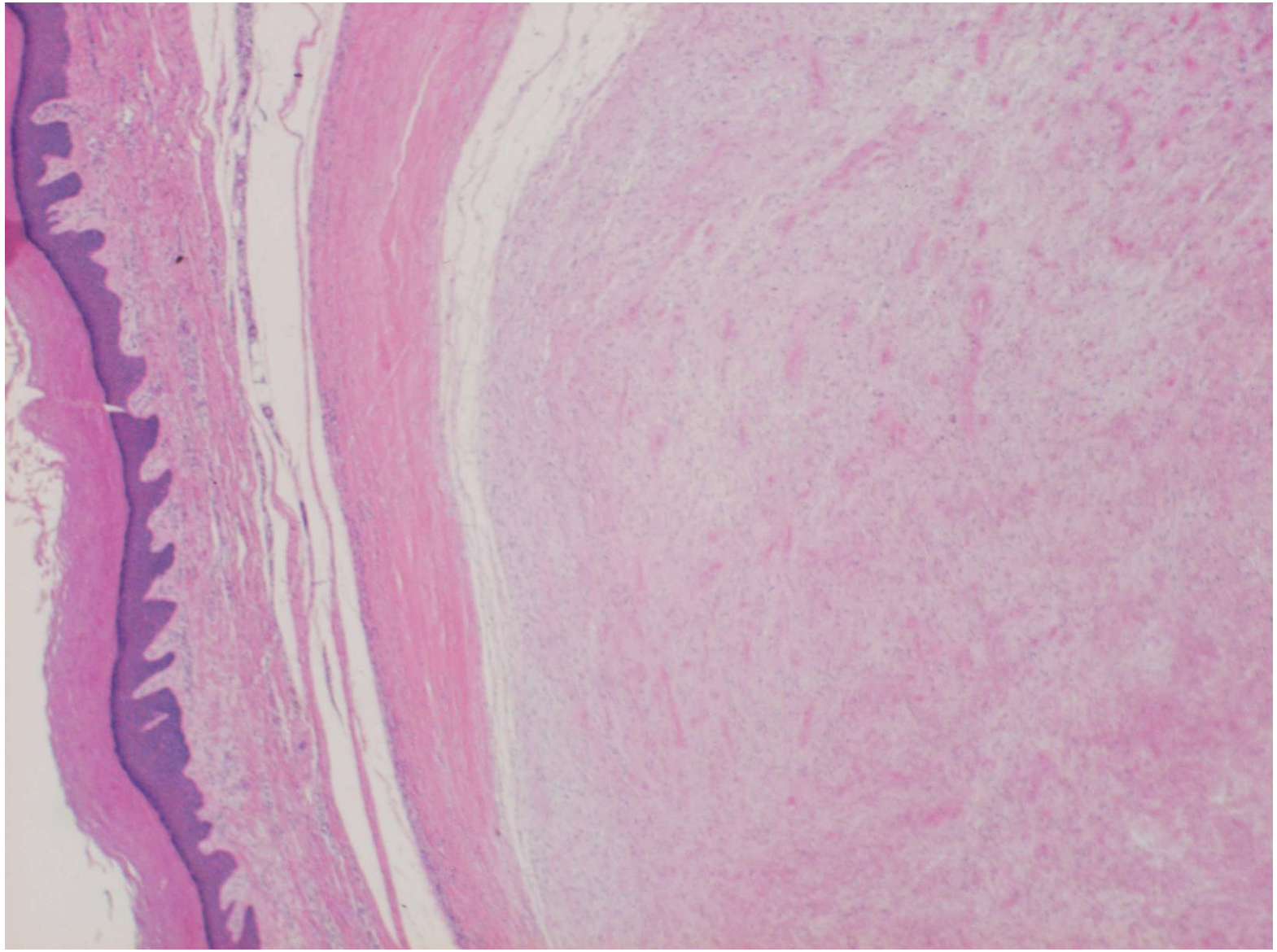
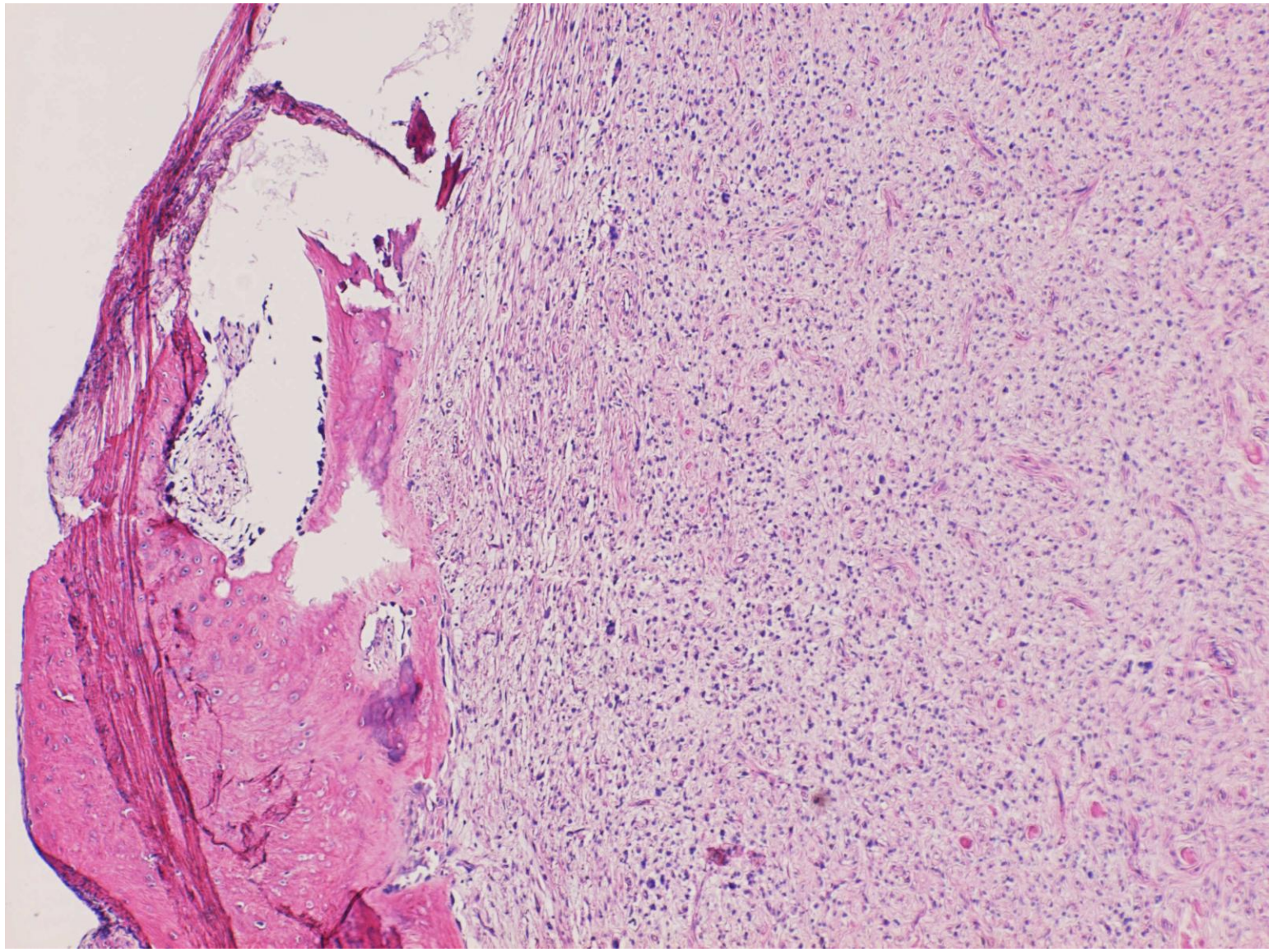
Ossifying fibromyxoid tumor

Ossifying fibromyxoid tumor (OFMT) is a slow-growing mesenchymal neoplasm of uncertain histogenesis with intermediate malignant potential. Recurrence and metastasis have been recorded, irrespective of its low-grade morphology. OFMT most commonly arises in the proximal limbs and limb girdles of middle-aged adults. The subcutaneous tissue is the most common site of occurrence, but deep muscles and bone are also involved. Microscopically, uniform, round or ovoid epithelioid cells with defined cytoplasmic borders grow in the myxohyaline or fibromyxoid stroma. The tumor cells are often arranged in cords, nests or loose sheets. Trabecular and reticular patterns are also noted. Formation of a thick fibrous capsule is common, and the capsule may ossify to develop into a thin shell of bone at the periphery of the tumor. Immunohistochemically, co-expression of S-100 protein and desmin is often seen. SOX10 is negative. The PHF1 gene on 6p21 is involved for the genetic rearrangement. The PHF1-TFE3 fusion is typically seen, but the fusion partner genes are often unknown.

