Case #1 (1753872) Contributed by Drs. Thomas M. Tarpley and Russell Corio, NIH, Bethesda, Maryland.

This 58 year old white female with status, post resection of right superficial lobe of the parotid gland in 1977 for a tumor in that region. The diagnosis at that time was Giant Cell Reparative Granuloma. The present admission has a recurrence of tumor in the right cheek extending over the right periorbital and mandibular angle. The mass is fixed, hard, non-tender, and fungating. The tumor also extends to the external auditory meatus, elevating the tragus.

Examination of the oral cavity revealed a hard smooth, well-defined mass that was palpable in the upper right cheek opposite the maxilla and extending posteriarily to the pterygoids.

Pre OP X-ray
- chest - Negative
- skull - Negative

Current X-ray
- TMJ and auditory canal bone destruction

Current X-ray mandible
- Absence of part of R mandible with psammoma bodies medial to the angle suggestive of parotid tumor.

Lab data
- Serum Ca. - 9.7 and alkaline phosphatase 154

Case #2 (S80-21734) Contributed by Dr. Bradley Arthaud, Boone County Hospital, Columbia, Missouri.

48 year old woman developed a lesion to the right midline in the mucosa of the hard palate. There has been two previous attempts prior to the present excision which extends down to the bone. The slides are representative of the lesion.

Case #3 (12/80) Contributed by Dr. Risto-Pekka Happonen, University of Turku, Turku 52 Finland.

The patient is a 47 year old lady who has nothing special in her anamnesis. In a routine X-ray examination a well demargated radiolucency with sclerotic margins was found in her right ramus. The radiological diagnosis was ameloblastoma or keratocyst. The lesion was excised in one piece with the covering mucosa to which it was attached. During the operation the walls of the bone cavity were cleaned with a large drill.
Case # 4 (77-1008) Contributed by Dr. Carlos Perez-Mesa, Ellis Fischel State Cancer Hospital, Columbia, Missouri.

Fifty-four year old caucasian female had a lesion in the right tonsil which measured 6 x 6 cm., firm, movable, and slightly ulcerated. With almost total obliteration of the oral pharynx extending slightly into both mouth and pharynx. The rest of the physical examination was negative.

Case # 5 (80-944) Contributed by Drs. Charles Dunlap and Bruce Barker, University of Missouri-Kansas City School of Dentistry, Kansas City, Missouri.

This 56 year old male first noticed a growth on the maxillary tuberosity one year ago. A large tumor mass was excised and submitted for microscopic study. There was no radiographic evidence of intrabony disease.

Case # 6 (80-1212) Contributed by Drs. Charles Dunlap and Bruce Barker, University of Missouri-Kansas City School of Dentistry, Kansas City, Missouri.

This 78 year old male had painless enlargement of the buccal and palatal bone in the maxilla. Pertinent medical history includes an accidental fall in July, 1978. X-rays showed a subtrochanteric fracture and coincidentally, he was also found to have radiographic changes consistent with Paget's disease in the pelvis and right femur. At that time, his alkaline phosphatase was 350 units (normal 30-115). Because of non-union of the fracture, bone grafting was performed in March 1979 at which time the alkaline phosphatase was reported to be 2,780 units.
November 20, 1980

Juan Rosai, M.D.
University of Minnesota Medical School
Department of Laboratory Medicine & Pathology
Box 609, Mayo Memorial Bldg.
420 Delaware Street S.E.
Minneapolis, MN 55455

Dear Juan:

We missed your diagnoses for the previous oral pathology seminar, particularly Case #1, from Honduras. During the discussion of the case the diagnosis of "histiocytoid hemangiomata" was considered. Will you make some comments about this case from the past seminar and send it with your diagnoses for the present one.

Sincerely,

Carlos Perez-Mesa, M.D.
Chief Pathologist

ksm

Enclosure
Dear Carlos:

I apologize for not having sent you my diagnostic impressions for the cases of the Oral Pathology Seminar #69. I believe that case 1 is clearly a glandular neoplasm. It has nothing to do with histiocytoid hemangioma or, for that matter, with any vascular tumor. In view of the location, I would assume that it is of minor salivary gland origin. I would like to think of this tumor as a very cellular pleomorphic adenoma; I just don't know how malignant it is.

Now as to the cases for the December seminar.

Case 1: Malignant giant cell tumor of salivary gland. I have seen two previous cases with a similar morphology. In one of them, there was clear cut evidence of a pre-existing pleomorphic adenoma. I think that this tumor is analogous to the ones that have been described in the pancreas and thyroid. I have the feeling that in most cases they represent metastatic carcinomas.

