

Sandy C. Maganito, MD<sup>1</sup>  
Jose M. Carnate, Jr., MD<sup>2</sup>

<sup>1</sup>Department of Laboratories, Philippine General Hospital  
University of the Philippines Manila

<sup>2</sup>Department of Pathology, College of Medicine  
University of the Philippines Manila

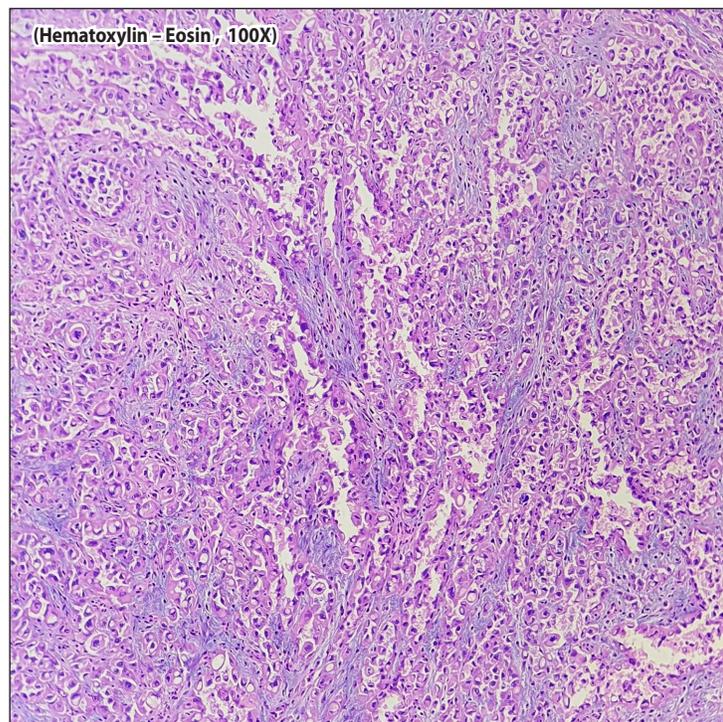
## Acantholytic Squamous Cell Carcinoma

**A 63-year-old Filipino man** presented with a one-month history of painful ulceration on the alveolar socket of a molar tooth of the right hemimandible. The patient consulted at a tertiary hospital, where he underwent incisional biopsy.

Microscopically, the biopsy specimen showed neoplastic cells arranged in a pseudoglandular alveolar pattern with cystic spaces lined with atypical polygonal cells. (*Figure 1*) Detached “glassy” keratinocytes which are dyskeratotic acantholytic cells were seen within these cystic spaces. (*Figure 2*) Areas with features of more conventional squamous cell carcinoma, i.e., intercellular bridges and abundant eosinophilic cytoplasm, were also present. (*Figure 3*) Immunohistochemical staining for p40 showed diffuse nuclear positivity. (*Figure 4*) Given these findings, a diagnosis of acantholytic squamous cell carcinoma (ASCC) was made.<sup>1</sup>

Acantholytic squamous cell carcinoma (historically known as adenomatoid squamous cell carcinoma or adenoacanthoma) is a histologic variant of squamous cell carcinoma (SCC) that most often presents as an ulcer on sun-exposed areas, mostly in elderly males.<sup>1,2</sup> ASCCs of the oral cavity are rare, with fewer than 60 cases reported in the literature.<sup>3</sup> In a series of 55 cases describing intraoral ASCCs, the most common sites of ASCC were the tongue (24/55) and the maxilla/maxillary gingiva and/or palate (11/55).<sup>3</sup>

The presence of a pseudoglandular or alveolar pattern might suggest the diagnosis of an adenocarcinoma. However, the findings of tumor lobules with a distinctly squamoid morphology,