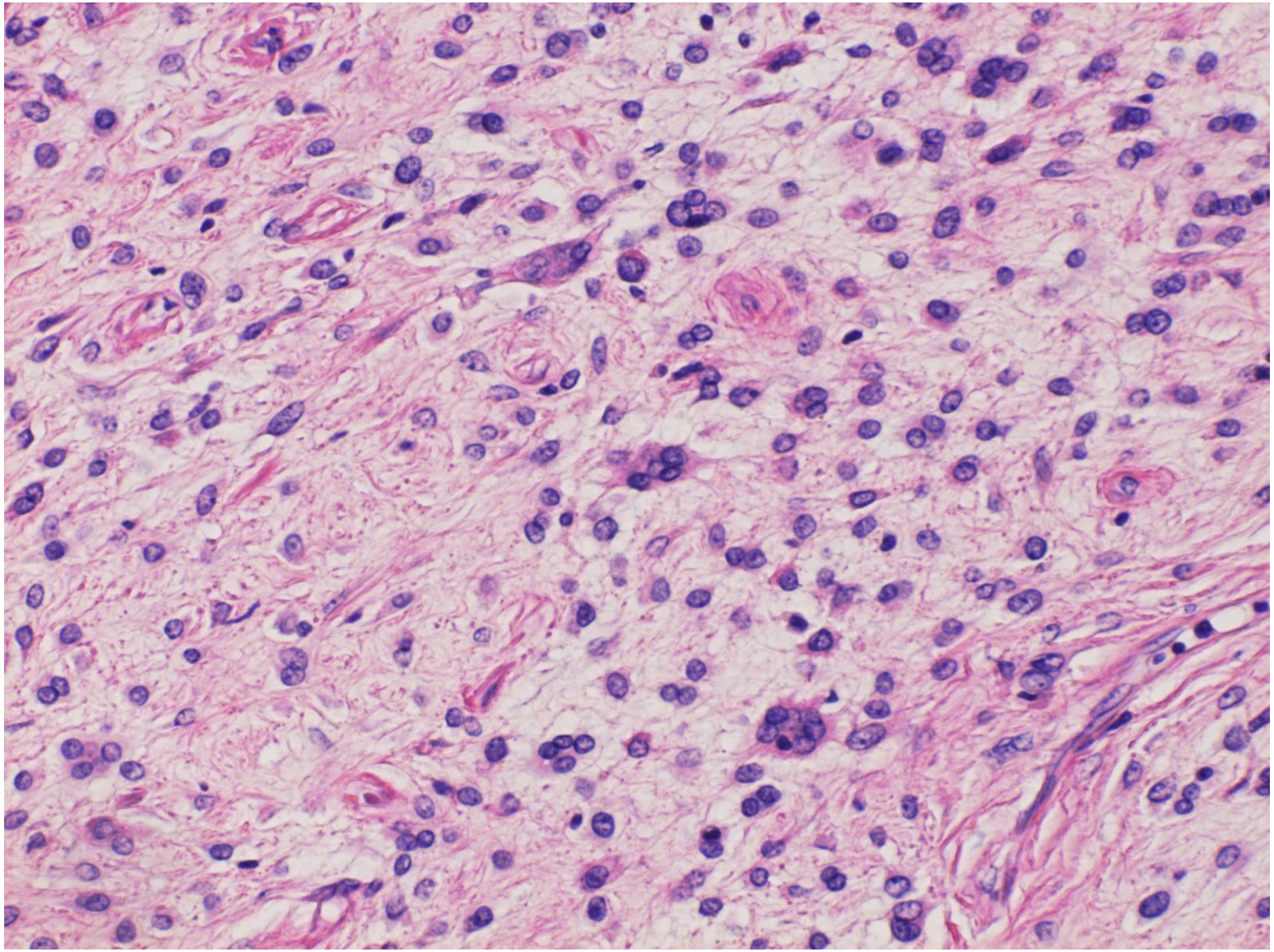
Ref.: Cody S, et al. Ossifying fibromyxoid tumor: a review with emphasis on recent molecular advances and differential diagnosis. Arch Pathol Lab Med 2019; 143(12): 1504–1512. doi: 10.5858/arpa.2019-0371-RA



