ELLIS FISCHEL STATE CANCER HOSPITAL & CANCER RESEARCH CENTER
ORAL PATHOLOGY SEMINAR # 66 O.P.S. 79-2362

December 12, 1979

CASE HISTORIES

1 (78-880) Contributed by Charles Dunlap, D.D.S., University of Missouri-Kansas City, Kansas City, Missouri:

The patient is a 22-year-old male who had a tumor in the body of the right mandible. A biopsy was taken and the diagnosis of ameloblastoma was made. The jaw was resected and your slides are made from the resected specimen.
Included with this case are two photomicrographs (a medium- and low-power) of the original biopsy with the surgical specimen submitted for this conference.
We have also included two x-rays. One is the original x-ray which is slightly underexposed but you can see there is an unerupted molar tooth and a large multilocular radiolucent lesion occupying most of the body of the mandible. Also, just anterior and superior to the unerupted molar tooth, one can see a small oval dense spot within the tumor. The significance of this spot was not appreciated until after the operation was performed. An x-ray of the resected surgical specimen was taken but not until after a slice of the tumor was removed for pathologic examination. A copy of that x-ray is also included with this case.
The point we wish to make in this case is that the original biopsy showed what appeared to be a classic ameloblastoma but the surgical specimen showed a different tumor. We are interested in knowing if any participant in this conference has had a similar experience with an odontogenic tumor.

2 (79-12587-4) Contributed by Dr. George Fritz, Wesley Medical Center, Wichita, Kansas:

A 24-year-old female had an extremely radiodense, circumscribed lesion occupying much of the body of the left mandible in the cuspid premolar area. There were no symptoms and duration was unknown. The cuspid tooth was displaced to the inferior border of the mandible. A previous punch biopsy had been done and may account for the inflammation seen in your sections.

3 (79-675) Contributed by Charles Dunlap, D.D.S, University of Missouri-Kansas City, Kansas City, Missouri:

This 49-year-old male had a lesion on the lateral border of the tongue. The patient first noticed a lesion two weeks before he was seen. He thought he had inadvertently bit his tongue. It was painful for one week but became asymptomatic. Clinically, the lesion appeared as a raised, 1.0 x 0.5 cm lesion surrounded by red and white mucous membrane. It was excised and submitted for microscopic study.
Some of the late sections may show a mass that appears to be discontinuous with the surface. The original and best sections, (and we hope you all received one of these) showed a polypoid mass arising from the mucosal surface. (The surface nodule is not a floater).

CASE # 4 (78-47740) Contributed by Ronald W. Oxenhandler, M.D., Pathologist, Ellis Fischel State Cancer Hospital, Columbia, Missouri:

A 46-year-old white male noted an asymptomatic right postauricular mass one year before he sought medical advice. When he was first seen in Sept. of 1978, the mass was tender and painful. A diagnostic biopsy was taken.
He then received a radium implant (approximately 4800 rads in 3 days), decreasing the mass from 12 cm to 6 cm. He then underwent a right parotidectomy and radical neck dissection with 4/58 nodes positive.
This achieved local control and for ten months he was asymptomatic. In late Aug. of 1979, he complained of headaches and ataxix. The course has been that of CNS and pulmonary metastasis.

CASE # 5 (79-1034) Contributed by Charles Dunlap, D.D.S., University of Missouri-Kansas City, School of Dentistry, Kansas City, Missouri:

