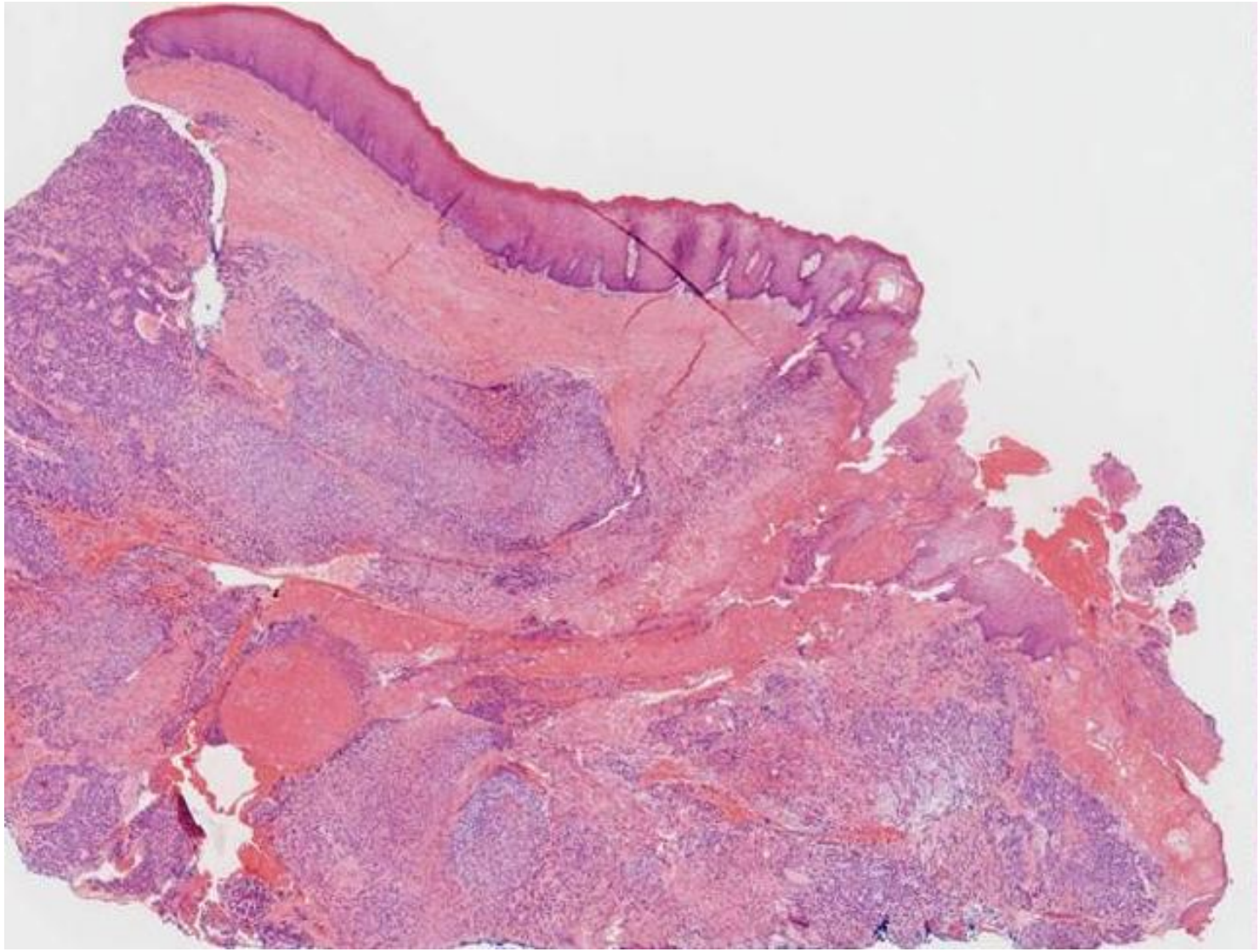
Myoepithelial carcinoma, clear cell type, of the palate

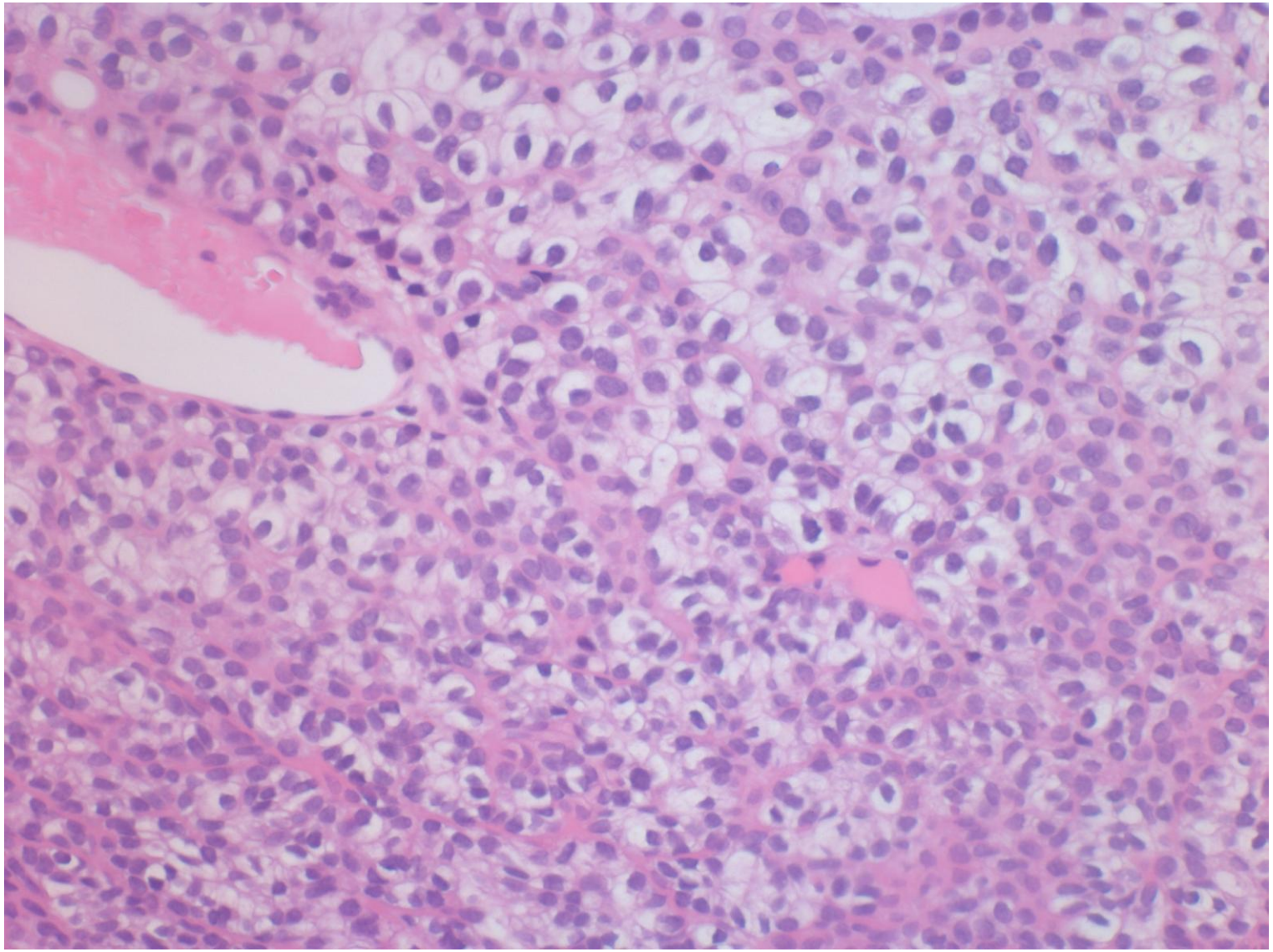
Myoepithelial carcinoma is the salivary gland carcinoma displaying exclusively myoepithelial differentiation. The parotid gland is the most common site, but it may occur in the minor salivary gland. The recurrence rate is high, and distant metastasis may be seen. A Japanese man in his 70's complained of a rapidly growing swelling in his left upper gingiva. Biopsy taken from a $53 \times 44 \times 30$ mm tumor microscopically revealed myoepithelial carcinoma of clear cell type