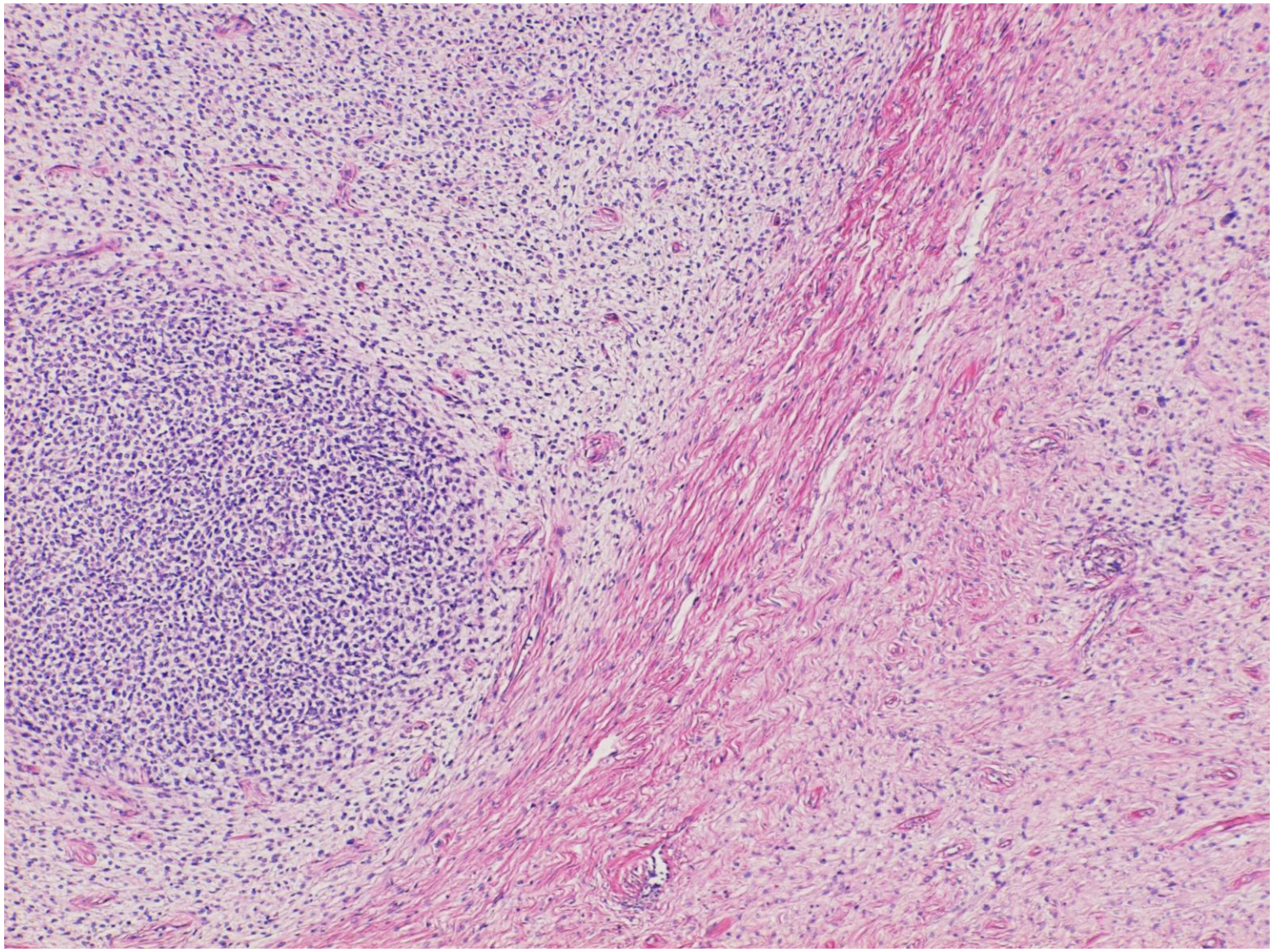
Ossifying fibromyxoid tumor in the subcutaneous tissue of the palm skin seen in a 71 y-o female patient. Fibrous capsule formation and association of the myxoid tumor stroma are evident (H&E-1).