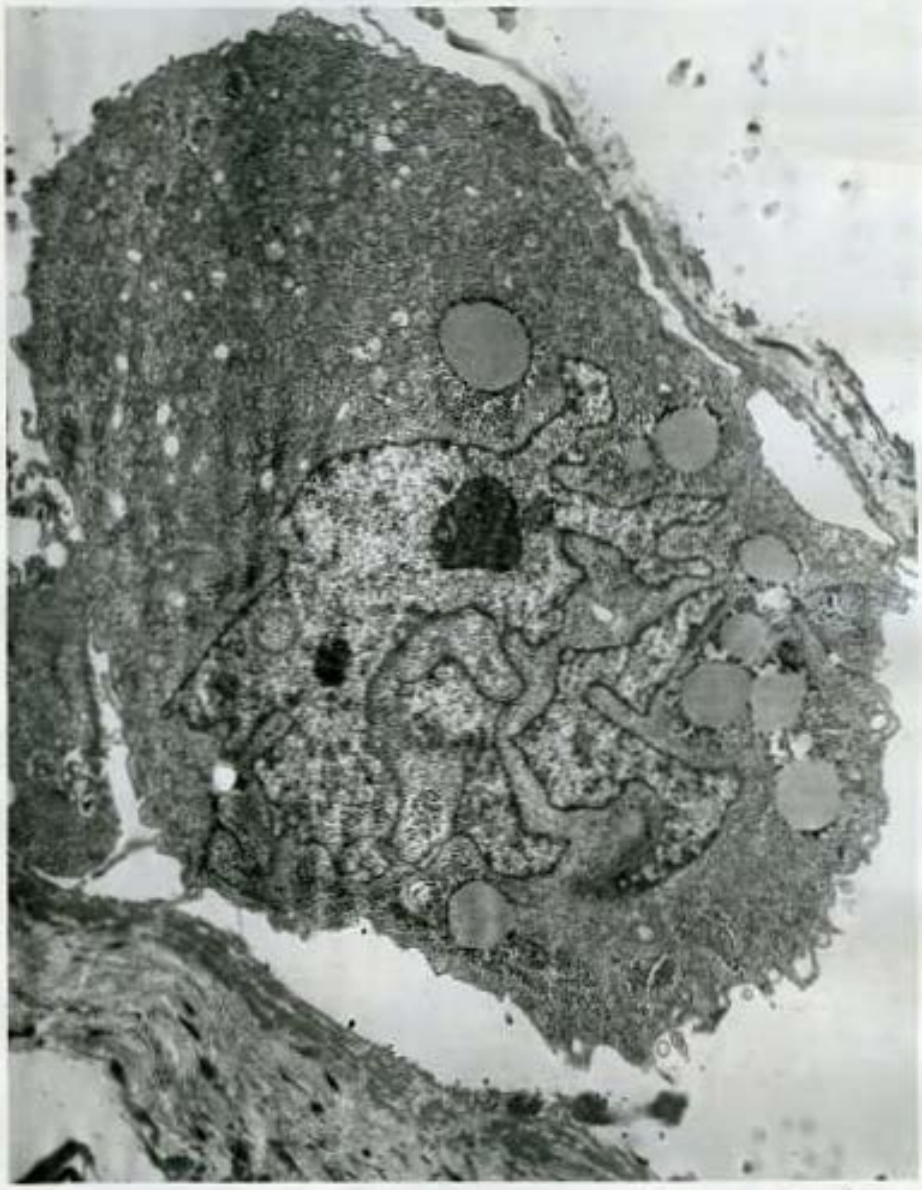
An 18-year-old boy noticed a swelling present for one month. It was about 1.5 cm and located in the left buccal sulcus of the maxilla. There was no history of trauma in the area. It is not possible to submit special stains with each case but a trichrome stain of the original biopsy showed that the cytoplasm of the elongated cells stained red. We would be interested in comments from participants in this seminar as to the reliability of the trichrome stain. (Does a red cytoplasm always indicate the tumor cell is a muscle cell?)

CASE # 6 (S-85264) Contributed by Ronald W. Oxenhandler, M.D., Pathologist, Ellis Fischel State Cancer Hospital, Columbia, Missouri:

A 20-year-old caucasian male had a primary submaxillary epithelial tumor resected in March of 1971, (S/P hemi mandibulectomy). In Nov. 1974, he had documented metastatic disease to bone and epidural space at the level of L-3 through 5. Bone metastasis were osteoblastic and painful. Pallative radiation therapy was given. He subsequently received Chemotherapy for suspected liver metastasis.
This case was presented at the O.P.S. on October 17, 1975. Case # 8.

CASE # 7 (79-48147) Contributed by Carlos Perez-Mesa, M.D., Chief Pathologist, Ellis Fischel State Cancer Hospital, Columbia, Missouri:

This 45-year-old caucasian male developed a "lump" in the region of the left submandibular area.
The "lump" was excised.