of palate minor salivary gland origin. The tumor cells were diffusely immunoreactive for myoepithelial markers, and Ki-67 labeling index was 12%. Heavy ion radiotherapy was transiently effective, but the tumor recurred two years later. Oral cavity tumors with clear cell appearance to be distinguished from clear cell myoepithelial carcinoma include clear cell type mucoepidermoid carcinoma, clear cell carcinoma of the salivary gland and clear cell odontogenic tumor.

Ref.-1: Muramatsu K, et al. A case of clear cell myoepithelial carcinoma of the palate. Nihon Rinsho Saibo Gakkai Zasshi 2022; 61(4): 263-270 (in Japanese with English abstract).

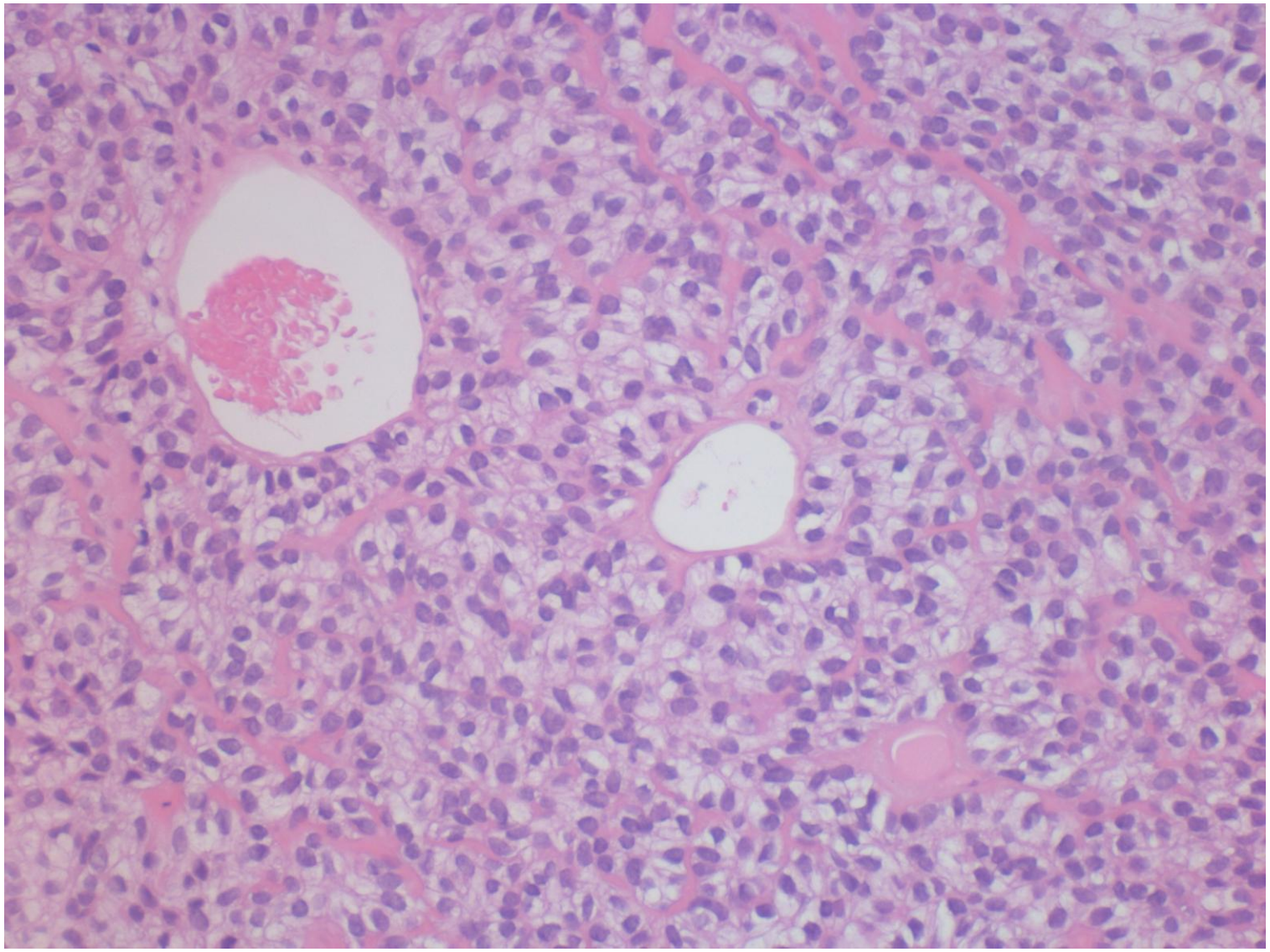
Ref.-2: Skálová A, et al. Clear cell myoepithelial carcinoma of salivary glands showing EWSR1 rearrangement: molecular analysis of 94 salivary gland carcinomas with prominent clear cell component. Am J Surg Pathol 2015; 39(3): 338-348. doi: 10.1097/PAS.0000000000000364



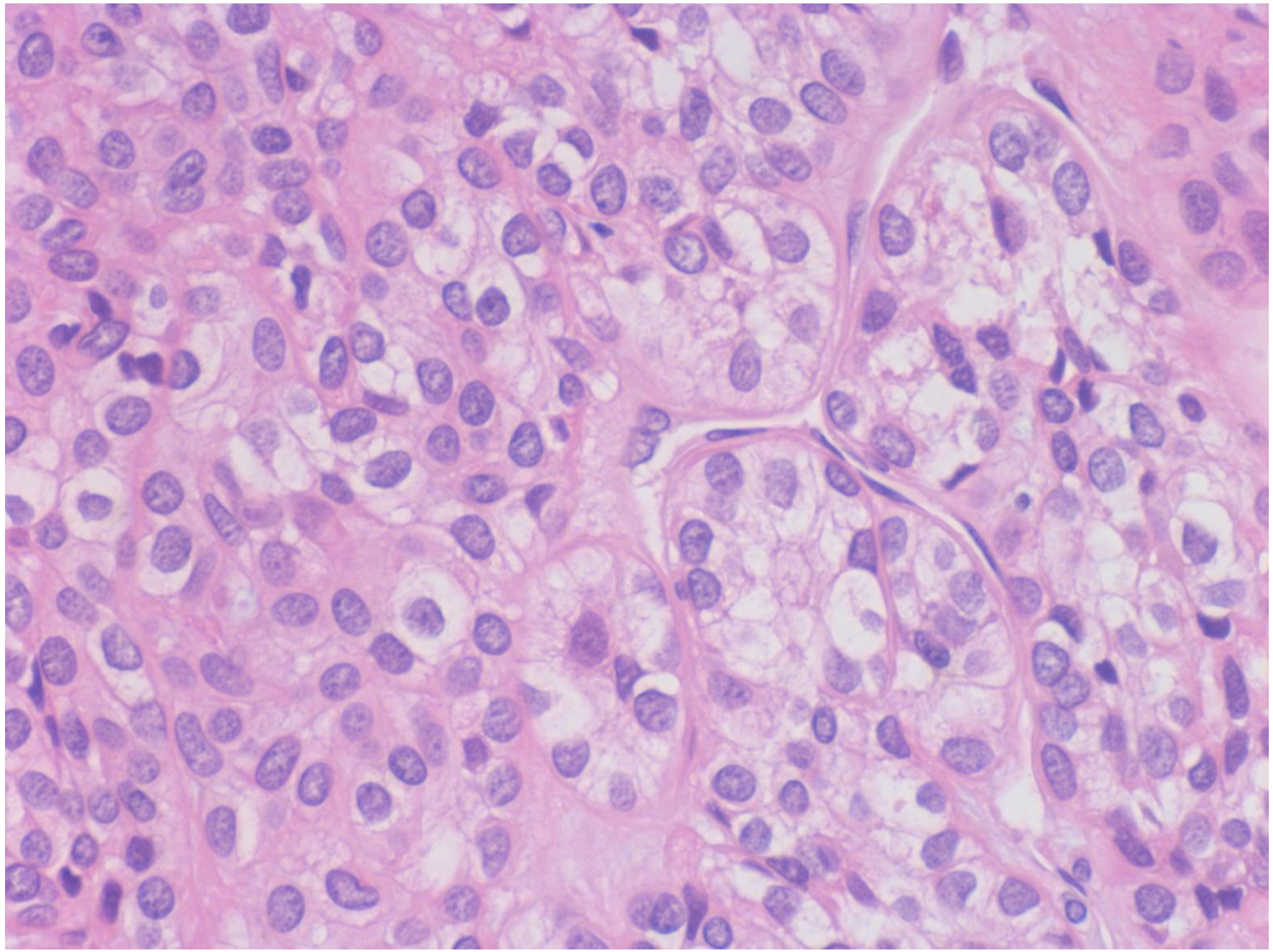
Myoepithelial carcinoma of the palate, clear cell type, seen in a male patient aged 70’s (H&E-1). The biopsied tumor shows monomorphous growth of small-sized, polygonal tumor cells with clear cytoplasm beneath the squamous mucosa.



