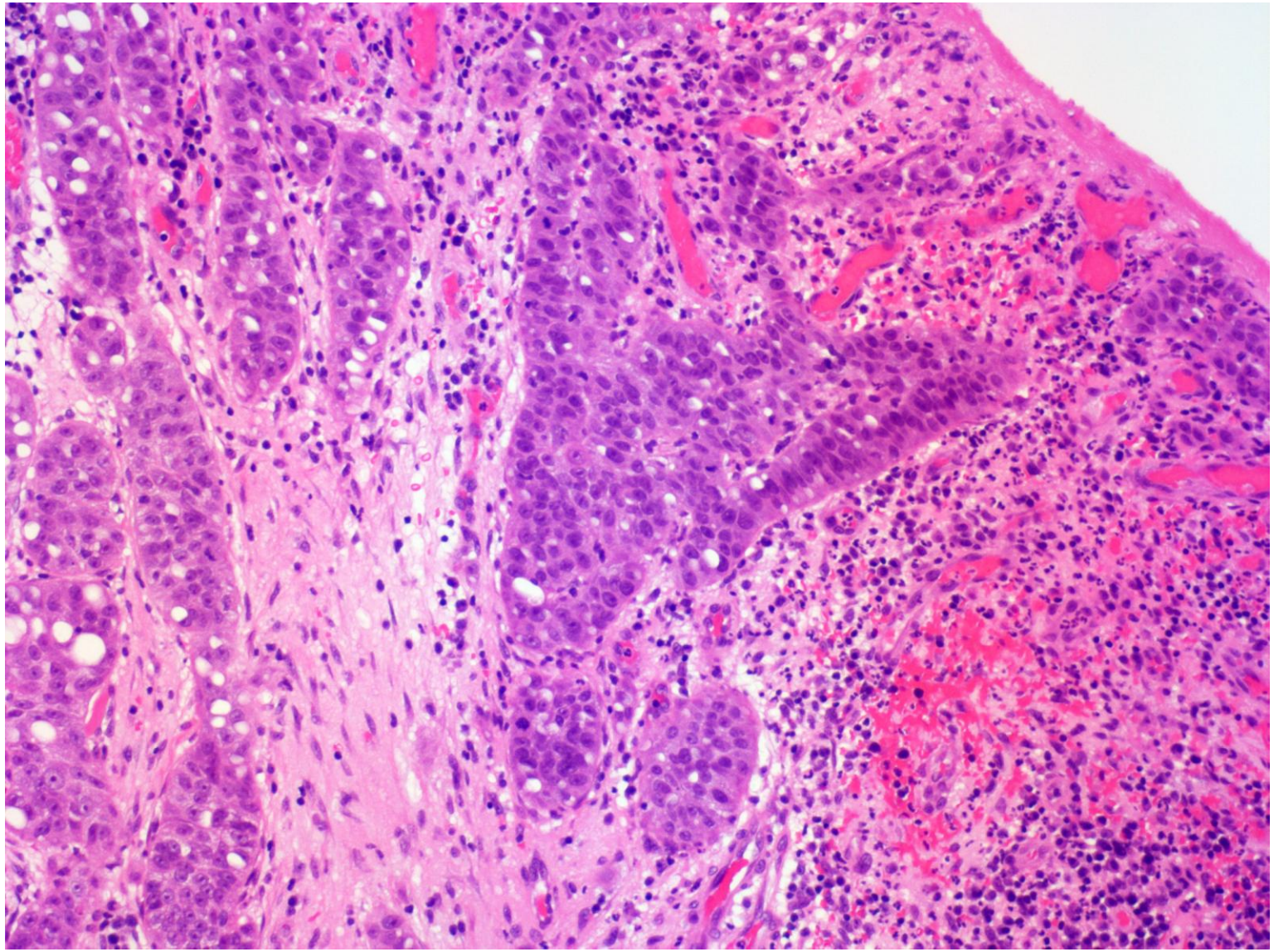
Signet ring squamous cell carcinoma

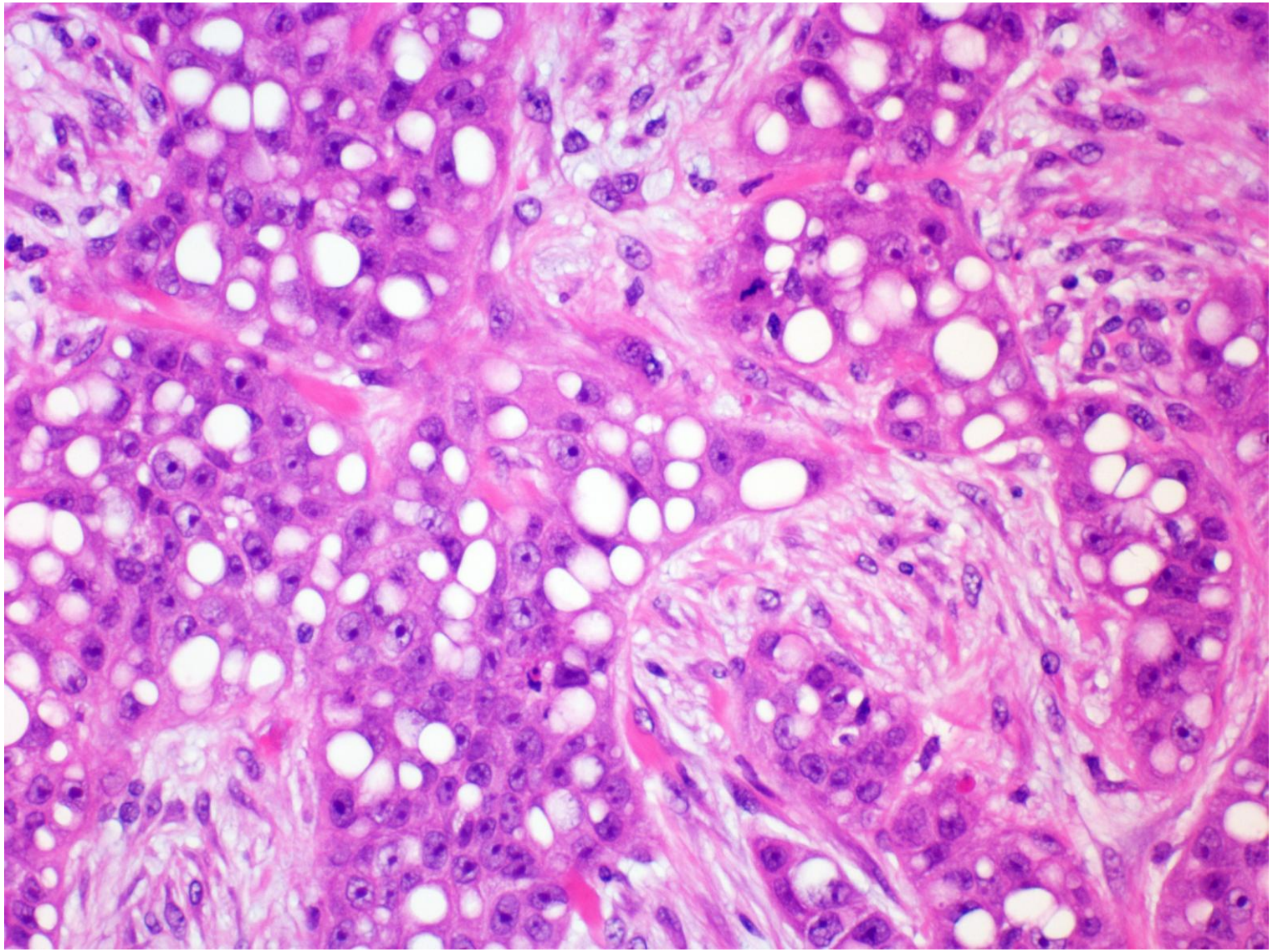
Signet ring squamous cell carcinoma, a rare variant of squamous cell carcinoma, may mimic metastatic adenocarcinoma. Squamous cancer cells with large cytoplasmic vacuoles with displaced nuclei are characteristic. Acantholytic and dyskeratotic cells may be admixed.