OPS 11-2362 Case #4 (75-4774a)

UNIVERSITY OF MINNESOTA
TWIN CITIES

Department of Laboratory Medicine and Pathology
Medical School
Box 609 Mayo Memorial Building
420 Delaware Street S.E.
Minneapolis, Minnesota 55455

December 7, 1979

Dr. Carlos Perez-Mesa
Department of Pathology
Ellis Fischel State Cancer Hospital
Columbia, MO 65201

Dear Carlos:

Here are my diagnoses for the forthcoming Oral Pathology Seminar:

CASE 1 - This section looks peculiar, but I still believe all the features present are consistent with residual ameloblastoma with secondary changes. I do not see a second tumor in this slide.

CASE 2 - Anywhere else in the skeletal system, this lesion would have qualified for an osteoblastoma. In this location, I guess it would be called a cementoma or cementifying fibroma.

CASE 3 - This lesion is highly suspicious of carcinoma with sarcoma-like stroma (so-called pseudosarcoma), but I cannot make it from this extremely small piece of tissue.

CASE 4 - I favor the interpretation that this bizarre tumor is an anaplastic adenocarcinoma. Whether it is arising from salivary gland, sweat glands or is metastatic, I cannot say.

CASE 5 - This looks like a neurofibroma with secondary changes of ulceration and inflammation. In reply to your question whether a red cytoplasm in a trichrome stains identifies a given cell as of muscle origin, the answer is a categorical no. The only selective staining provided by the trichrome methods is that of collagen. Everything else represents non-specific background staining. (J. Techn. Meth., 12:75, 1929; J. Histochem., 6:265, 1958)

CASE 6 - This slide was missing from my set.

CASE 7 - I see only chronic inflammation, with atrophy and fibrosis. I would wonder about lithiasis or a history of irradiation to the region.

Best regards,

Juan Rosai, M.D.
Director of Anatomic Pathology

JR:Jed

"OFFICIAL DIAGNOSIS"

ELLIS FISCHEL STATE CANCER HOSPITAL
AND CANCER RESEARCH CENTER
ORAL PATHOLOGY SEMINAR #67
O.P.S. 80-45
December 12, 1979

354

CASE # 1 (78-880)

AMELOBLASTIC FIBRO ODONTOMA
(Contributed by Charles Dunlap, D.D.S, and Bruce Barker, D.D.S., University of Missouri-Kansas City, Kansas City, Missouri)

Drs. Dunlap and Barker commented, "Some slides without enamel material should be designated as "ameloblastic fibro odontoma". Drs. Weathers from Emory and Meyer from Washington University designated the lesion as "Ameloblastoma". Dr. Hori from West Virgina calls it, "Hamartoma associated to an ameloblastoma". Drs. Azar from Tampa and LeGal from Strasbourg call it "Ameloblastic odontoma". Dr. Shafer from Indiana made the following comment: "We would call this something in the category of an ameloblastic fibroma or dentinoma or odontoma category. I personally think it more likely that we are dealing with two separate tumors here rather than one maturing into the other". Dr. Rowe from Michigan stated, "Soft odontome (old fashioned diagnosis still works), modern and correct diagnosis is ameloblastic fribro odontoma. This lesion was misdiagnosed from the very start". Dr. Rosai from Minnesota wrote, "Residual ameloblastoma with secondary changes". Dr. Abrams from USC made the following commentary: "The microscopic slide appears to represent an ameloblastic fibro odontoma. The photomicrographs show good ameloblastoma. The radiographs support a diagnosis of ameloblastoma. Therefore, I assume this must represent an example of one of those extremely rare, almost never seen "odontoameloblastomas". I have personally not received an example of such a tumor in our laboratory, however, the World Health Organization says that they occur". Dr. Tarpley from Bethesda calls it, "Epithelial odontogenic tumor with stromal induction - probably best classified as Pindborg or variant therof". Dr. Wesley from Detroit calls it, "Ameloblastic fibro dentinoma". Dr. Fay and his staff from Fort Bliss, TX stated, "No we have not seen an ameloblastoma and ameloblastic fibroma occuring together".

