Fusion Transcripts that Characterize Malignancies of Salivary Gland Origin

Joaquín J. García MD
Vice Chair of Laboratories
Division of Anatomic Pathology
Department of Laboratory Medicine & Pathology
Mayo Clinic Rochester, Rochester, Minnesota

In the past 12 months, I have not had a significant financial interest or other relationship with the manufacturer(s) of the product(s) or provider(s) of the service(s) that will be discussed in my presentation.
Challenges in Contemporary Classification—PA versus EMCA

Pleomorphic adenoma

Epithelial-myoepithelial CA
Challenges in Contemporary Classification—High-grade Glandular

- Mucoepidermoid CA
- Adenosquamous CA
- Salivary duct CA
Challenges in Contemporary Classification—High-grade Glandular

Challenges in Contemporary Classification—Biphasic Neoplasms

- Epithelial-myoeptithelial CA
- Basal cell adenoCA
- Adenoid cystic CA

Challenges in Contemporary Classification—Biphasic
Classification Systems

Minor Salivary Glands
Parotid Glands
Submandibular Glands
Sublingual Glands

Salivary Gland Neoplasia Classification—Location

Acinar Cells
Myoepithelial Cells
Intercalated Duct Cells
Striated Duct Cells

Salivary Gland Neoplasia Classification—Histogenesis

1 2 3

Salivary Gland Neoplasia Classification—Phases
Salivary Gland Neoplasia Classification—Histologic Grade

- Low
- High

Salivary Gland Neoplasia Classification—Management

- Benign/
  Low-grade
- Intermediate/
  High-grade

Salivary Gland Neoplasia Classification—The ABCD’s

- Architecture
- Biphasic
- Cytology
- Differential

- Fusion
  Transcripts
Fusion Transcripts—Mucoepidermoid Carcinoma, t(11;19)

CRTC1  MAML2

Fusion Transcripts—Mucoepidermoid Carcinoma, t(11;19)

Fusion Transcripts—Mucoepidermoid Carcinoma, t(11;19)

Fusion Transcripts—Mucoepidermoid Carcinoma, t(11;19)
Fusion Transcripts—Mammary Analogue Secretory Carcinoma, t(12;15)

ETV6  NTRK3

Fusion Transcripts—Mammary Analogue Secretory Carcinoma, t(12;15)
Fusion Transcripts—Adenoid Cystic Carcinoma, t(6;9)

MYB

NFIB

Fusion Transcripts—Adenoid Cystic Carcinoma, t(6;9)

Fusion Transcripts—Adenoid Cystic Carcinoma, t(6;9)

Fusion Transcripts—Adenoid Cystic Carcinoma, t(6;9)
Fusion Transcripts—Hyalinizing Clear Cell Carcinoma, t(12;22)