Ref.-1: Haghayeghi K, et al. Signet-ring squamous cell carcinoma: a report of a rare variant and review of the literature. Dermatol Online J 2020; 26(5): 13030/qt4dg131j1. PMID: 32621700

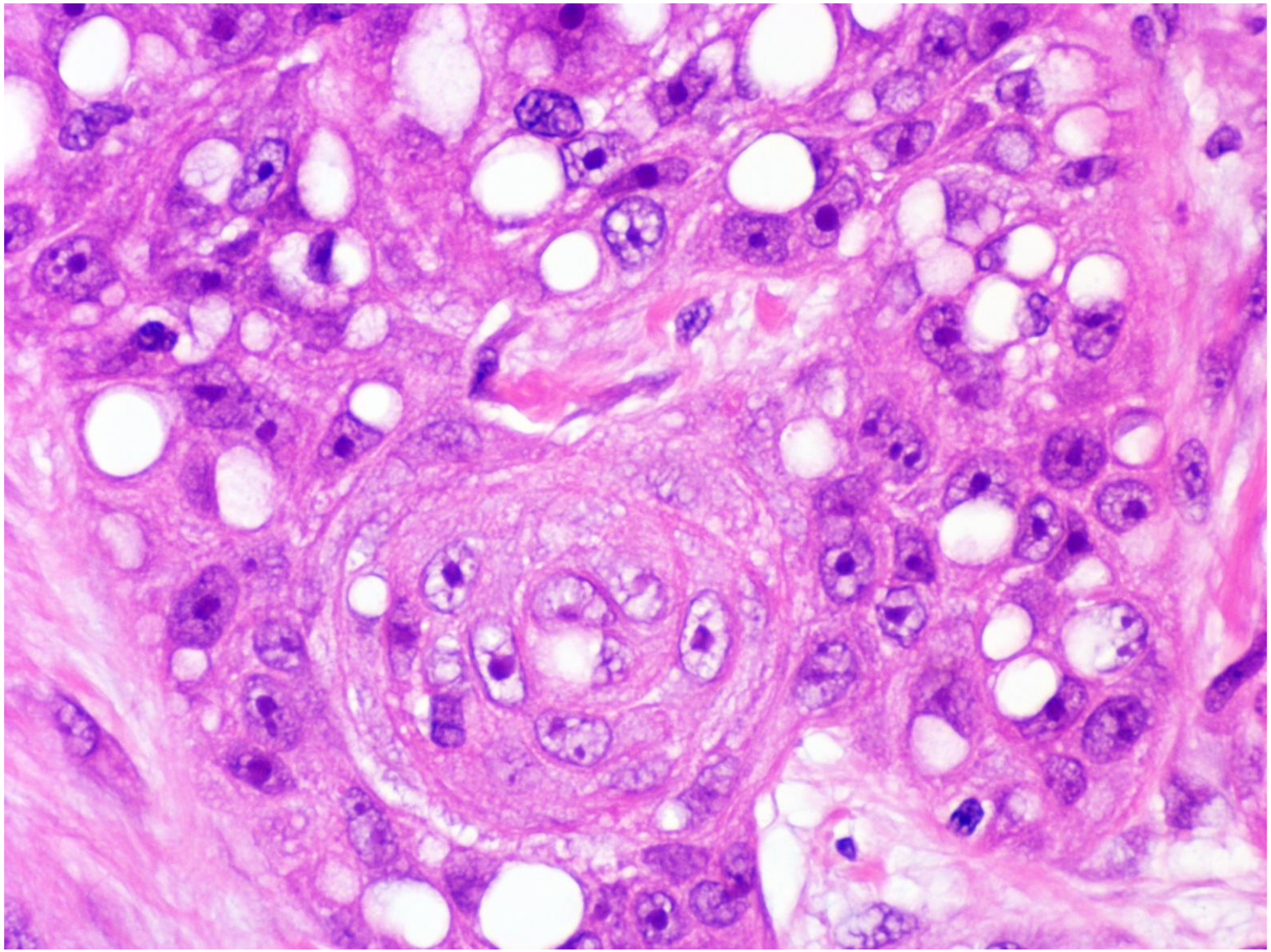
Ref.-2: Zada S, et al. Cutaneous squamous cell carcinoma with signet-ring cell component and CDX2 expression in a patient treated with PD-1 inhibitor: a case report of a common tumor with unusual differentiation. Case Rep Pathol 2023; 3378044. doi: 10.1155/2023/3378044