CASE # 2 (79-12587-4)

CEMENTIFYING OR OSSIFYING FIBROMA
(Contributed by Dr. George Fritz, Wesley Medical Center, Wichita, Kansas)

"Cementifying fibroma"was the diagnosis of Drs. Hori from W.V., Tarpley from Bethesda, Wesley from Detroit, and Shafer from Indiana. Dr. Rosai commented, "Anywhere else in the skeletal system, this lesion would have qualified for an osteoblastoma. In this location, I guess it would be called a cementoma or cementifying fibroma". Drs. Azar from Tampa and LeGal from Strasbourg perfer to call it, "Osteoid osteoma". Drs. Fay from Fort Bliss, TX and Abrams from USC call it, "Ossifying fibroma".

CASE # 3 (79-675)

SPINDLE CELL CARCINOMA
(Contributed by Bruce Barker, D.D.S. and Charles Dunlap, D.D.S., University of Missouri-Kansas City, Kansas City, Missouri)

The diagnosis of "Spindle Cell Carcinoma (Lane's Tumor)" was the diagnosis of Drs. Shafer from Indiana, Wesley from Detroit, Azar from Tampa, amoung others. However, there are some dissenting views. Dr. Hori from W.V. commented, "Ulcerated neurofibroma - Atypical hyperplasia of epithelieum". Dr. Abrams from

"OFFICIAL DIAGNOSIS"

USC made the following comment: "I believe this is an example of the so-called pseudosarcoma in association with mucosal dysplasia. Although there is considerable cellular atypia in the polypoid mass I do not believe this represents malignancy, either sarcoma or spindling carcinoma". Dr. LeGal from Strasbourg wrote, "I don't believe it is some kind of sarcoma. Most of the nuclei are picnotic. The rest have clear nuclei. I have not found any mitosis. To me it is a pseudotumor akin to a pyogenic granuloma but with an excess of fibrous tissue, benign". Dr. Meyer from Washington University commented, "Squamous dysplasia and pyogenic granuloma". "Pseudosarcoma" was Dr. Fay's diagnosis. Dr. Fay sent a reference from a recent paper, Am. Journal of Surg. Path. 3:397-404, 1979 by Glasser et al.

CASE # 4 (78-47740)

POORLY DIFFERENTIATED ADENOCARCINOMA
(Contributed by Ronald W. Oxenhandler, M.D., Pathologist, Ellis Fischel State Cancer Hospital, Columbia, Missouri)

The diagnosis of "Adenocarcinoma of various degrees of differentiation" was the opinion of Drs. Rosai from Minnesota, Azar from Tampa, Abrams from USC, and Fay from Georgia. Some members of Dr. Fay's staff thought that this was a "metastatic lesion". The diagnosis of "Liposarcoma" was entertained by Drs. Hori from W.V. and Meyer from Wash. Univ. Drs. Shafer from Indiana and Tarpley from Bethesda consider in the diagnosis, "Malignant fibrous histiocytoma vs. pleomorphic liposarcoma". Dr. Weathers from Emory consider it as, "Malignant histiocytic lesion". Dr. Rowe from Michigan calls it, "Rhabdomyosarcoma". Drs. Barker and Dunlap from Kansas City call it "Poorly differentiated adenocarcinoma". Dr. LeGal made the following commentary: "I feel like the first "microscopists" with the poor technic and poor optical systems of this time, they could not distinguish between cells or parasites!!! or they would describe parasites in cells...!. The first idea is a mucinous carcinoma of a salivary gland with isolated cells akin to the so called "linitis plastica" of the stomach. Or it could be a metastasis of this variety of cancer in a lymph node. But looking at the cells, I just give up. I know of one neoplasm with nearly as fancy cells, the chordoma. But it practically never metastasize. So, I give up again". Drs Matsumoto, Burns, Banner, Ready, Ortis, and Fay from Fort Bliss, TX call it, "Primary mucinous adenocarcinoma". Dr. Jones feels it is a "Metastatic tumor". Dr. Reiman, the Electron Microscopist states that the photographs show "Malignant cells mucin producing".

