

## INTRODUCTION

The glandular odontogenic (GOC) is a rare developmental odontogenic cyst. Although this cyst is of odontogenic origin, it also has features of salivary and glandular epithelium. GOC occur most frequently between the 5<sup>th</sup> and 6<sup>th</sup> decades of life and can exhibit aggressive behavior. These cysts have a stronger predilection for the anterior mandible. Radiographically, glandular odontogenic cysts can appear as either a unilocular or multilocular radiolucency with well defined margins involving the roots of erupted teeth. The cyst can vary in size, with small lesions presenting asymptotically, and large lesions causing cortical expansion, perforation, and paresthesia. Histologically, the glandular odontogenic cysts exhibit “hobnail” cells (epithelial cells lining the cyst cavity can range from cuboidal to columnar and create an uneven “hobnail” appearance). Glandular ductlike spaces, in addition to, mucin-producing goblet cells, are also seen. In some areas, the epithelial lining may form plaque-like thickenings and spherical nodules, the features of lateral periodontal cysts. The presence of simply mucous cells or cilia does not confirm the diagnosis of GOC because these features are seen in other odontogenic cysts.

The purpose of this present study is to report a case of a documented GOC from the Oral and Maxillofacial Residency Program at Brookdale Hospital Medical Center. In this case, the initial biopsy represented a sampling error where the cyst was initially diagnosed as a botryoid odontogenic cyst. The challenges of GOC diagnosis as well as surgical management and follow up are discussed.