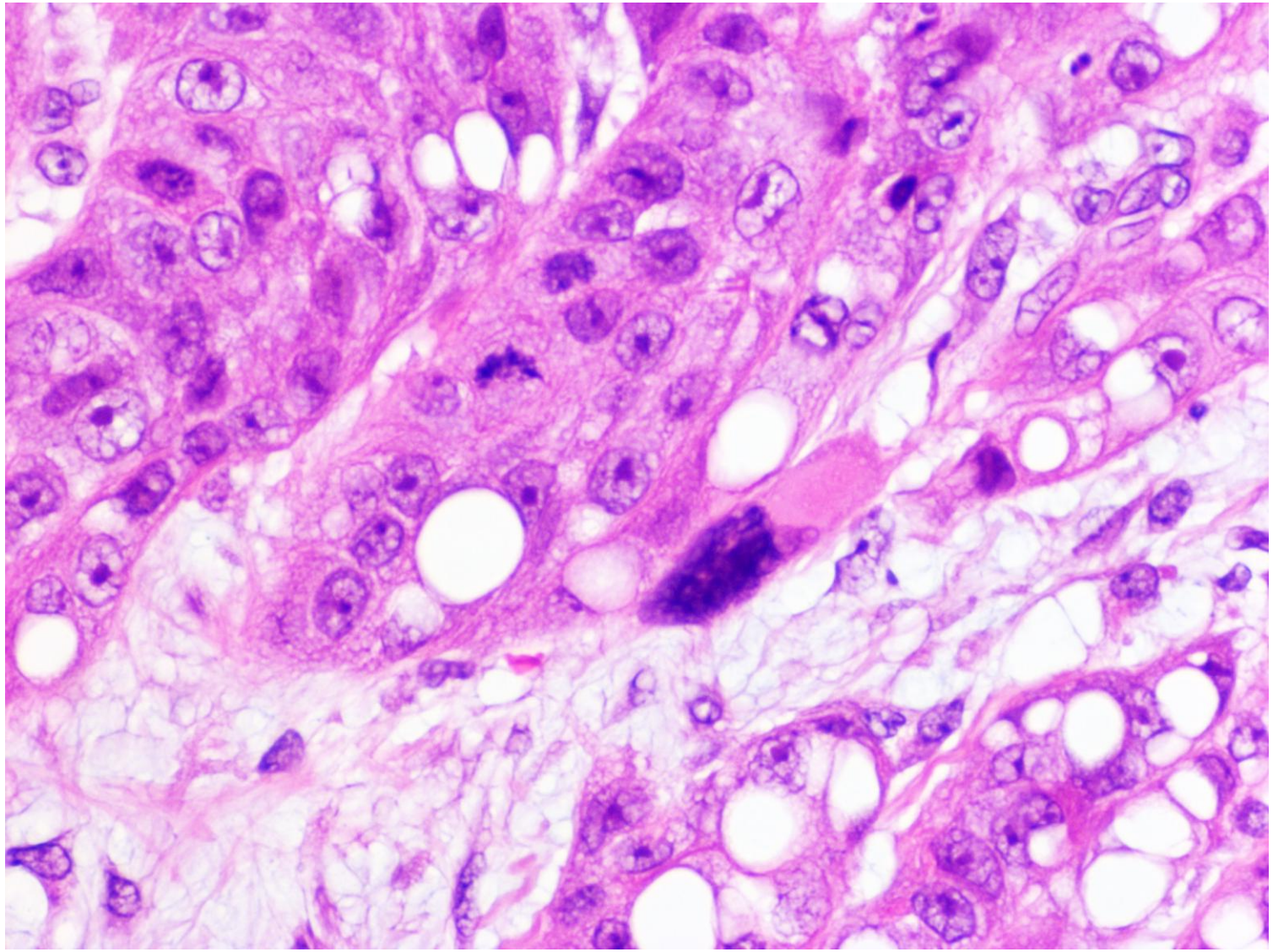
Signet ring squamous cell carcinoma seen in the ear lobe of an 88 y-o male patient. Squamous cell carcinoma arose from the ulcerated epidermis. Note the association of cytoplasmic vacuoles to show signet ring cell features (H&E-1).



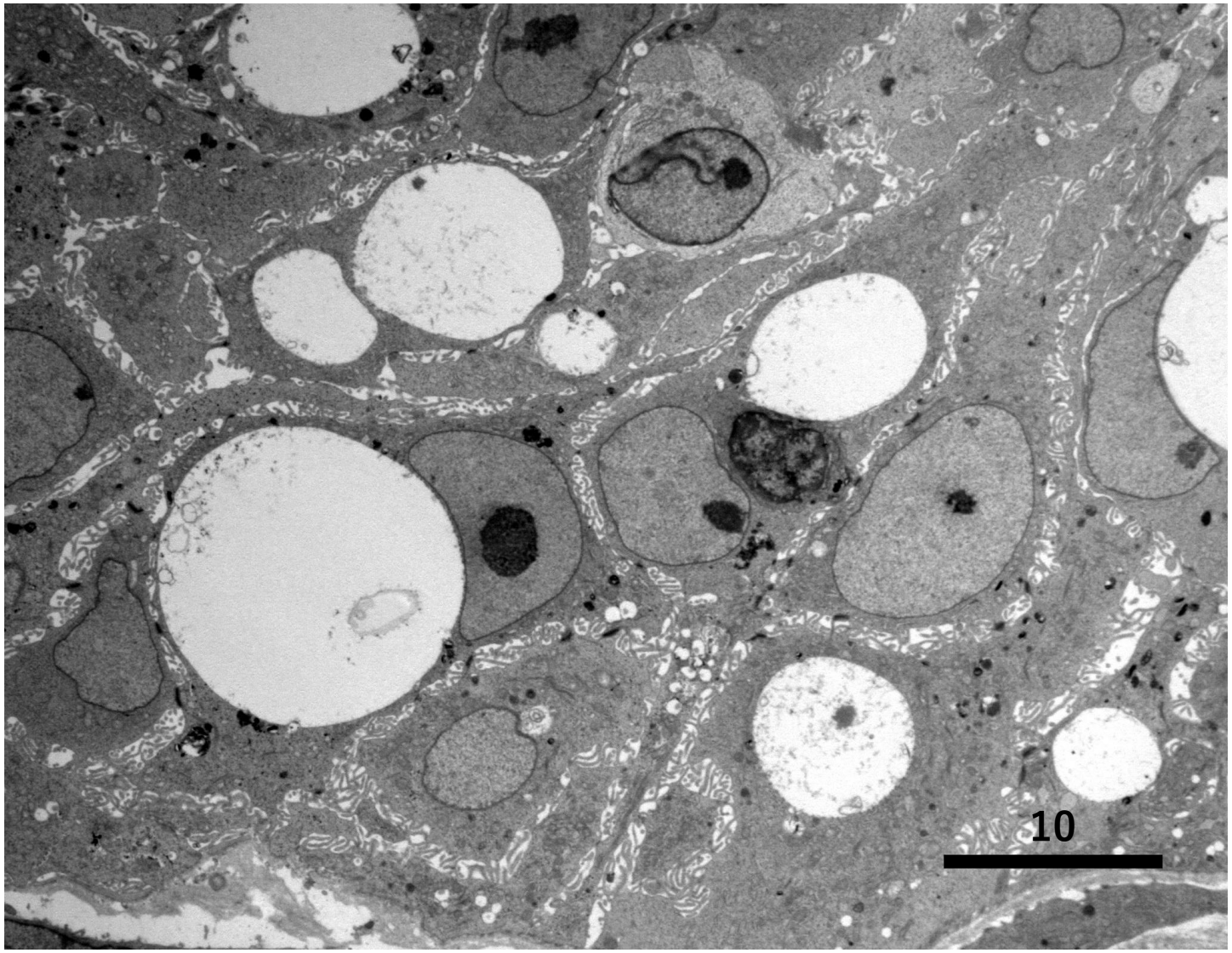
