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A review of salivary gland tumors in pediatric patients with emphasis on MUC4 IHC in mucoepidermoid carcinoma

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A large proportion of childhood Oral Cancer arises in salivary glands. Minor salivary glands are distributed throughout the oral cavity and the sublingual and submandibular glands are situated in the floor of the mouth. Parotid gland tumors often extend inferiorly to involve the oral cavity. Similar to adults, the most common salivary gland neoplasm in children is the benign Pleomorphic Adenoma (PA), while Mucoepidermoid Carcinoma (MEC) is the most common malignant neoplasm. Between 1990 and 2015, 56 salivary gland neoplasms were diagnosed at Children's Hospital Los Angeles. Of those, 27 were benign PAs. The remaining 31 tumors were malignant, of which 24 were MECs diagnosed in 15 children. Three of those children had lesions in the palate and one in the maxilla extending to the palate. The remaining cases were Adenoid Cystic (AdCC) and Acinic Cell Carcinomas (AcCC). Thankfully, most mucoepidermoid carcinomas in children are low grade. The Mastermind-Like 2 (MAML2) gene rearrangement commonly seen in mucoepidermoid carcinoma is specific and portends a favorable prognosis. In general, salivary gland tumors demonstrate a variety of histologic patterns which oftentimes overlap causing diagnostic dilemma. Poorer outcomes of AdCC and higher recurrence rates of AcCC and AdCC in children emphasize the importance of accurate diagnosis. We postulated that Mucin 4 (MUC4) expression would serve as a good distinguishing marker in MEC. Immunohistochemical staining with MUC4 was performed on all the salivary gland tumors from our archives. All MECs showed strong MUC4 expression. All AdCCs, ACCs and PAs were negative supporting our hypothesis.

Biography

Nick M Shillingford is a Pediatric Pathologist at Children's Hospital Los Angeles (CHLA), USA and an Assistant Professor of Pathology at the University of Southern California. He is also an Associate Director of the Pediatric Pathology Fellowship. He is a member of the Education Committee of the Society for Pediatric Pathology and the Slide Survey Subcommittee where he writes questions for the CME based Slide Survey Online Program. He is trained in Anatomic Pathology at the State University of New York. He completed a Surgical/Gastrointestinal Pathology fellowship at Brown University and did his Pediatric Pathology Training at Boston Children's Hospital/Harvard Medical School.

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