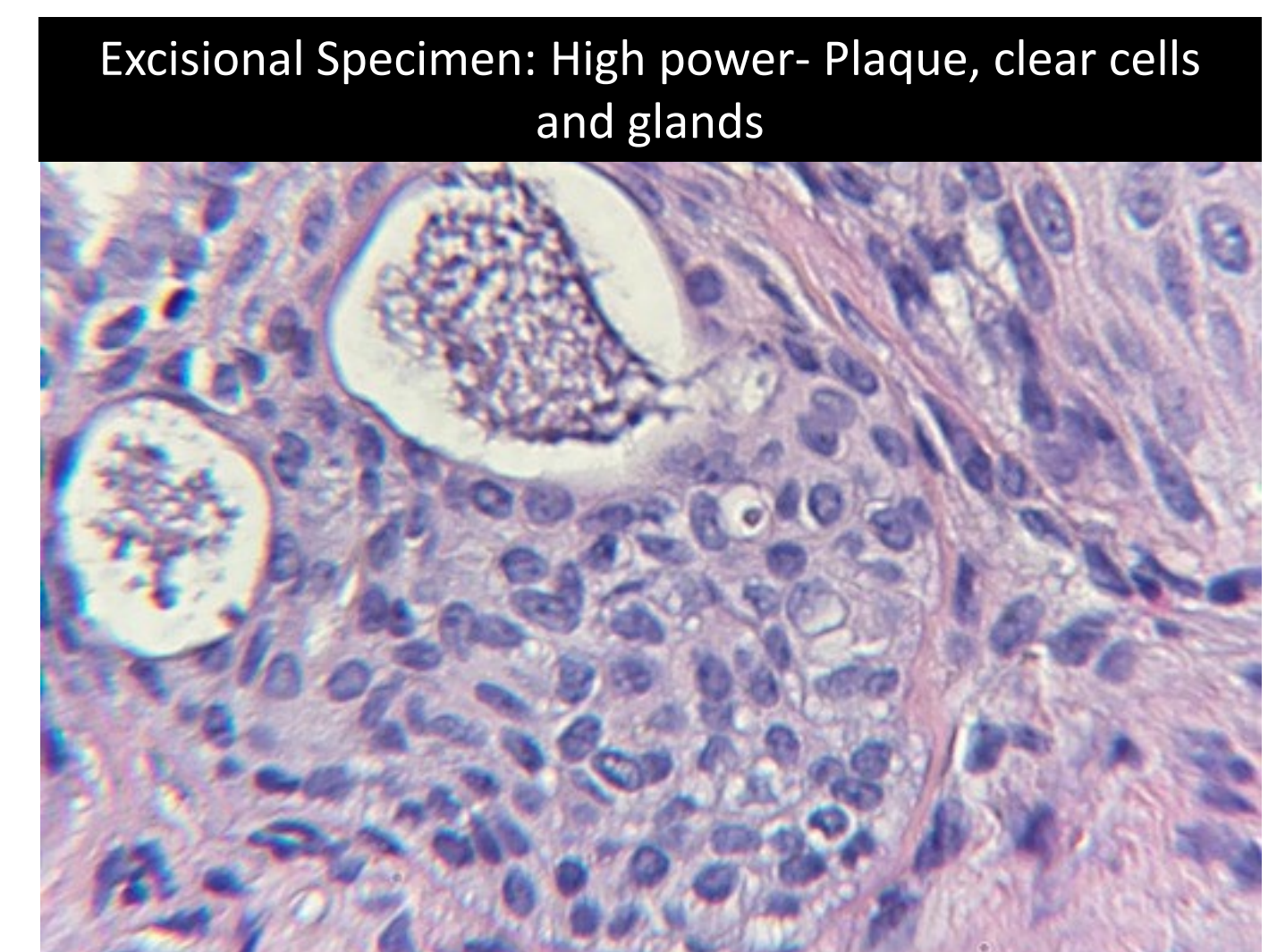
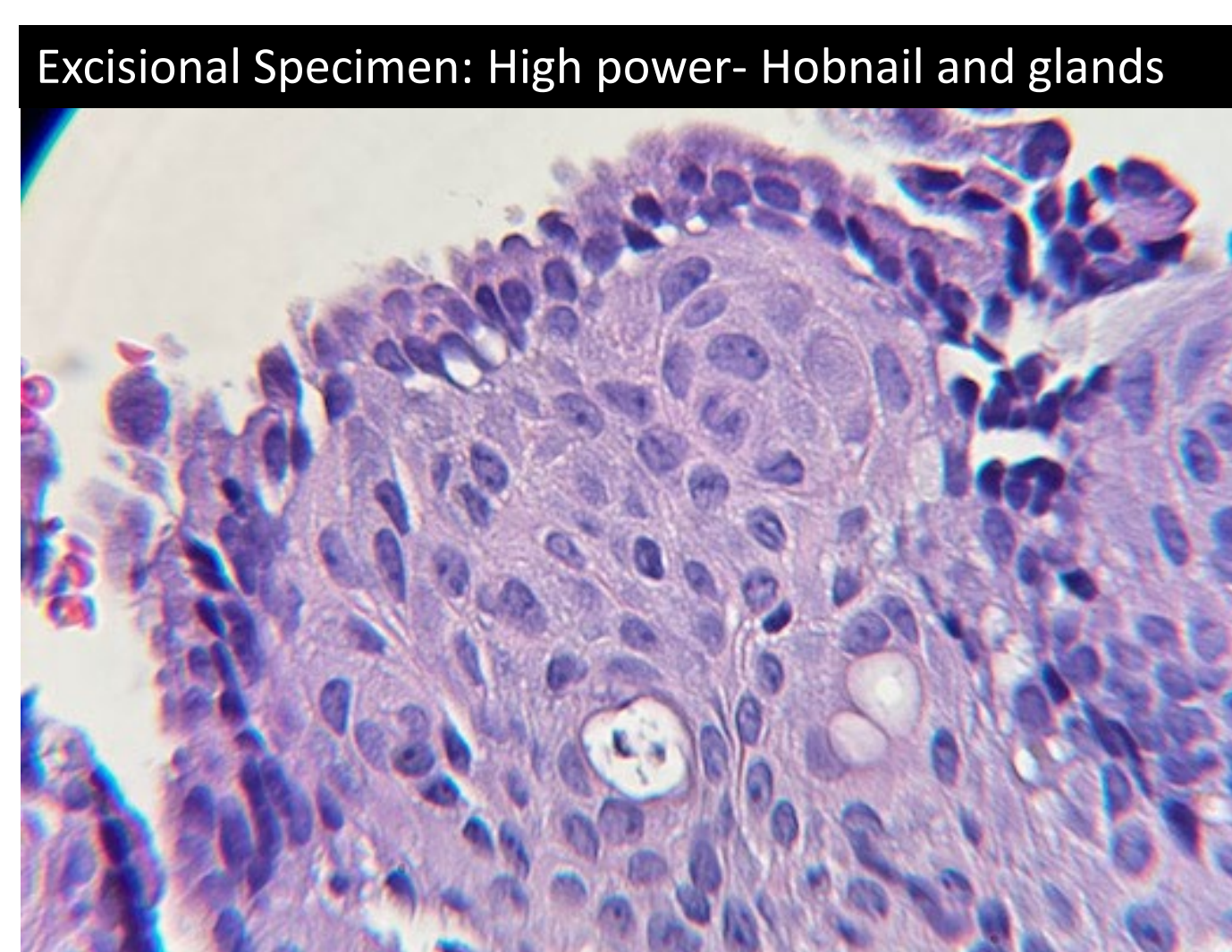