Case 2: Monomorphic adenoma of minor salivary gland origin. I have the suspicion that most of the cells exhibit myoepithelial differentiation. This also reminds me of the salivary gland tumor that Azzopardi recently described as characteristically composed of cells with an abundant "hyaline" cytoplasm.

Case 3: Low grade mucoepidermoid tumor.

Case 4: Squamous cell carcinoma with sarcoma-like stroma (so-called pseudosarcoma).

Case 5: Extra osseous adamantinoma. This is a very interesting phenomenon, which reminds me of cases that I have seen of adamantinomas in the leg, overlying the tibia but without osseous involvement.

Case 6: Paget's disease. The clinical history suggests to me the phenomenon of rapid dissolution of bone substance that has been reported in patients

My wife and I will be going to Argentina in two weeks to spend the Christmas holidays there. I hope to have a stay as pleasant as the one you had there two years ago.

Best personal regards,

Juan Rosai, M.D.
Professor, Laboratory Medicine and Pathology
Director of Anatomic Pathology
OFFICIAL DIAGNOSIS
ELLIS FISCHEL STATE CANCER HOSPITAL
AND CANCER RESEARCH CENTER
ORAL PATHOLOGY SEMINAR #70
O.P.S. 80-2064
DECEMBER 19, 1980

CASE #1 (1753872) MALIGNANT GIANT CELL TUMOR OF SOFT PARTS
Contributed by Drs. Thomas M. Tarpley and Russell Corio, NIH,
Bethesda, Maryland

There was diversity in the diagnostic impression among the consultants. The majority recognized the malignant nature of the neoplasm, however, with variations concerning histogenesis and/or location, the minority felt it was benign. A few comments at random:

Pindborg from Copenhagen called it, "Malignant giant cell tumor--osteosarcoma"?

Weathers from Emory stated, "Malignant giant cell tumor of soft parts. A most unusual lesion and certainly an osteosarcoma, or chondrosarcoma of soft tissues must also be ruled out. I presume this is not primary in bone extending outward."

Rowe from Michigan called it, "Giant cell variant of osteosarcoma."

Abrams from USC made the following commentary: "It is particularly difficult. The clinical characteristics and behavior certainly indicate malignancy, the precise origin of which seems difficult to identify. The history suggests parotid origin, but the histopathology is not compatible. Many areas resemble aneurysmal bone cyst but cellularity and areas of necrosis indicate something more ominous. Malignant giant cell tumor of a converted type is a possibility. The presence of what seems to be bone and/or cartilage would lead me to prefer a diagnosis of osteosarcoma. It could have originated from the lateral aspect of the ramus to simulate a parotid tumor initially. (We had a case that did exactly that.)"

Waterhouse from the University of Illinois stated, "Giant cell tumor, originally jaw. Alkaline phosphatase 1.5 implies wider involvement."

Batsakis from Maine called it, "Chondroblastoma with aneurysmal bone cyst."

Berthrong from Colorado Springs interpreted it as "aneurysmal bone cyst."
Toto from Loyola called it, "Chondrosarcoma."

Cornyn from San Antonio remarked, "Atypical Giant Cell tumor. Rule out chondroblastoma vs. pleomorphic adenoma with Giant Cell Elements."
White from Kentucky made the following comment, "If this is truly soft tissue in origin, then we feel this represents a malignant giant cell tumor of the soft parts described by Guccion and Enzinger. If primary in bone, malignant giant cell tumor of bone."

LeGal from Strasbourg wrote, "In spite of the classical saying there are no giant cell tumors of maxilla or mandible, I think this is another example of this rare lesion in this location. I have met the same diagnostic problem at least twice. Unfortunately, I have been unable to trace the post-operative evaluation. With this restriction, I shall call this lesion an aggressive or cytotologically giant cell tumor of bone."

Sprague from Nebraska made the following considerations, "Although I believe this case fits the general category of giant cell lesion, I get a strong suggestion of osteoid formation in the midst of the stromal and giant cell growth. I would favor a diagnosis of extraosseous osteosarcoma."

Rosai from Minnesota made the following commentary, "Malignant giant cell tumor of salivary gland. I have seen two previous cases with a similar morphology. In one of them there was clear cut evidence of a pre-existing pleomorphic adenoma. I think that the tumor is analogous to the ones that have been described in the pancreas and thyroid. I have the feeling that in most cases they represent metaplastic carcinomas."

Cardona Lopez from Honduras, Central America, preferred to call it granuloma giganto celular del maxilar.

This case was presented and discussed with the audience by Dr. Dunlap from University of Missouri at Kansas City who preferred to call it "malignant fibrous histiocytoma (giant cell variant)."

ASE #2 (S80-21734) MONOMORPHIC ADENOMA
Contributed by Dr. Bradley Arthaud, Boone County Hospital, Columbia, Missouri

This was the most popular diagnosis with minor semantic variations.

