A Case of Ameloblastoma Undergoing Changes Simulating a Squamous Cell Carcinoma

by


BERNIER [1] has shown that some ameloblastomas, particularly the acanthomatous type, may undergo metaplastic changes simulating a squamous cell carcinoma. According to him, a mistaken diagnosis may be made when the metaplastic change is marked. This report would deal with a case of ameloblastoma where the change to squamous type of epithelium appears to be quite marked. NIIKUNI et al. [2] have recently discussed the various problems encountered in the treatment of ameloblastomas. They have also shown a case which they suspected as atypical adamantinoma with complication of endothelioma and cancer. The same authors have cited reports of some ameloblastomas which became malignant. Whether the present case to be reported can be still regarded as benign or malignant from histological viewpoint seems to be an open question.

A surgical specimen, Fig. 1, with a tentative diagnosis of ameloblastoma was received in our laboratory for microscopic examination. The specimen was decalcified and sections were made in the retromolar region where a greater part of the lesion is located. Fig. 2 is a section showing typical ameloblastic follicles with the cuboid epithelium at the periphery and the stellate reticulum at the center. It may be noted that pseudopearl formation is taking place in some of the follicles. This type of ameloblastoma is generally classified as the acanthomatous type. Fig. 3 is a certain portion of the tumor mass showing two forms of distribution of the tumor cells marked areas A and B, respectively. In area A, the tumor cells are still arranged or distributed in the form of ameloblastic follicles, but in area B, the tumor cells are no longer arranged in the form of a typical ameloblastic tumor. A higher magnification of the cells in area B is shown in Fig. 4. It may be noted that the cells are becoming chromatic and pleomorphic with some of them undergoing mitosis. Notice may be made also of the absence of the cuboid epithelium at the periphery of the mass or adjacent to the connective tissue stroma marked X. Fig. 5 is another portion of the tumor mass showing three distinct areas marked A, B and C, respectively. The cells in area B appear to be the result of the proliferation of the stellate cells from the ameloblastic follicles in area A. This proliferation of the stellate cells seems to be the first sign of the metaplastic change of

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Editor's note:

In the present Issue we have the pleasure of presenting to our overseas readers a valuable contribution from a Philippine scholar. The paper is prepared by Dr. Victorino G. Villa, Professor of Oral Histology and Oral Pathology in University of the Philippines. Dr. Villa should be commended on his initiative in approaching our Journal with the submittal of his paper. We always welcome any contributions from our enthusiastic readers.
the ameloblastic cells. In area C, the tumor cells seem to separate from each other and to have increase remarkably in their size. A higher magnification of the cells in area C is shown in Fig. 6. It cannot be definitely ascertained whether the condition of the cells can be regarded as the second sign or step of the metaplastic change of the ameloblastic cells. In some portion of the tumor mass, Fig. 7, the morphology and arrangement of the ameloblastic cells appear to resemble remarkably a certain form of squamous cell carcinoma.

**Comment**

Assuming that the changes of the ameloblastic cells noted in this report are proliferative changes and not degenerative changes, it is possible from histological evidence that this particular case of ameloblastoma may be developing into a malignant form. Villa [3] reported in 1958 a case of ameloblastoma, evidently developing into another type of neoplasm. Some of the ameloblastic cells appeared to be found inside a blood vessel indicative of metastasis. There was also the tendency of the cells to arrange themselves like squamous epithelium. It is interesting to note that, like the present case reported, the proliferating tumor cells come from the stellate reticulum of the ameloblastic follicles. Evidently, the peripheral cuboid epithelium does not participate in the proliferation. In the case cited, we noticed that the cuboid epithelium degenerates prior to the proliferation of the stellate cells.

If the cellular changes noted in the present case are simply metaplastic changes of a benign tumor without any significance tending toward malignancy, a biopsy made from those areas of the tumor mass where the tumor cells resemble remarkably squamous cell carcinoma is liable to give a mistaken diagnosis. However, it seems that there is need for further studies on the question as to whether or not ameloblastomas may become malignant. Result of such studies may be of some significance in our future treatment of ameloblastomas.

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**References**

Explanation of the Plates

Fig. 1. A photograph of the surgical specimen. Note the lesion in the retromolar region extended to the ascending ramus of the mandible.

Fig. 2. An area of the tumor mass showing typical ameloblastic follicles. Pseudopearl formation indicated by arrow. Approximately × 120.

Fig. 3. Certain portion of the tumor mass. Note the ameloblastic follicles in area A and the arrangement of the cells in area B. X-connective tissue stroma. Approximately × 120.

Fig. 4. Higher magnification of the cells in area B, Fig. 3. Note the pleomorphic and chromatic appearance of the cells. Mitotic figure indicated by arrow. X-connective tissue stroma. Approximately × 500.

Fig. 5. Another portion of the tumor mass. Cells in area B appear to be the result of the proliferation of the stellate cells in area A. Note the cells in area C originating from area B and separating from each other. Approximately × 120.

Fig. 6. Higher magnification of the cells in area C, Fig. 5. Note their morphology and size. Approximately × 500.

Fig. 7. Certain portion of the tumor mass. Note the resemblance of the tumor cells to certain form of squamous cell carcinoma. Approximately × 500.