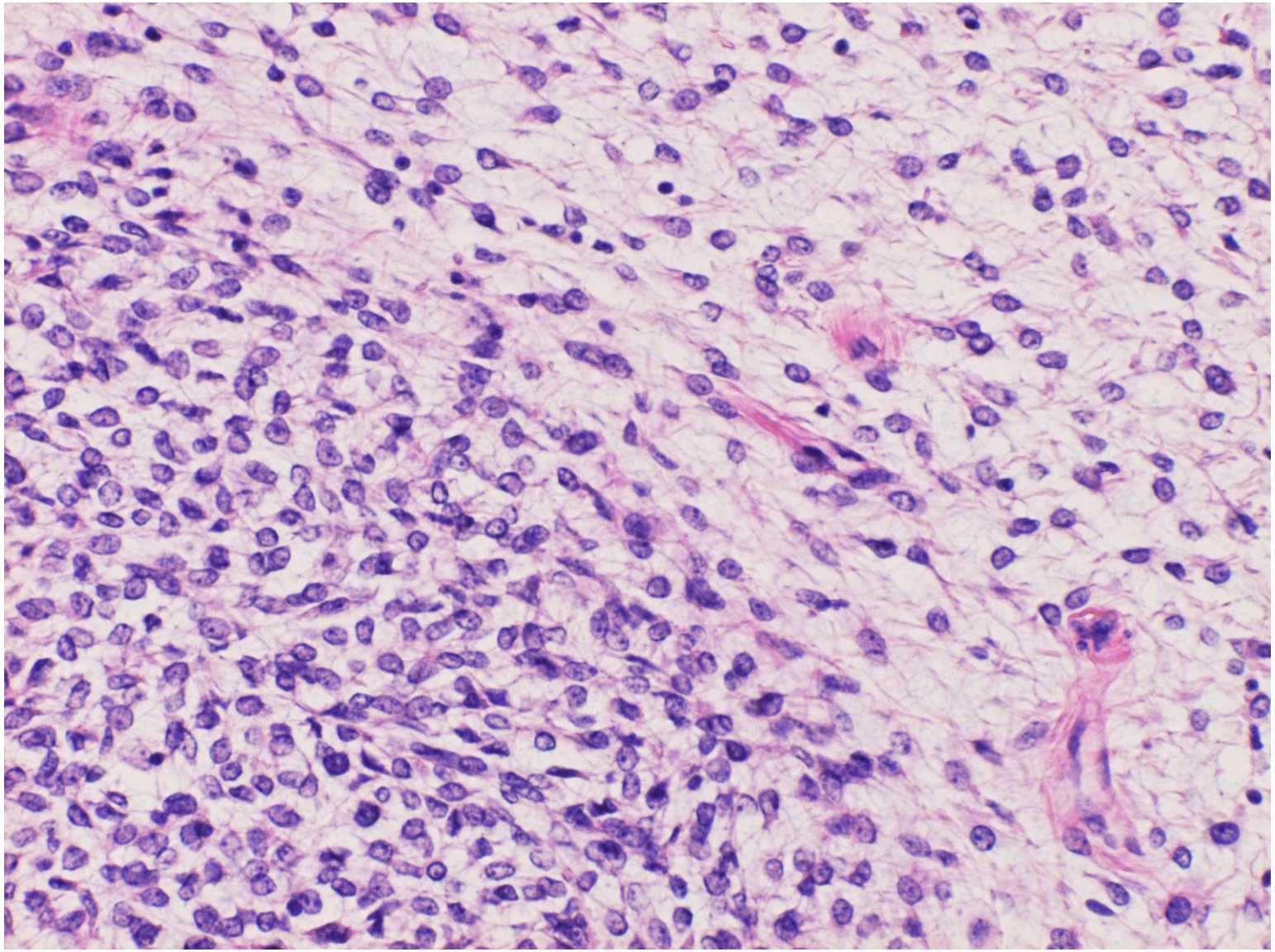
Ossifying fibromyxoid tumor in the subcutaneous tissue of the palm skin seen in a 71 y-o female patient. The fibrous capsule is ossified. Mildly increased cellularity is observed in the myxoid tumor stroma (H&E-2).