Signet ring squamous cell carcinoma seen in the ear lobe of an 88 y-o male patient. Note the association of large cytoplasmic vacuoles in the cytoplasm of squamous cancer cells, resulting in signet ring cell appearance (H&E-2).



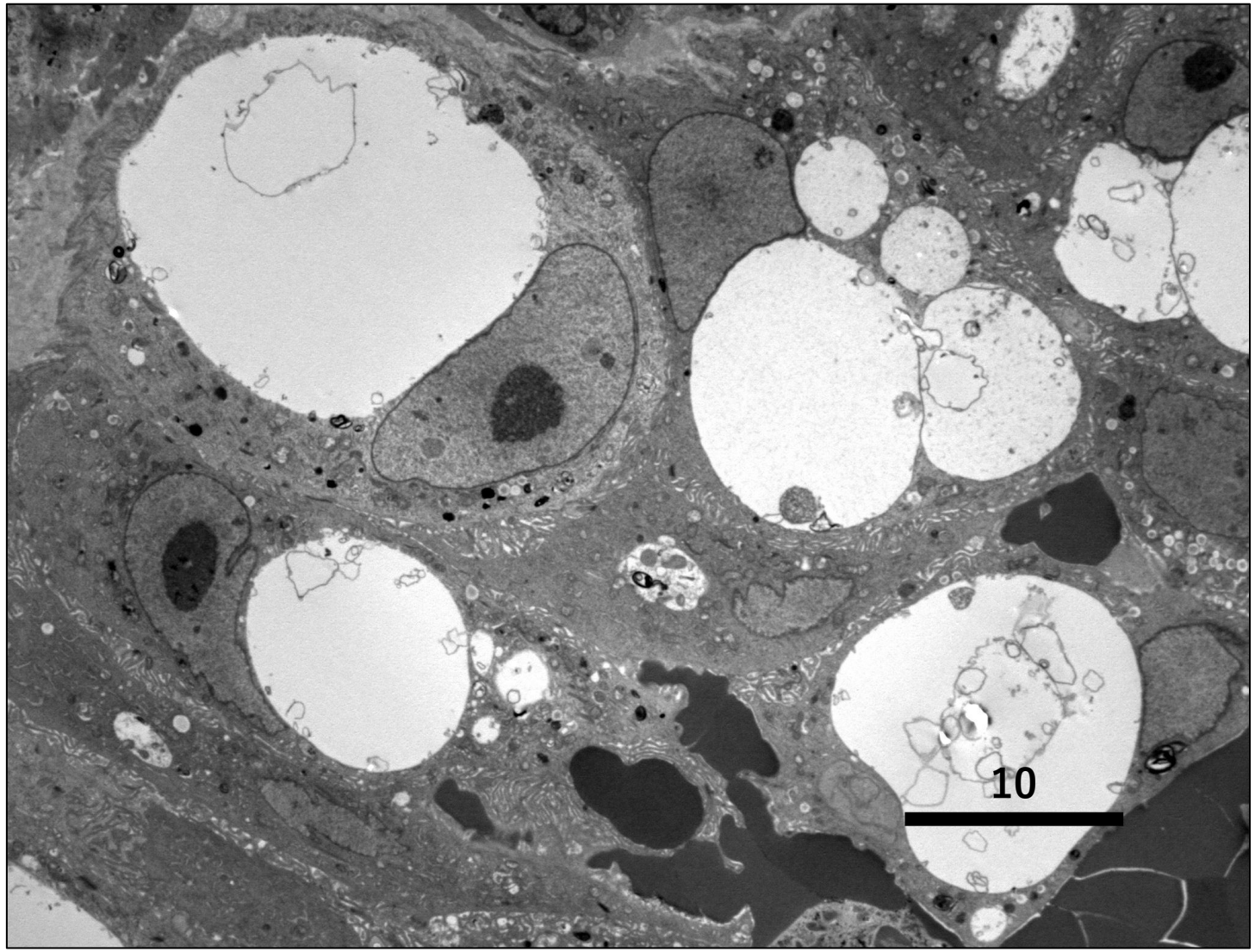
Signet ring squamous cell carcinoma seen in the ear lobe of an 88 y-o male patient. Note the association of large cytoplasmic vacuoles in the cytoplasm of squamous cancer cells, resulting in signet ring cell appearance (H&E-3).