**Figure 1.** The tumor is arranged in a pseudoglandular/alveolar pattern with cleft spaces (H and E, 100x).

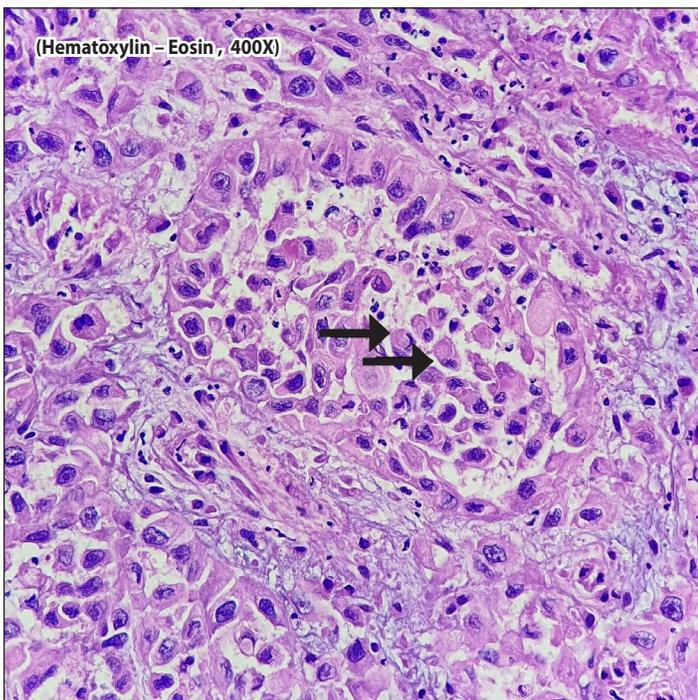
Correspondence: Dr. Jose M. Carnate, Jr.  
Department of Pathology  
College of Medicine, University of the Philippines Manila  
547 Pedro Gil St. Ermita, Manila 1000  
Philippines  
Phone (632) 8526 4450  
Telefax (632) 8400 3638  
Email: jmcarnate@up.edu.ph

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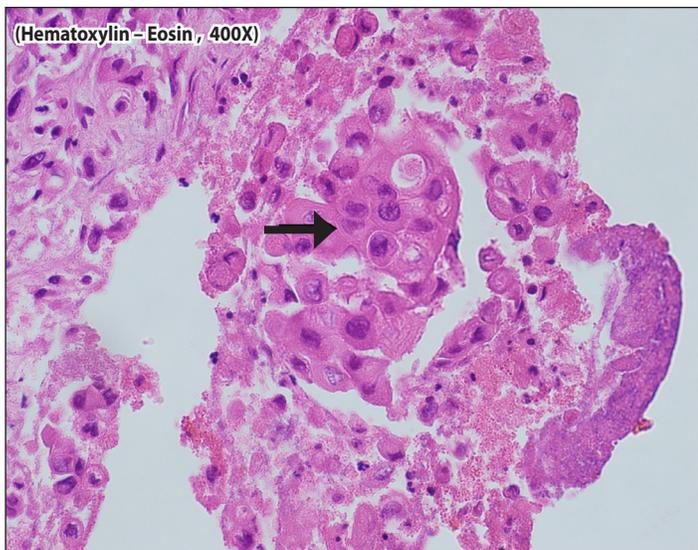
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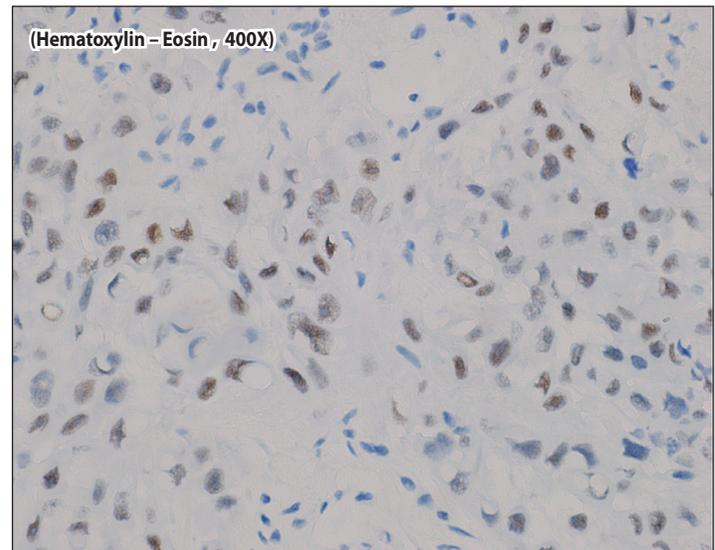
**Figure 2.** The left spaces are lined by atypical, polygonal cells. There are glassy keratinocytes within the cystic spaces (black arrows) (H and E, 400x).