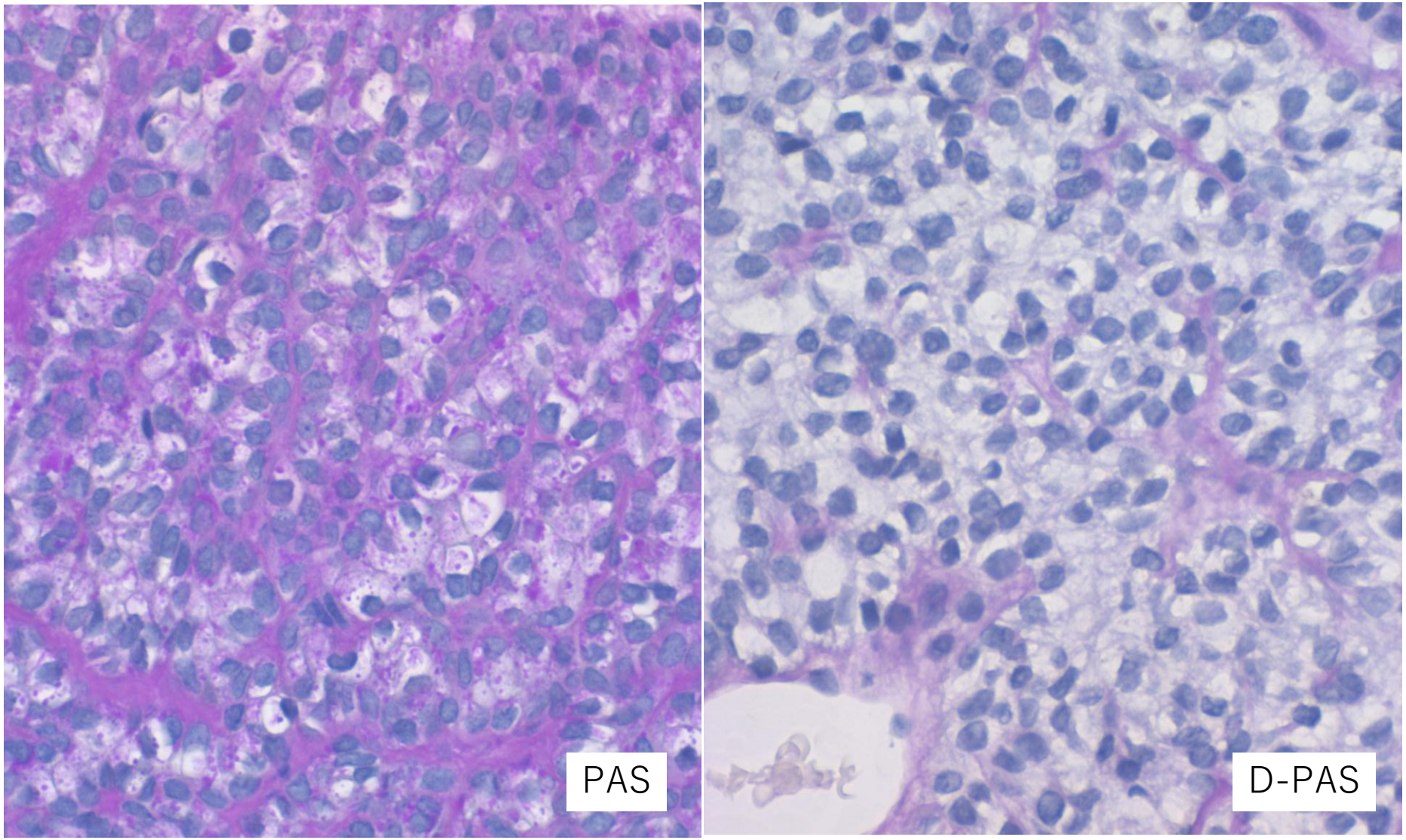
Myoepithelial carcinoma of the palate, clear cell type, seen in a male patient aged 70’s (H&E-2). The biopsied tumor shows monomorphous growth of small-sized, polygonal tumor cells with clear cytoplasm.