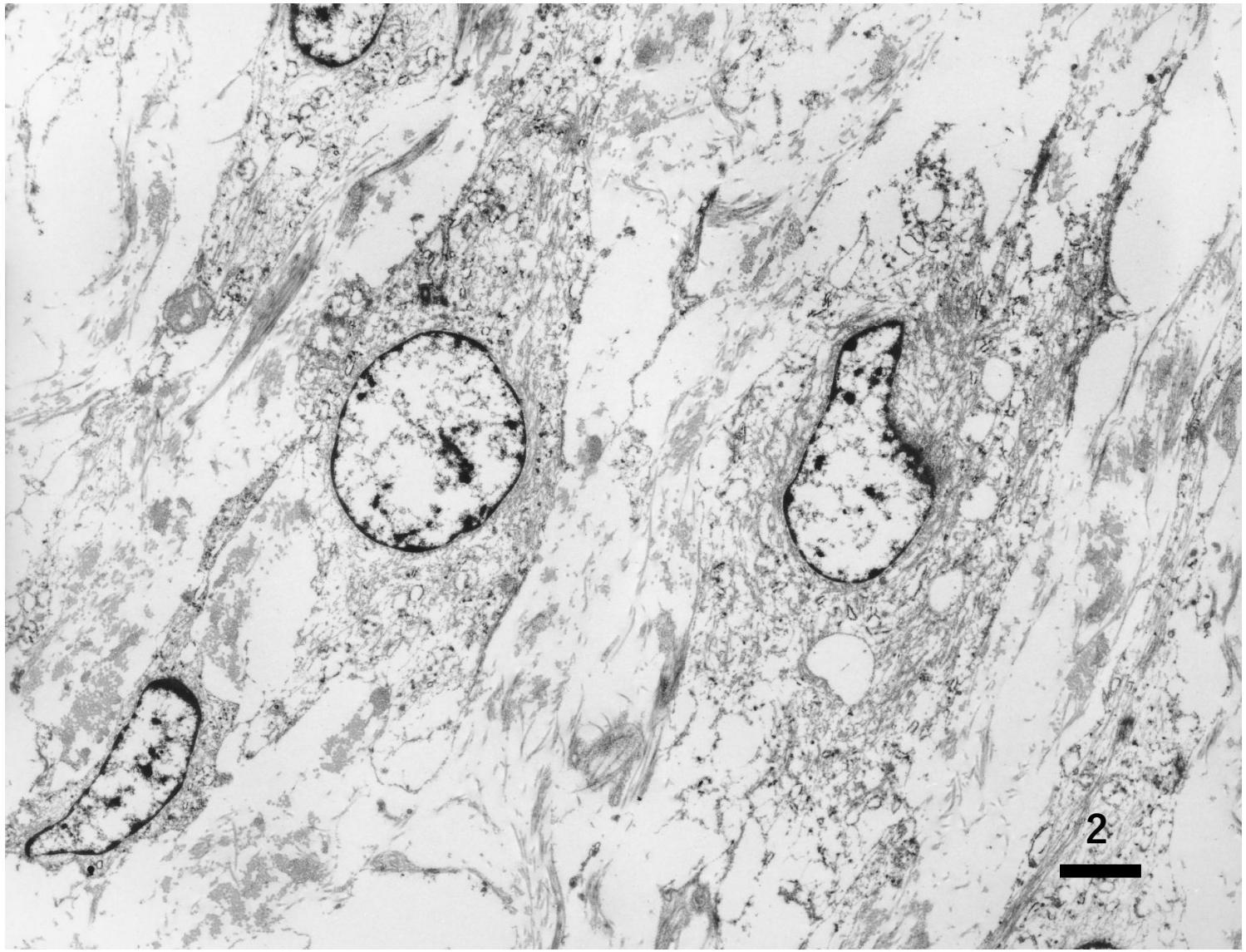
Ossifying fibromyxoid tumor in the subcutaneous tissue of the palm skin seen in a 71 y-o female patient. Mildly increased cellularity and multinucleation of the tumor cells are noted in the myxoid tumor stroma (H&E-3).