Rosai from Minnesota called it, "Monomorphic adenoma of minor salivary gland region. I have the suspicion most of the cells exhibit myoepithelial differentiation. This also reminds me of the salivary gland tumor that Azzopardi recently described as characteristically composed of cells with an abundant "hyaline" cytoplasm."
Happonen from Finland, Tarpley and Corio from NIH, Hori from West Virginia, among many, interpreted the lesion as "monomorphic adenoma."

Young and Glass from Oklahoma called it, "Monomorphic adenoma with one or two areas suggestive of mixed tumor."

Meyer from Jewish Hospital, Washington University, St. Louis, called it, "Monomorphic adenoma. I wonder if the interstitial material would stain as amyloid."

Batsakis from Maine stated, "Stain is poor but there are many (majority) of cells that are plasmacytoid "hyaline" cells. Myoepithelioma."

The staff from William Beaumont Army Hospital in Texas called it, "Monomorphic adenoma--myoepithelial type."

Abrams from USC said, "In spite of "two previous attempts" I would classify Case #2 as benign mixed tumor."

Costa from NIH, Dr Wesley from Detroit, and Drs. Dunlap and Barker from Kansas City called it, "Pleomorphic adenoma."

There were some consultants who considered the case as malignant:

White from Kentucky wrote the following: "Adenocarcinoma, the malignant expression of a pleomorphic adenoma. Has many areas of plasmacytoid myoepithelial cells. Does not look like the typical carcinoma arising in pleomorphic adenoma. Would like to see the slides of the original surgical specimen."

Pindborg from Copenhagen called it, "Carcinoma in pleomorphic adenoma."

Weathers from Emory wrote the following, "I would have to call this a low grade adenocarcinoma, not otherwise specified. It doesn't look too aggressive."

Lilly and the entire oral pathology staff from the University of Iowa called it "adenocarcinoma."

CASE #3 (12/80) WELL DIFFERENTIATED MUCOEPIDERMOID TUMOR
Contributed by Dr. Risto-Pekka Happonen, University of Turku, Turku 52, Finland

The predominant diagnosis was "mucoepidermoid carcinoma, a low grade malignancy of probably central location." A few commentaries are as follows:
Drs. Tarpley and Corio stated, "Mucoepidermoid carcinoma arising in odontogenic cyst."

White from Kentucky called it, "Central mucoepidermoid carcinoma."

Rosai from Minnesota called it, "Low grade mucoepidermoid tumor."

Greer from Colorado called it, "Central osseous mucoepidermoid tumor (carcinoma)."

Others considered the lesion as benign:

Batsakis from Maine called it, "Salivary duct inclusion cyst."

Wesley from Detroit stated, "Odontogenic cyst possibly residual periapical with the epithelial lining exhibiting mucous differentiation."

Pindborg from Copenhagen stated, "Mucous cyst adenoma."

Sprague from Nebraska stated, "Odontogenic cystic hamartoma. Can't agree with mucoepidermoid tumor."

Rose from Wichita called it, "Embryonic cyst."

LeGal from Strasbourg called it, "Dentigerous cyst." This was also the diagnosis of Costa from MIC.

Weathers from Emory stated, "This might be called a central mucoepidermoid cyst or a central mucoepidermoid tumor, although the distortion in the slide makes interpretation somewhat difficult. We have had the opportunity of seeing several central lesions of this type and while not overly aggressive, they certainly will recur if inadequately removed."

Dr. Bruce Barker from the University of Missouri at Kansas City presented and discussed this case. He felt that all histopathological criteria for the diagnosis of mucoepidermoid tumor or carcinoma were not present and that this represented a benign cystic lesion with mucous differentiation. Dr. Barker had presented an almost identical case in Seminar #60, Case #4. Diagnoses ranged from mucoepidermoid carcinoma to botryoid odontogenic cyst to odontogenic sialocyst. Dr. Barker prefers the diagnosis of odontogenic sialocyst as coined by Dr. Shafer and Associates of the University of Indiana. Botryoid odontogenic cyst was described by Weathers and Waldron in Oral Surgery 36: 235, 1973. This cyst, however, usually does not show mucous differentiation and the clear cells are glycogen rich. (See Attachment #1 for #60 seminar.)
CASE #4 (77-1008) EPIDERMOID CARCINOMA, SPINDLE CELL TYPE
Contributed by Dr. Carlos Perez-Mesa, Ellis Fischel State Cancer Hospital, Columbia, Missouri

This was the overwhelming diagnosis. During the presentation of the case, a biopsy from a metastatic lymph node in the right supraclavicular lesion was shown demonstrating the presence of areas with well-delineated, poorly differentiated epidermoid carcinoma as well as areas with a sarcomatoid appearance.