**Figure 3.** Solid areas of the tumor show more classic features of SCC such as polygonal cells with glassy eosinophilic cytoplasm and distinct intercellular bridges (black arrow) (H and E, 400x).

along with the presence of intercellular bridges, will point to the correct diagnosis. Furthermore, ASCC does not present with intracellular mucin, clear cells, and intermediate cells – an important distinguishing point with mucoepidermoid carcinoma. The absence of true glands also militates against the differential diagnosis of an adenosquamous carcinoma.<sup>1</sup>

Although the diagnosis of ASCC may be established through histomorphology alone, p40 immunohistochemistry – a useful marker



**Figure 4.** Diffuse nuclear positivity on p40 immunohistochemistry (Horseradish peroxidase method, 400X magnification).

for squamous cell differentiation - strengthens the diagnosis.<sup>4</sup> Loss of E-Cadherin expression – a protein involved in cell adhesion and binding – is usually seen in the discohesive cells but may be retained in the well differentiated areas.<sup>2</sup> Absence of staining with mucicarmine and CD34 will help rule out mucoepidermoid carcinoma and angiosarcoma, respectively.<sup>1,2</sup> The authors felt that the latter two differential diagnoses could be excluded on the basis of the light microscopic features present in the case along with the demonstration of diffuse p40 positivity. It is granted however that in resource-rich settings, these other ancillary diagnostic tests may prove helpful especially for morphologically ambiguous cases or cases with less tissue volume.

Current studies show no statistically significant difference in the overall survival rate of ASCCs versus that of conventional SCC.<sup>3</sup> ASCC is treated in the same manner as conventional SCC.<sup>1</sup> The importance of recognizing this variant lies in ensuring that it is not mistaken for its other non-squamous morphological mimics.

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**REFERENCES**

- Richardson MS, Lingen MW. Squamous cell carcinoma of the upper aerodigestive system. In: Gnepp DR, Bishop JA. (editors). *Gnepp's Diagnostic Surgical Pathology of the Head and Neck*, 3rd edition. 2020 Amsterdam: Elsevier. P. 101 - 103.
- Allon I, Abba M, Kaplan I, Livoff A, Zaguri A, Nahlieli O, Vered M. Oral variant of acantholytic squamous cell carcinoma-Histochemical and immunohistochemical features. *Acta Histochem.* 2019 Nov;121(8):151443. DOI: 10.1016/j.acthis.2019.151443. PubMed PMID: 31706621.
- Abba M, Kaplan I, Livoff A, Zagury A, Nahlieli O, Vered M, et al. Intra-oral acantholytic squamous cell carcinoma: 55 Cases. Is this variant more aggressive? *Head and Neck Pathol.* 2021 Aug 10. DOI:10.1007/s12105-021-01368-8 PubMed PMID: 34378166.
- Sloan P, Gale N, Hunter K, Lingen M, Nylander K, Reibel J, et al. Malignant surface epithelial tumours. In: El-Naggar AK, Chan JKC, Grandis JR, Takata T, Slootweg PJ. *World Health Organization Classification of Head and Neck Tumors*. IARC: Lyon 2017. P. 111.