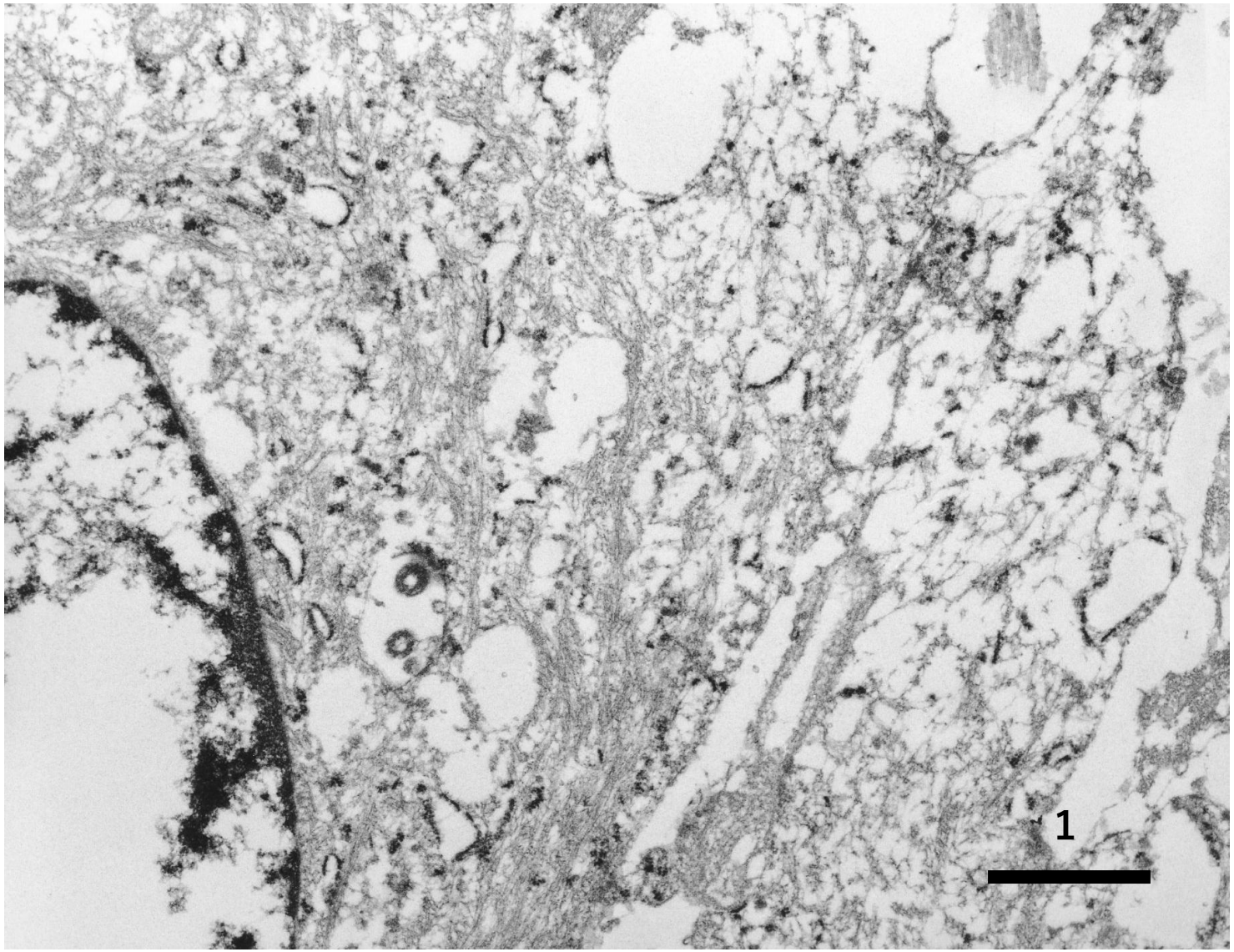
Ossifying fibromyxoid tumor in the subcutaneous tissue of the palm skin seen in a 71 y-o female patient. Hypercellular foci are noted in the myxoid tumor stroma. Fibrous stroma is associated (H&E-4).



Ossifying fibromyxoid tumor in the subcutaneous tissue of the palm skin seen in a 71 y-o female patient. Hypercellular foci are noted in the myxoid tumor stroma. Nuclear pleomorphism is minimal (H&E-5).



Ultrastructure of ossifying fibromyxoid tumor in the subcutaneous tissue of the palm skin seen in a 71 y-o female patient. Fibroblastic tumor cells are embedded in the myxoid stroma. The EM sample was enucleated from the paraffin block (EM-1).



Ultrastructure of ossifying fibromyxoid tumor in the subcutaneous tissue of the palm skin seen in a 71 y-o female patient. The fibroblastic tumor cell possesses developed rough endoplasmic reticula and numerous intermediate filaments (EM-2).