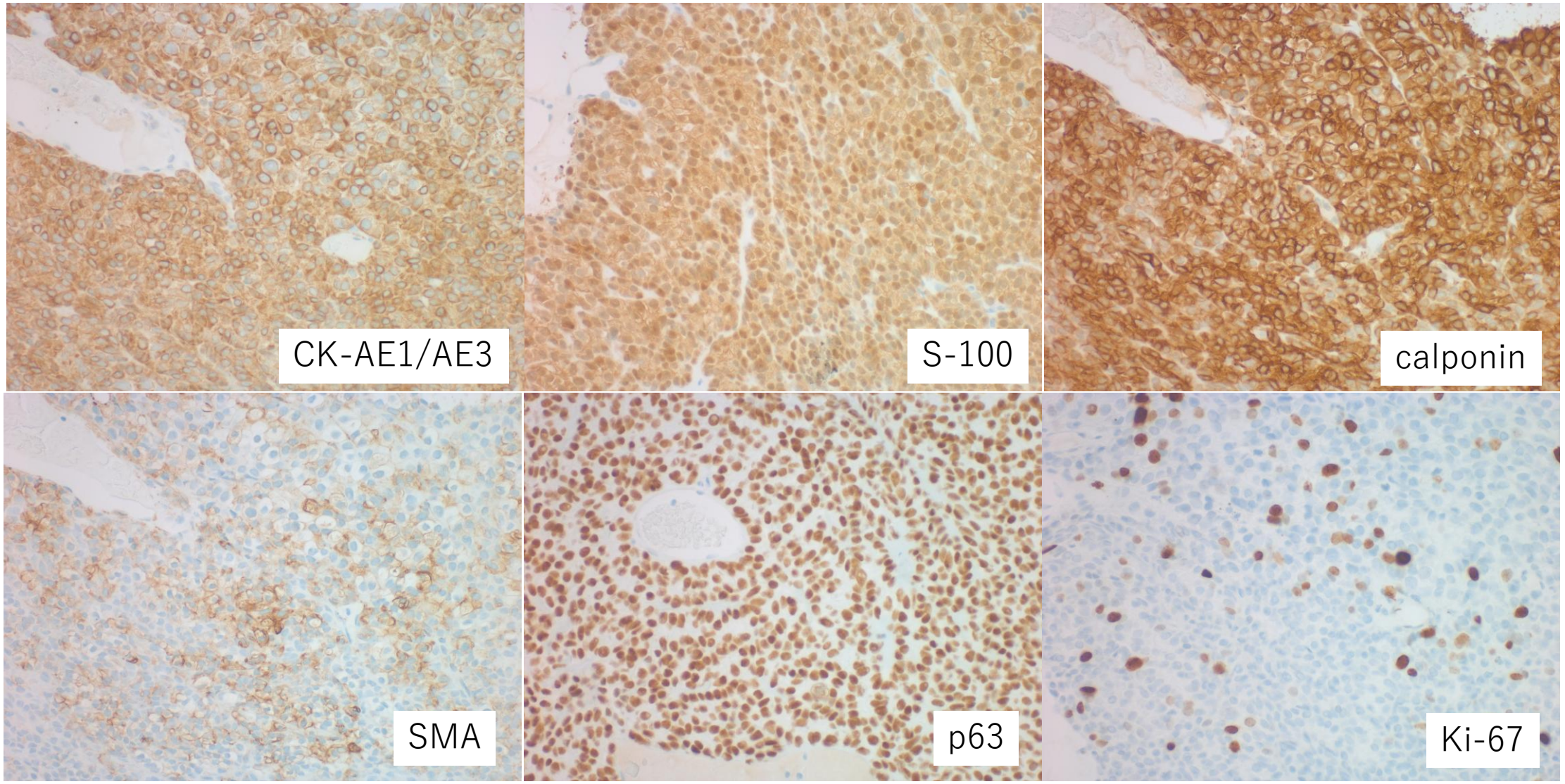
Myoepithelial carcinoma of the palate, clear cell type, seen in a male patient aged 70’s (H&E-3). The biopsied tumor shows monomorphous growth of small-sized, polygonal tumor cells with clear cytoplasm.