CASE # 5 (79-1034)

REACTIVE OR PSEUDOSARCOMATOUS FIBROMATOSIS
(Contributed by Bruce Barker, D.D.S. and Charles Dunlap, D.D.S., University of Missouri-Kansas City, Kansas City, Missouri)

The lesion was seen by the AFIP and interpreted as "Reactive fasciitis". Dr. Shafer from Indiana calls it, "Nodular fasciitis". Drs. Rowe from Michigan and Wesley from Detroit call it, "Rhabdomyosarcoma". Dr. Weathers from Emory made the following comment: "This is a difficult slide. I suspect that this may represent a botyroid rhabdomyosarcoma but I would certainly like a number of sections before I committed myself to this on a real case. With regard to the use of trichrome stains, I must say that as in most special stains, they simply reveal what you don't know in a different color. They are sometimes an aid but subject to interpretation just as is an H&E slide. They are certainly not a definitive diagnostic tool. One must also remember that the trichrome is a stain for collagen and not muscle. The later is only an indirect feature. Also

this stain works well with normal tissue, however, depending on the degree of abnormality in differentiation of the tumor, the cells may or may not stain as the normal tissue. Furthermore we have seen cytoplasm of other tumors particularly neurogenic lesions which stain red with the trichrome. The PTAH stain is sometimes helpful in suggesting a muscle origin for a tumor". Most of the staff of Dr. Fay thought it to be, "Malignant rhabdomyosarcoma, but Dr. Fay thought it was benign myxoma". "Myxoma was the diagnosis of Dr. Hori from W.V. Dr. Rosai from Minnesota made the following commentary: "This looks like a neurofibroma with secondary changes of ulceration and inflammation. In reply to your question whether a red cytoplasm in a trichrome stain identifies a given cell as of muscle origin, the answer is a categorical NO. The only selective staining provided by the trichrome methods is that of collagen. Everything else represents nonspecific background staining". (J. Techn. Meth., 12:75, 1929; J. Histochem., 6:265, 1958) Dr. Tarpley from Bethesda commented, "Fibro-myxomatous "Reactive Lesion" 'pyogenic granuloma' do not believe this represents a malignant neoplasm. The trichroms stain is used by Enzinger at AFIP to demonstrate cross-striations in myoblasts". Dr. Azar from Tampa calls it, "Neurilemmoma". Dr. LeGal from Strasbourg made the following comment: "I am not at all convienced that the present case is a muscular sarcoma. I have not seen any embryonnal myoblast, any strap cell or any cross striated cell. To me it is again an abnormal granulation tissue and I presume it is benign. I have never considered that the red coloration of the cytoplasm of an elongated cell with a trichrome would characterize it as a muscular cell". Dr. Abrams made the following commentary: "I am not sure if this truly represents a neoplasm. I would favor a diagnosis of inflammed neurofibroma but it might even represent a reactive inflammatory process. I do not believe that the trichrome stain is particularly reliable as an indicator of histogenesis. Maybe this case represents a lesion of myofibroblastic cells". The entire pathology staff from Fort Bliss, TX call it, "Rhabdomyosarcoma". Dr. Matsumoto from UBAMC calls it, "Myoma".

CASE # 6 (S-85264)

(Contributed by Ronald W. Oxenhandler, M.D., Pathologist, Ellis Fischel State Cancer Hospital, Columbia, Missouri)

This patient's slides were discussed, O.P.S. # 52, Oct. 1975, Case # 8 and this is a Follow-Up.

This 20 year old Caucasian male had a primary, submaxillary epithelial tumor resected in March 1971. In approximately Nov. 1974, he was proven to have metastatic disease to bone and epidural tissue at the level of L-3 through L-5. At time of autopsy, he had extensive metastatic disease.
"The exact classification of this salivary gland tumor is difficult. It is perhaps best classified as a small cell anaplastic carcinoma with desmoplastic stroma, since no mucin was actually found within the epithelial cells of the primary tumor or it's metastasis", stated Dr. Oxenhandler.

CASE # 7 (79-48147)

IRRADIATION EFFECT
(Contributed by Carlos Perez-Mesa, M.D., Chief Pathologist, Ellis Fischel State Cancer Hospital)

This case was discussed simply because this patient has had an epidermoid carcinoma of the oral cavity being treated with radiotherapy. During the course of treatment a nodule was noted in the region of the parotid gland. The material that was submitted represents a portion of the salivary gland, which shows irradiation effect.