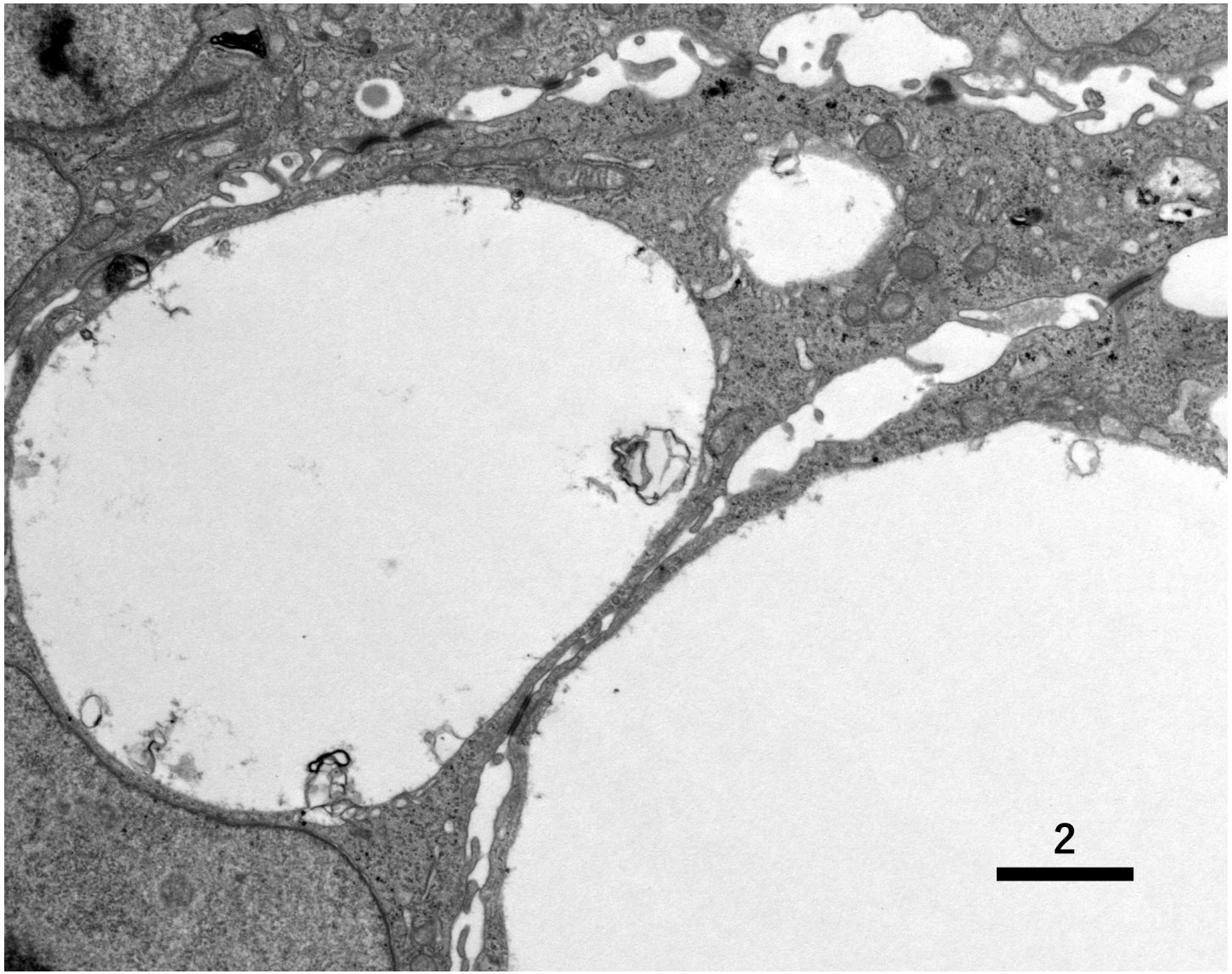
Signet ring squamous cell carcinoma seen in the ear lobe of an 88 y-o male patient. Note the association of large cytoplasmic vacuoles in the cytoplasm of squamous cancer cells, resulting in signet ring cell appearance. Nuclear pleomorphism and active mitosis are observed (H&E-4).