A dissenting minority considered other diagnoses including malignant fibroxantho sarcoma, pleomorphic liposarcoma, histiocytic lymphoma, epithelioid sarcoma, rhabdomyosarcoma, angiosarcoma, etc.

CASE #5 (80-944) EXTRAOSSEOUS AMELOBLASTOMA
Contributed by Drs. Charles Dunlap and Bruce Barker, University of Missouri-Kansas City School of Dentistry, Kansas City, Missouri

This was the overwhelming diagnosis. A few commentaries:

Dr. White from Kentucky wrote, "Peripheral spindle cell ameloblastoma. We had a case several years ago in the retromolar pad that histologically resembles Charlie's case very closely. It did not involve bone and after surgical excision has not recurred."

Rosai from Minnesota stated, "Extraosseous adamantinoma. This is a very interesting phenomena which reminds me of cases that I have seen adamantinomas of the leg, overlying the tibia but without osseous involvement."

Tarpley and Corio from NIH made the following commentary, "Epithelial odontogenic tumor and an acanthomatous and basal cell ameloblastoma. Also one cannot rule out entirely the possibility of a pseudoadamantine advance of salivary gland."

Weathers from Emory, "This lesion does not fit readily into a classification. I would have to say that it is definitely epithelial, it is very likely odontogenic. It is possibly an ameloblastoma and it might be malignant. My degree of certainty dissipates rapidly as I become more specific in labelling this lesion. If forced into a corner, I would say that this is probably a malignant ameloblastoma."

Abrams from USC, "Seems to represent ameloblastoma. History indicates it may be peripheral, but I cannot tell from this slide. The histopathology shows a pattern which we have seen in ameloblastomas of the maxilla but not in the mandible."
Oxenhandler from Columbia, Hori from West Virginia, Weidner from Colorado Springs, Costa from NCI, Cardona Lopez from Honduras called it, "ameloblastoma."

CASE #6 (80-1212) PAGET'S DISEASE
Contributed by Dr. Charles Dunlap and Bruce Barker, University of Missouri-Kansas City School of Dentistry, Kansas City, Missouri

This was the overwhelming diagnosis. A few commentaries:

Tarpley and Corio from NIH, "The histology is suggestive, i.e., extreme vascularity, location of giant cells of early Paget's Disease.

Rosai from Minnesota, "Paget's Disease. The clinical history suggests to me the phenomenon of rapid dissolution of bone substance that has been reported in patients with Paget's Disease following immobilization of a long bone because of fracture. New England Journal of Medicine, 231: 343. 1944.

Greer from Colorado, "Benign fibro-osseous lesion consistent with Paget's Disease.

Kreutzer from Wichita called it "Paget's Disease."

Berthrong from Colorado Springs, "...probably it was Paget's recognizing the difficulty of making that diagnosis definite in a completely decalcified specimen where the cement lines are largely lost. I had great difficulty including osteitis fibrosa of hyperparathyroidism and felt that this had to be ruled out biochemically. The bone was entirely lamellar bone which would be consistent with either of these two conditions. I believe the scalloping of the margins here is more irregular than most cases of hyperparathyroid bone disease and thus I would favor Paget's. I also suspect that the alkaline phosphatase here is far higher than would be seen in the vast majority of hyperparathyroidism, but is quite consistent with Paget's. My favorite diagnosis is Paget's Disease, but I would exclude hyperparathyroidism by calcium and phosphorous studies.

LeGal from Strasbourg, "This is not Paget's Disease. It could be primary or secondary hyperparathyroidism."
Dr. Waldron from Emory stated: "This has the features of the so called botryoid odontogenic cyst. I fell this is a multilocular primordial cyst. We can’t make ameloblastoma out of this one. If a fair amount of mucin can be demonstrated, I might want to revise my diagnosis to a variety of central mucoepidermoid tumor with marked cystic features. Dr. Wesley from Detroit, Dr. Fay and associates from Eisenhower Medical Center, Ca, Dr. Sciubba and Ackerman from Long Island called it "cystic mucoepidermoid carcinoma." Dr. Abrams from USC stated: "This is either a hyperplastic follicular cyst with mucous cell prosoplasia or a cystic mucoepidermoid tumor. I prefer the former possibility but I would not become too emotional if someone wanted to consider it as an incipient mucoepidermoid tumor." Dr.'s Batsakis and McClatchey from Michigan stated: "salivary inclusion cyst—doubt odontogenic mucoepidermoid carcinoma." Dr.'s Corio and Tarpley called it "odontogenic (Botryoid) cyst." Dr. Shafer from Indiana stated: "We have seen several cases with this peculiar mixture and have been calling them sialo-odontogenic cyst."