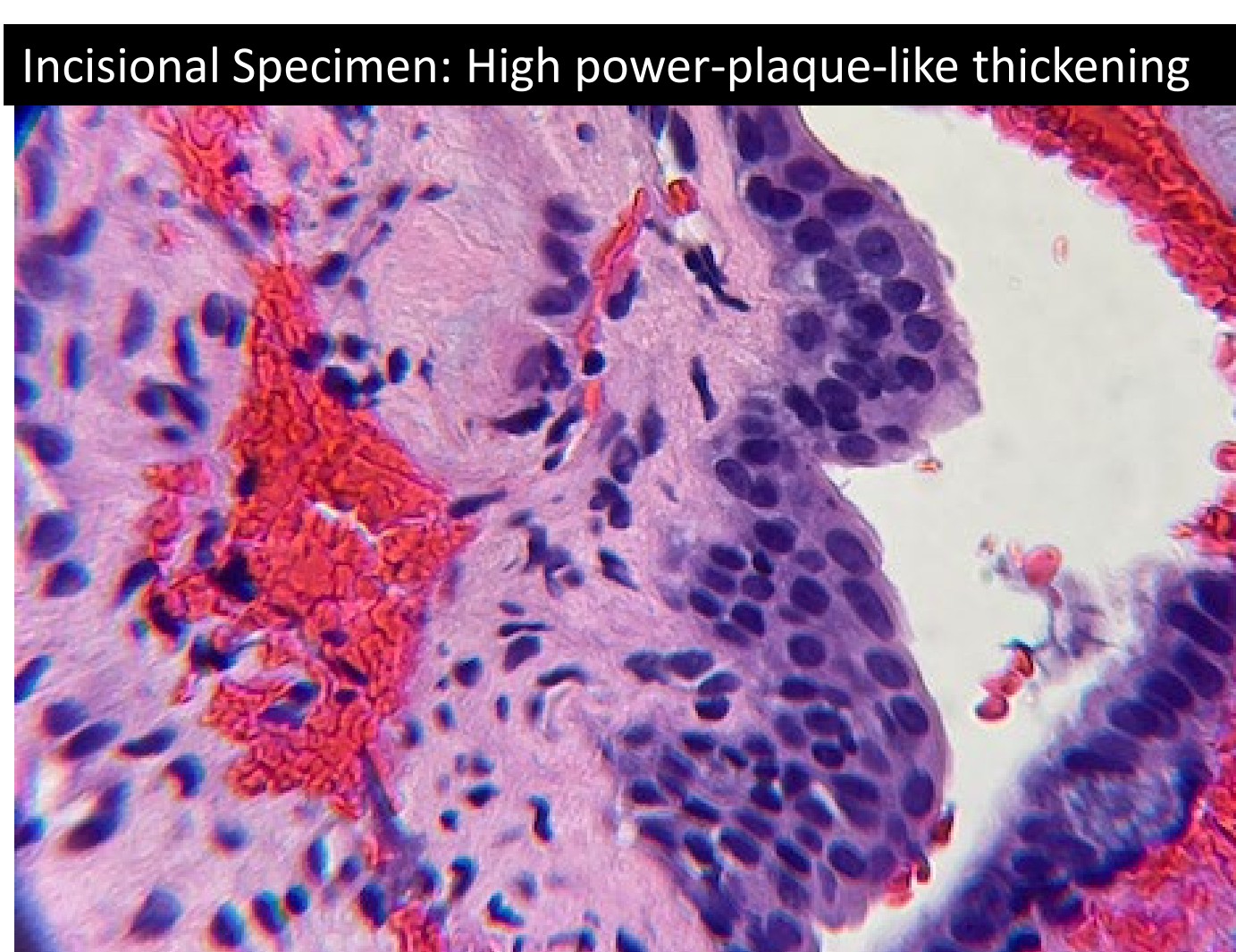
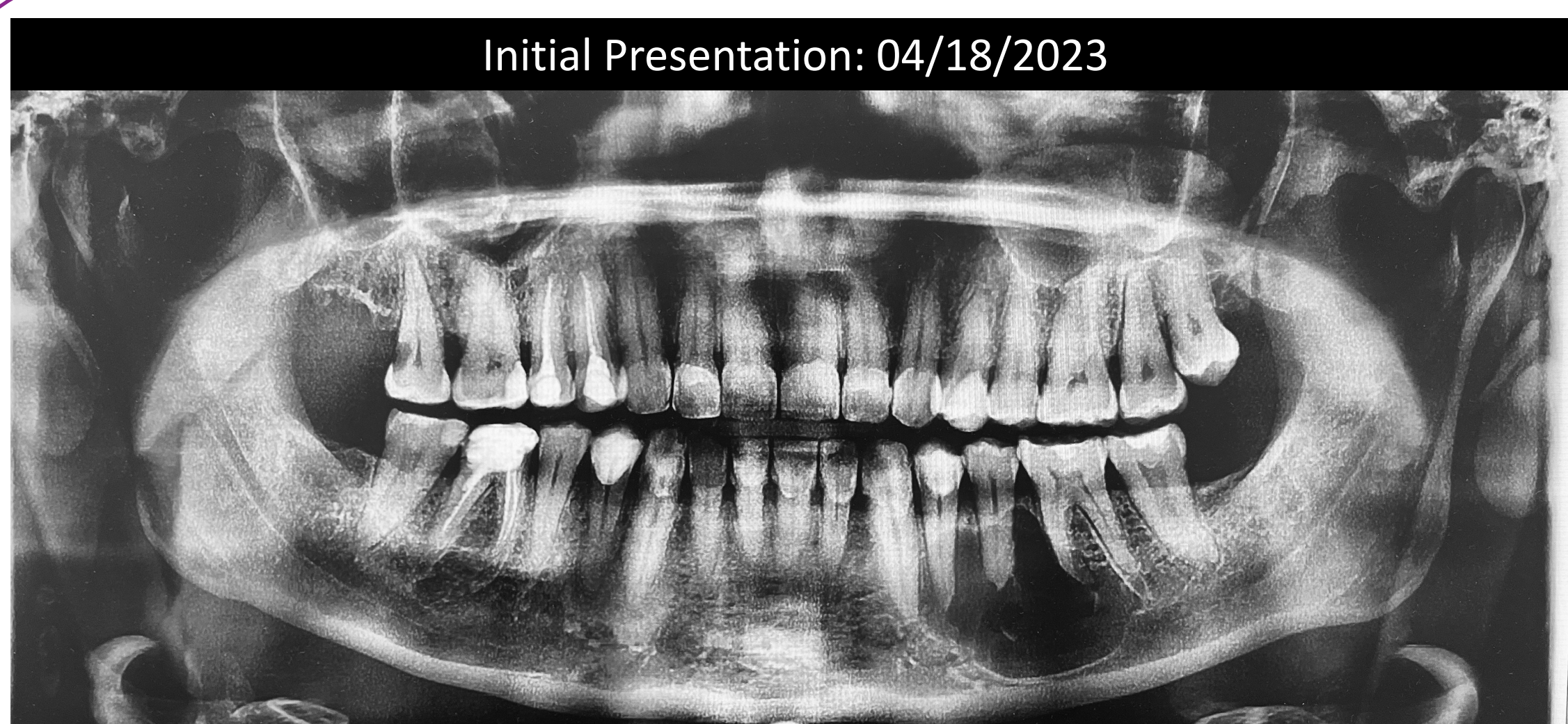
## CASE

