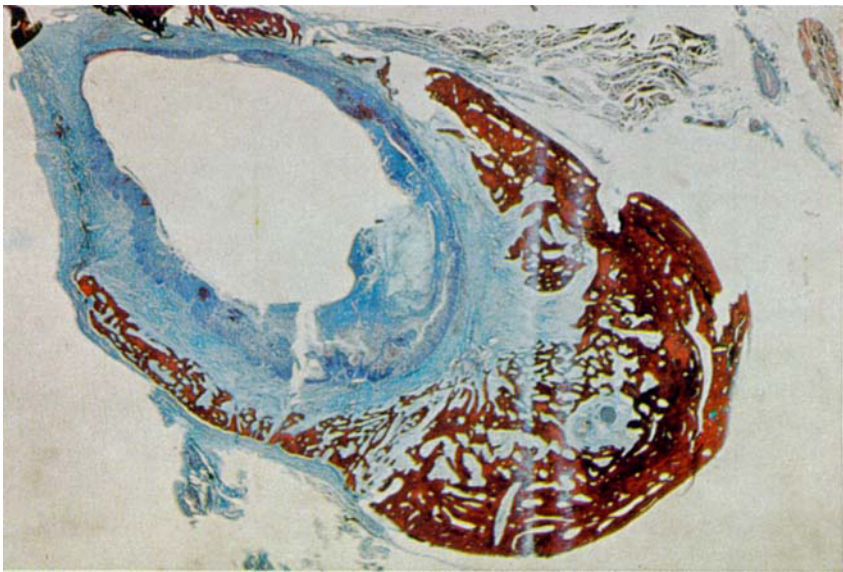


Fig. 2. Autopsy specimen. Decalcified section from the mandibula. Normal epithelium lines the cyst adjacent to the oral cavity, while carcinomatous proliferations are seen in deeper parts of the cyst. Masson stain. $4.5\times$.

RÉSUMÉ

EPITHÉLIOMA MALPIGHIIEN SPINO-CELLULAIRE SE DÉVELOPPANT DANS UN
KYTE MANDIBULAIRE

Les auteurs rendent compte d'un cas d'épithélioma malpighien spino-cellulaire se développant dans un kyste mandibulaire. Le diagnostic a été vérifié à l'autopsie.

ZUSAMMENFASSUNG

Ein Fall von Plattenepithelkarzinom in einer dentalen Zyste entstanden, wird berichtet. Die Diagnose wurde durch Autopsie bestätigt.

REFERENCES

- Banerjee, S. C.*, 1967: Squamous cell carcinoma in a maxillary cyst. *Oral Surg., Oral Med. Oral Path.* 23: 193—200.
- Bernier, J. L.*, 1960: Tumors of odontogenic apparatus and jaws (Atlas of tumor pathology), Armed Forces Institute of Pathology, Washington.
- Bradfield, W. J. D.*, & *E. S. Broadway*, 1958: Malignant change in a dentigerous cyst. *Brit. J. Surg.* 45: 657—659.
- Falkmer, S.*, *G. Herberts*, & *S. Olvén*, 1957: Carcinoma arising in odontogenic cysts of the jaw. *Odont. T.* 65: 220—231.

Address:

*Department of Pathology,
Dental Faculty,
Geitmyrsvn, 69,
Oslo 4,
Norway*