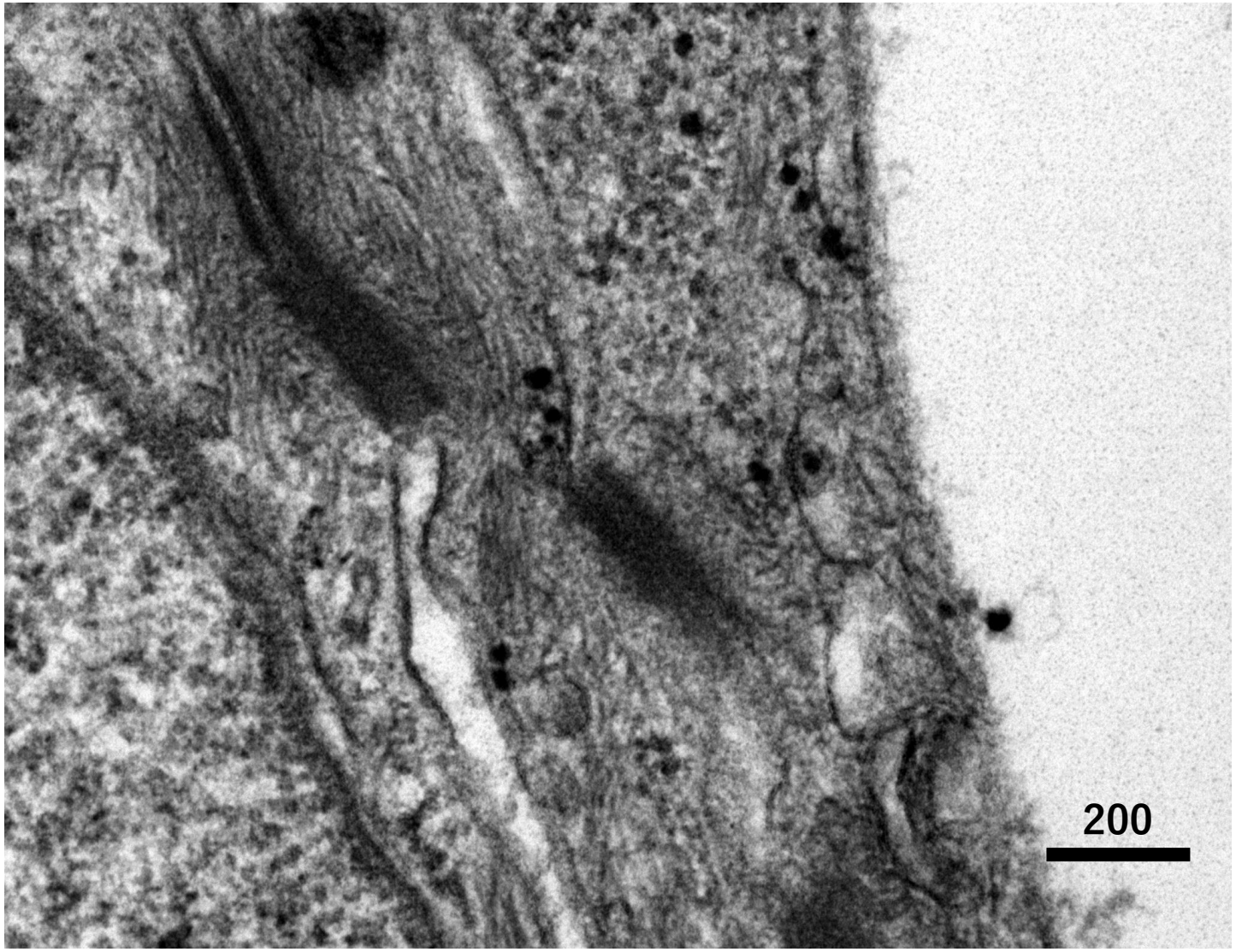
Ultrastructure of signet ring squamous cell carcinoma seen in the ear lobe of an 88 y-o male patient. No microvillous surface is seen in the large-sized cytoplasmic vacuoles. The nucleus with a prominent nucleolus is compressed (TEM-1).