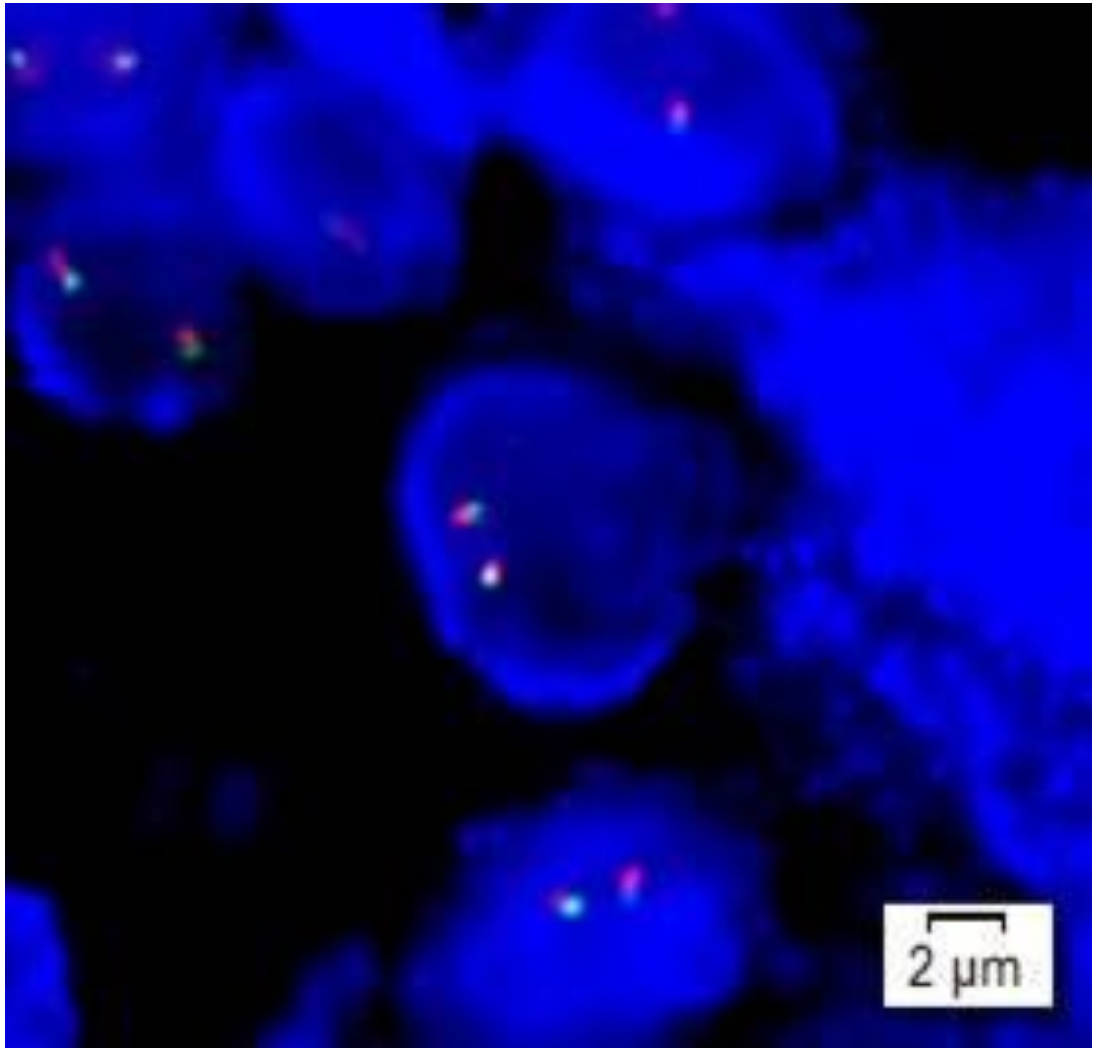
Myoepithelial carcinoma of the palate, clear cell type, seen in a male patient aged 70’s (H&E-4). The biopsied tumor shows monomorphous growth of small-sized, polygonal tumor cells with clear cytoplasm.



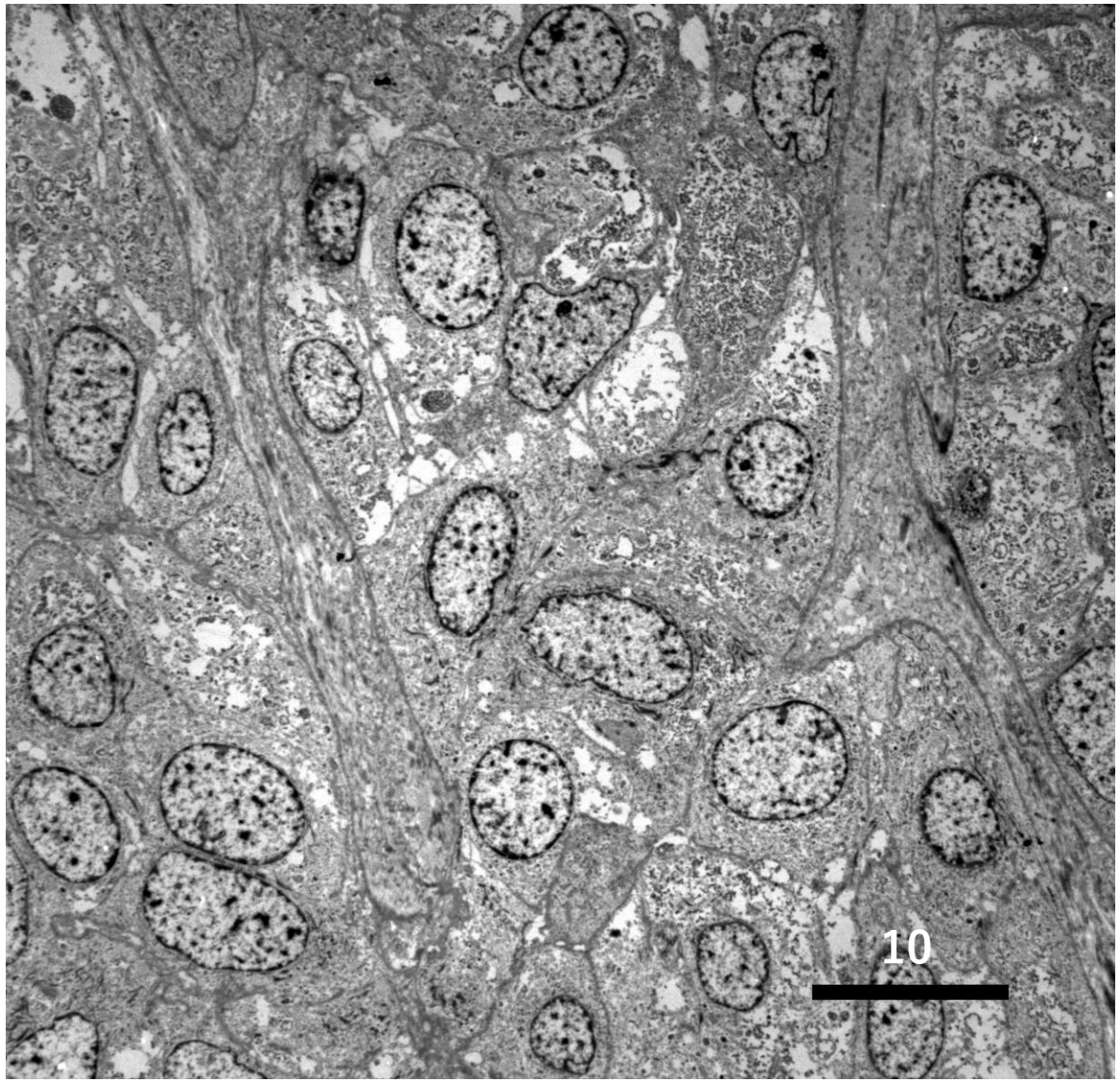
Myoepithelial carcinoma of the palate, clear cell type, seen in a male patient aged 70's (PAS and diastase digested PAS). The monomorphous small-sized, polygonal tumor cells with clear cytoplasm contain diastase-digested PAS-reactive substances (glycogen particles).