This is a case of a 53-year-old female with a glandular odontogenic cyst of the left posterior mandible. The patient was initially referred from her general dentist for evaluation of an asymptomatic intraosseous lesion. A general physical exam revealed no abnormalities. Intraoral examination revealed no evidence of swelling or bony expansion with normal color of the overlying mucosa. Panoramic radiograph and computed tomography scans revealed a well-defined multilocular lesion extending from tooth #19 to tooth #22. An incision biopsy was performed under local anesthesia and revealed a histopathologic diagnosis of botryoid periodontal cyst. The patient was planned for enucleation and bone grafting under general anesthesia.

## PROCEDURE

The patient was treated in the operating room under general anesthesia with enucleation. The roots of teeth in proximity to the cyst were preserved in situ covered with bone on the lateral aspect. The lesion was excised and sent for biopsy. Excision of the cyst required mobilization and neuroplasty of the inferior alveolar and mental nerves using nerve hooks. The nerves were intact. There was a large, irregular bony defect consistent with the aggressive nature of the cyst. An Axogen nerve wrap was placed around the exposed nerves at the inferior and anterior aspects of the defect. Synthes Vivagen allogenic bone graft was packed into the bony defect around the nerve wrap. Biohorizon Mem-Lok membrane was placed over the bone graft. The patient was followed with no recurrence observed in 4 months.

## IMAGING AND HISTOPATHOLOGY



## Results/Discussion

The treatment of glandular odontogenic cyst has remained a clinical dilemma due to its recurrence and potentially aggressive nature. Glandular odontogenic cysts have a recurrence rate of approximately 30%. Some recurrences have been identified as being low-grade mucoepidermoid carcinoma, which is the most common primary salivary gland malignancy representing about 16.5% of minor salivary gland tumors. Proposed origins for GOC include: a true cyst of glandular origin, an odontogenic primordial-origin cyst in which epithelial lining undergoes prosoplasia into glandular epithelium, or a low-grade mucoepidermoid carcinoma that forms an initial single cystic space. For this reason, it is recommended that a more than one oral and maxillofacial pathologist thoroughly reviews the histopathology to assess for any evidence of mucoepidermoid carcinoma. In our case, multiple oral and maxillofacial pathologists reviewed the excisional biopsy and confirmed that only a cyst was found. Because of the potentially aggressive nature and recurrence tendency of the GOC, some advocate for en bloc resection. In other cases, GOC were treated with enucleation and curettage procedures with a follow up protocol of panoramic radiographs every 4 months for the first three year and then every 6 months afterwards to monitor for recurrence.