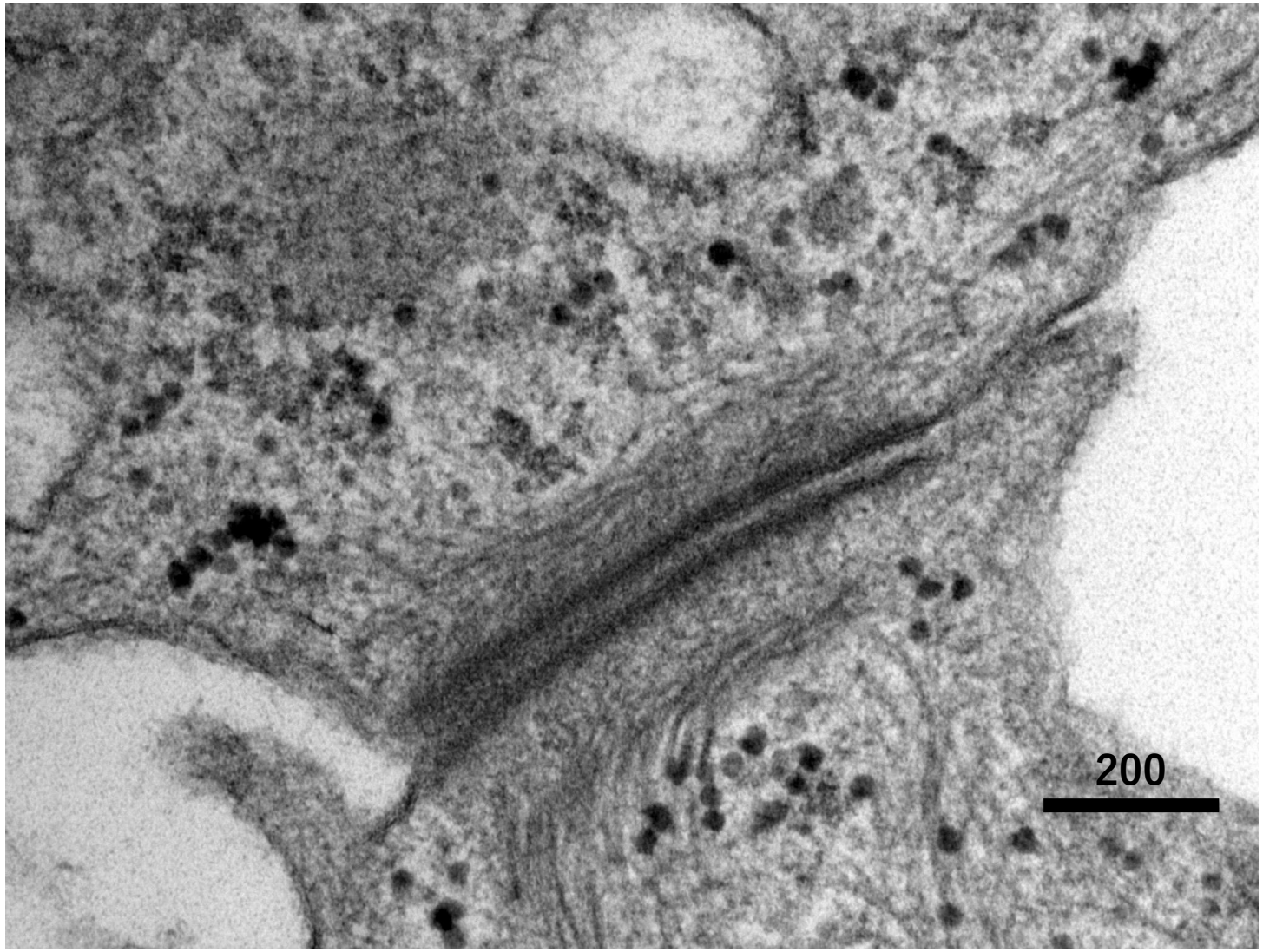
Ultrastructure of signet ring squamous cell carcinoma seen in the ear lobe of an 88 y-o male patient. No microvillous surface is seen in the large-sized cytoplasmic vacuoles. The nucleus with a prominent nucleolus is compressed. Floccular substances are focally floating in the vacuoles (TEM-2).



Ultrastructure of signet ring squamous cell carcinoma seen in the ear lobe of an 88 y-o male patient. No microvillous surface is seen in the large-sized cytoplasmic vacuoles. The nucleus with a prominent nucleolus is compressed. Floccular substances are focally floating in the vacuoles (TEM-3).



Ultrastructure of signet ring squamous cell carcinoma seen in the ear lobe of an 88 y-o male patient. Desmosomal junctions are well developed. Tonofilaments are clustered on the desmosomes (TEM-4).



Ultrastructure of signet ring squamous cell carcinoma seen in the ear lobe of an 88 y-o male patient. Desmosomal junctions are well developed. Tonofilaments are clustered on the desmosomes (TEM-5).