

**AAOMP Founders Seminar
IAOP-AAOMP Joint Meeting
San Francisco, June 23, 2008**

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The microscopic slide set which accompanies Dr. Bridge's seminar represents selected cases, most of which exhibit cytogenetically well-defined chromosome aberrations. These selected cases will not be discussed individually, but will serve as examples that highlight the expanded role of molecular pathology in better understanding the molecular mechanism involved in tumorigenesis and the role of molecular technology in diagnostic surgical pathology. This seminar is aimed at providing the oral and maxillofacial pathologist with a foundation in the practice of molecular pathology to include: nomenclature, commonly used techniques and specimen requirements, assay selection and indications, diagnostic and prognostic utility, test turn-around times and quality assurance issues.

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Case Histories

1. A 5-year-old boy presented with a rapidly expansile lesion of the left periorbital region. Immunohistochemical analysis revealed: desmin + cytoplasmic staining, myogenin + nuclear staining, WT1 + cytoplasmic staining, CD56 + staining, KI-67 +, approximately 40% of cells. CD99, SMA, synaptophysin, and LCA were all negative. (To obtain requisite sections, tissue from two similar cases were used)
2. A 21-year-old man was found to have a mass of the left ethmoid sinus.
3. A firm submucosal nodular mass of the left maxillary vestibule was identified in a 41-year-old woman. An incisional biopsy was performed. The surgeon requested an MRI prior to excision. Over the three week interval between biopsy and excision the lesion rapidly enlarged and protruded through the initial incision site to a size of approximately 3.0cm in greatest dimension. The initial biopsy demonstrated none of the mitotic activity identified in the post-biopsy excision specimen.
4. A 71-year-old man had a 19 x 15 x 9 cm mass resected from the right upper arm. Further work-up revealed an isolated pulmonary nodule suspicious for metastatic disease.
5. A 17 year-year-old male presented with a large mass of the right neck at the inferior portion of the sternocleidomastoid muscle that appeared adherent to the clavicle. Tumor cells were immunoreactive for epithelial membrane antigen and vimentin and negative for cytokeratin AE1.3. Cytogenetic studies were performed.
6. A 51-year-old woman presented with a 7cm mass of the left upper arm and shoulder region. Immunohistochemical analysis revealed: CD34 + and CD99+ staining, and negative staining for Factor X111a, S-100, EMA, AE1.3, BCL-2.
7. A 59-year old man presented with a large mass of the thigh. Sections taken from multiple tissue blocks.
8. A 74-year-old woman had nodularity to the upper portion of the sternum. Radiographs revealed marked cortical erosion with destruction of underlying bone. A biopsy was performed.
9. A 59-year-old man had a history of progressive worsening of left lower abdominal pain. Imaging studies revealed a 14 cm mass of the left hemipelvis.
10. A 45-year-old man had symptoms of airway obstruction when he leaned forward. A 6.8 cm mass was noted in the posterior cricoid/hypopharynx.

Cases 1, 3-10 - Dept. of Pathology, Long Island Jewish Medical Center, North Shore-LIJ Health System
Case 2 - Dept. of Pathology, Emory University Hospital, Dr Susan Muller.

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Case Diagnoses*

- 1. Embryonal rhabdomyosarcoma**
- 2. Alveolar rhabdomyosarcoma**
- 3. Myofibroma**
- 4. High-grade sarcoma NOS (malignant fibrous histiocyoma)**
- 5. Synovial sarcoma, monophasic**
- 6. Dermatofibrosarcoma protuberans**
- 7. Extraskeletal myxoid chondrosarcoma**
- 8. Chondrosarcoma, well-differentiated**
- 9. Myxoid liposarcoma**
- 10. Liposarcoma, well differentiated**

*** Contributors Diagnoses**