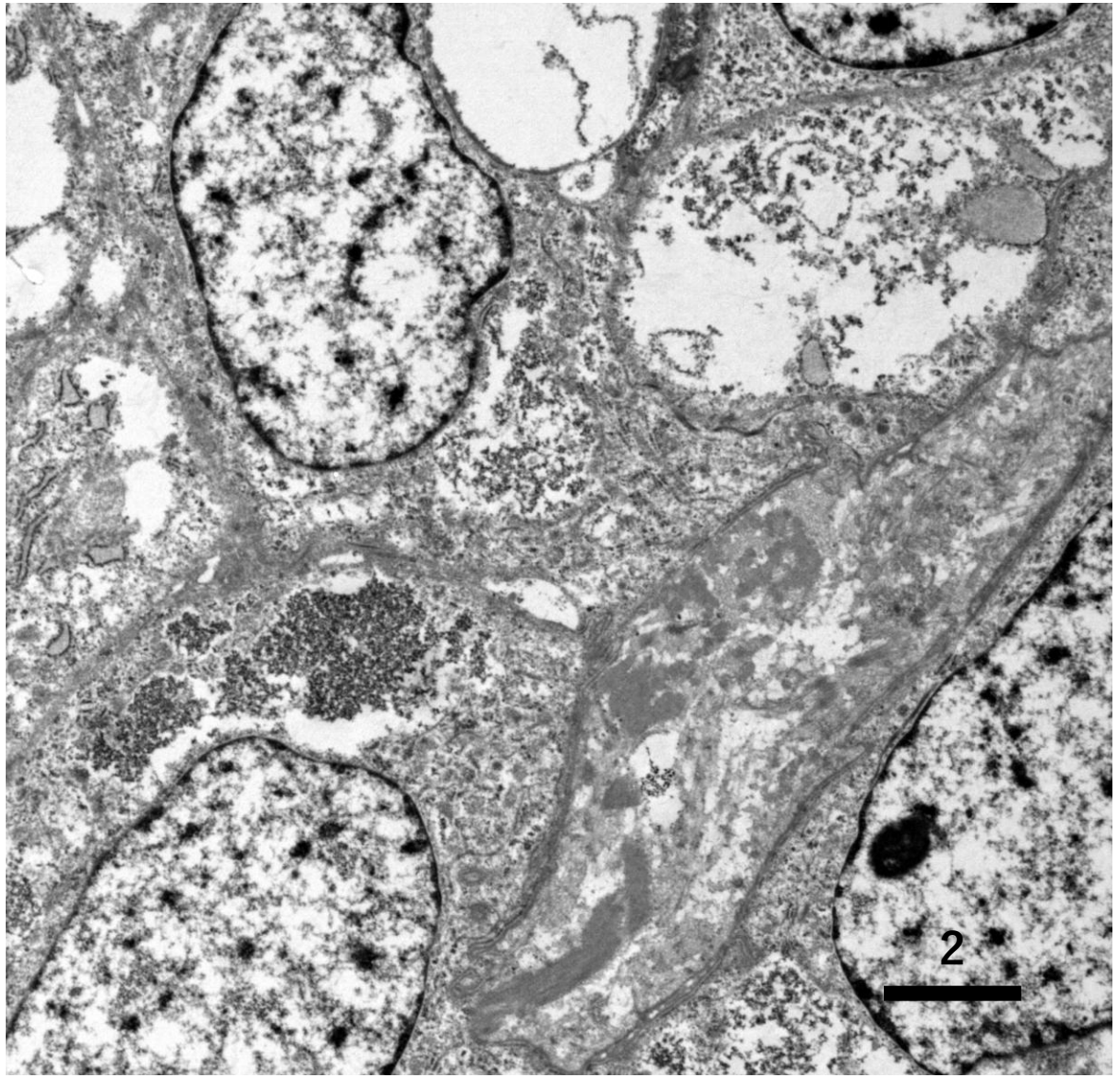


Myoepithelial carcinoma of the palate, clear cell type, seen in a male patient aged 70's. Immunostaining discloses diffuse expression of pan-cytokeratin (CK-AE1/AE3) and myoepithelial markers such as S-100 protein, calponin, SMA and p63. Ki-67 labeling index is 12% at the hot spot. Negative markers include heavy caldesmon, CD10, CD117 (c-kit), DOG1, GFAP and p53 protein.

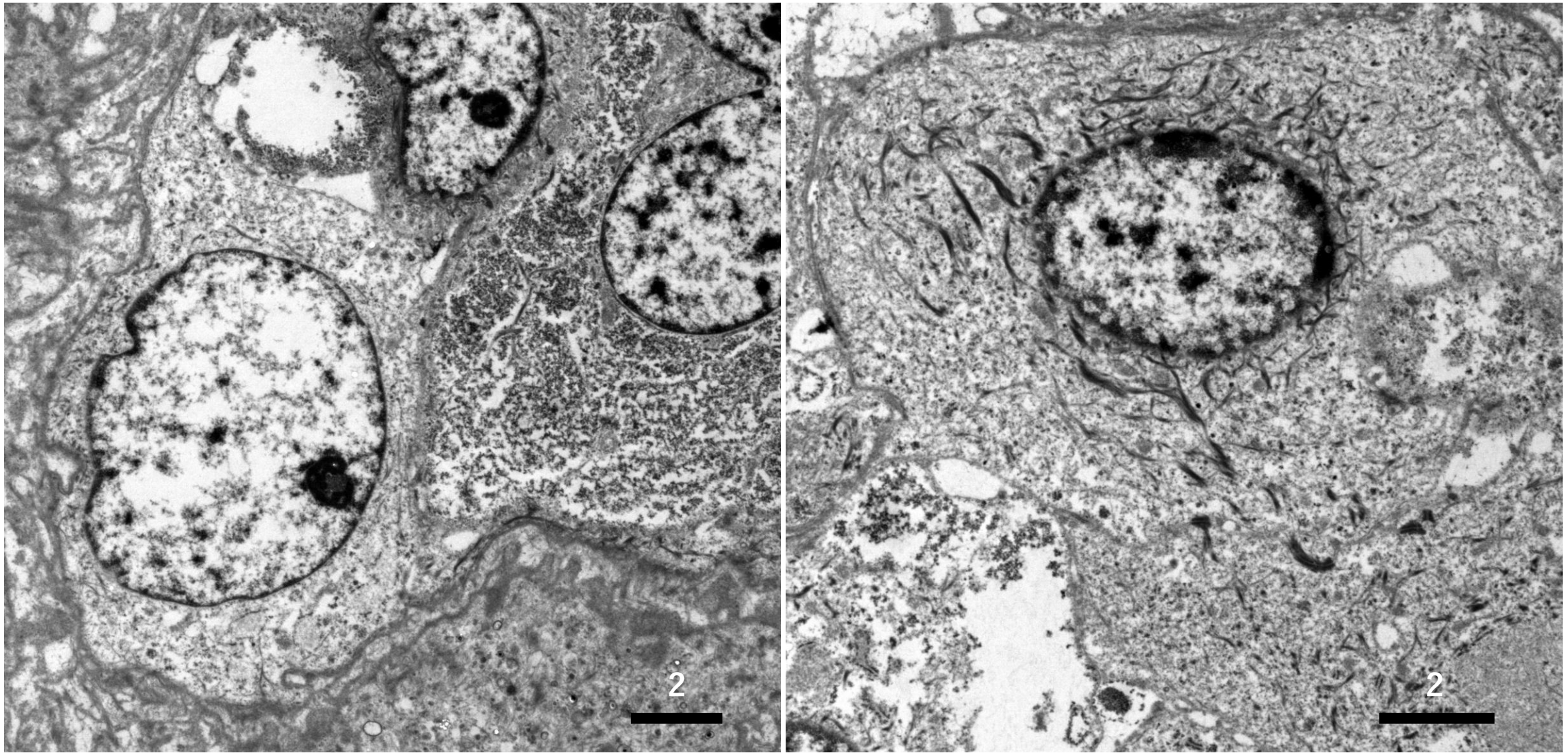


Myoepithelial carcinoma of the palate, clear cell type, seen in a male patient aged 70's. FISH analysis using *EWSR1* breakapart probes. The *EWSR1* breakapart probe contains a mixture of 392 kb (red) and 631 kb (green) probes, positioned on each side of the *EWSR1* gene. No dissociation signals are observed in the nuclei of the tumor cells, indicating the lack of *EWSR1* gene rearrangement. *EWSR1* gene rearrangement has been observed in clear cell carcinoma of salivary gland and clear cell odontogenic carcinoma. Clear cell myoepithelial carcinoma with *EWSR1* gene rearrangement tends to show a worse prognosis (Ref.-2).





Myoepithelial carcinoma of the palate, clear cell type, seen in a male patient aged 70's. Ultrastructurally, intracytoplasmic aggregation of glycogen particles is characteristic of the tumor cell. The nuclei are oval-shaped with dispersed heterochromatin and small nucleoli (EM-1).



Myoepithelial carcinoma of the palate, clear cell type, seen in a male patient aged 70's. Ultrastructurally, intracytoplasmic aggregation of glycogen particles is characteristic of the tumor cell. Tonofilaments are clustered around the round nucleus (EM-2).