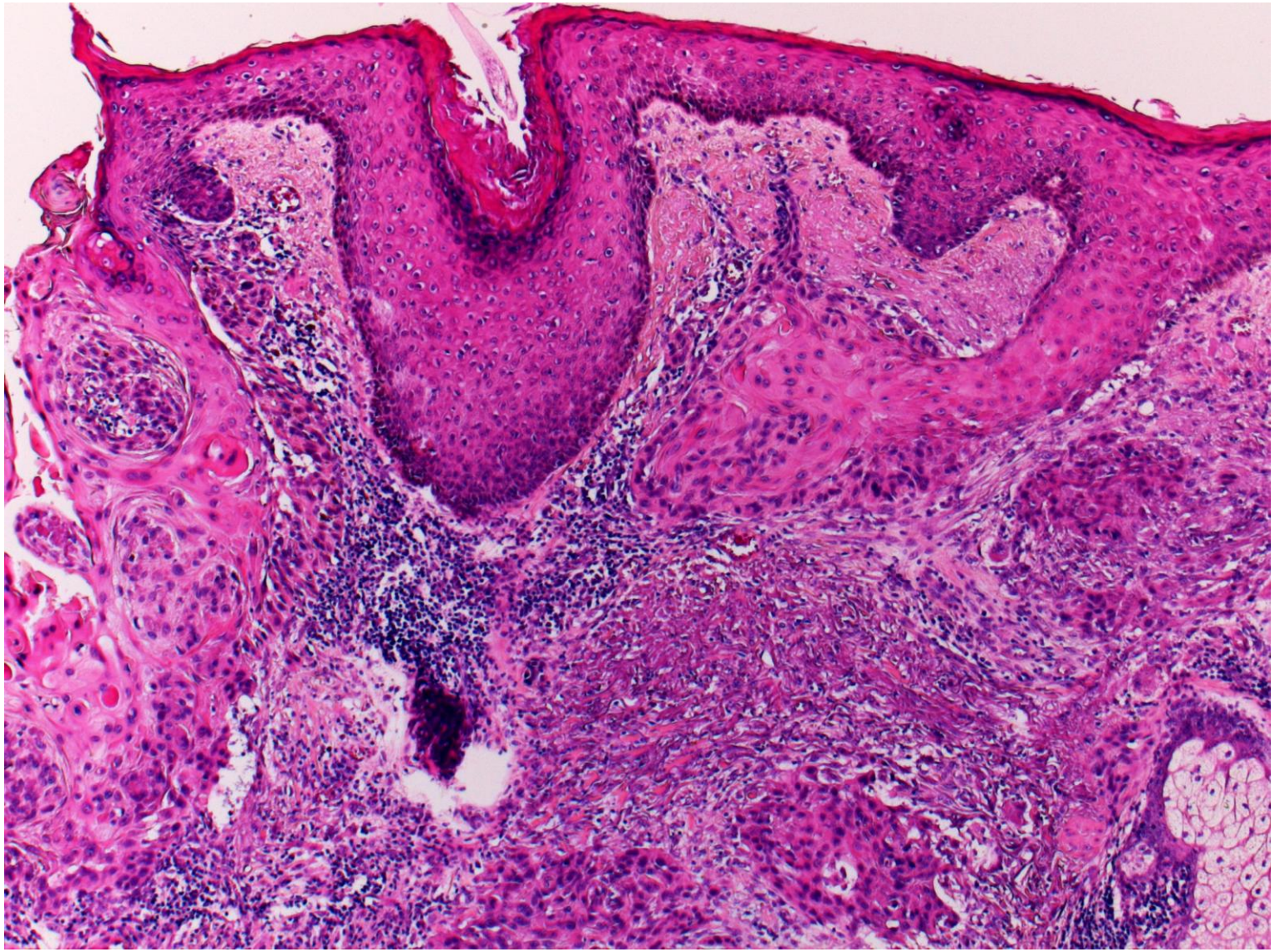
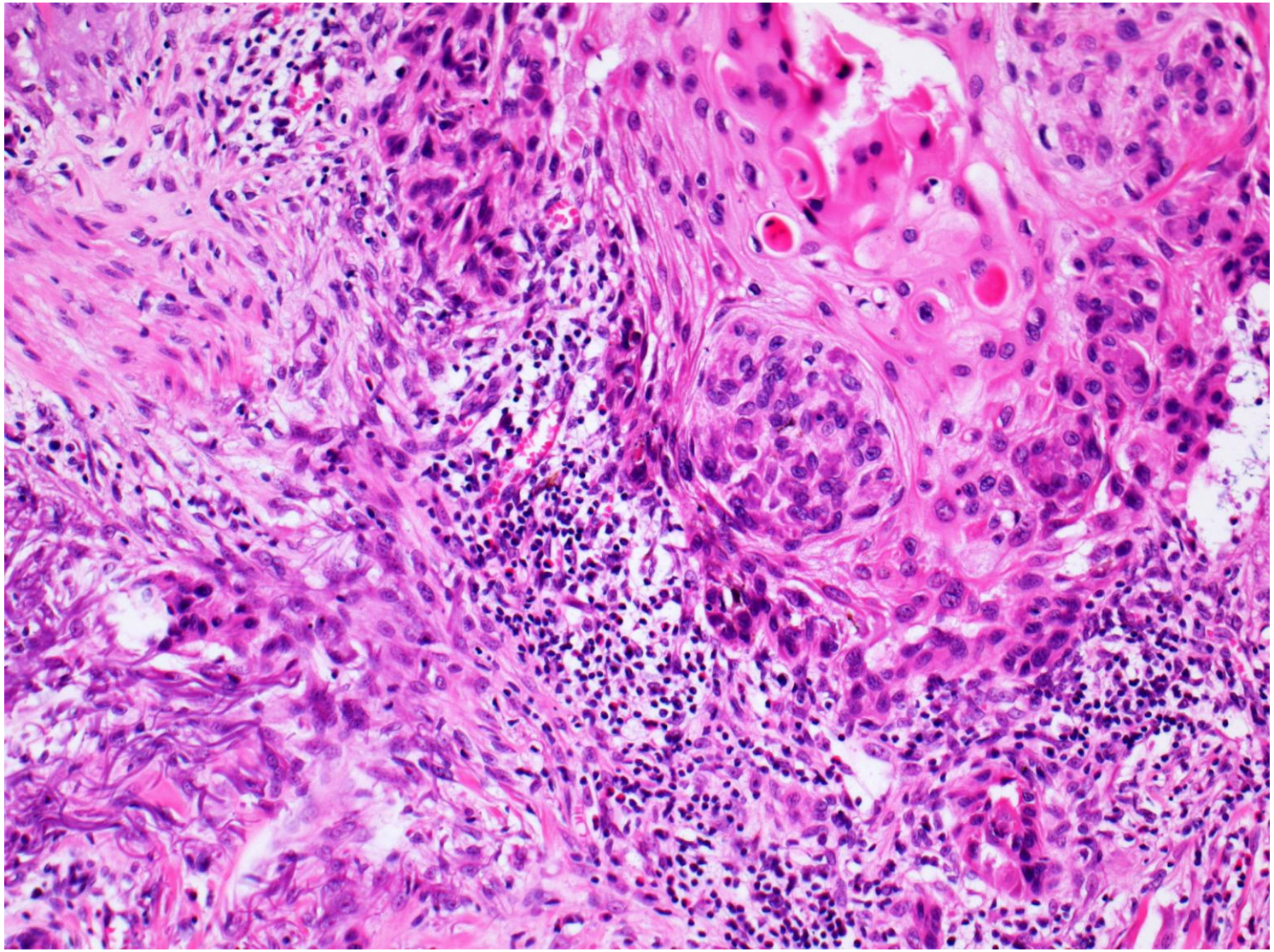
Pigmented squamous cell carcinoma

Pigmented squamous cell carcinoma, a rare variant of skin cancers with intra-tumoral colonization of benign dendritic melanocytes, usually presents clinically as a rapidly evolving crusted papule on the sun-damaged skin. Microscopically, it consists of proliferating atypical keratinocytes and bland dendritic melanocytes and melanophages. The melanocytes are distributed throughout the tumor nests. The melanin pigments are often transferred to the cancer cell cytoplasm.

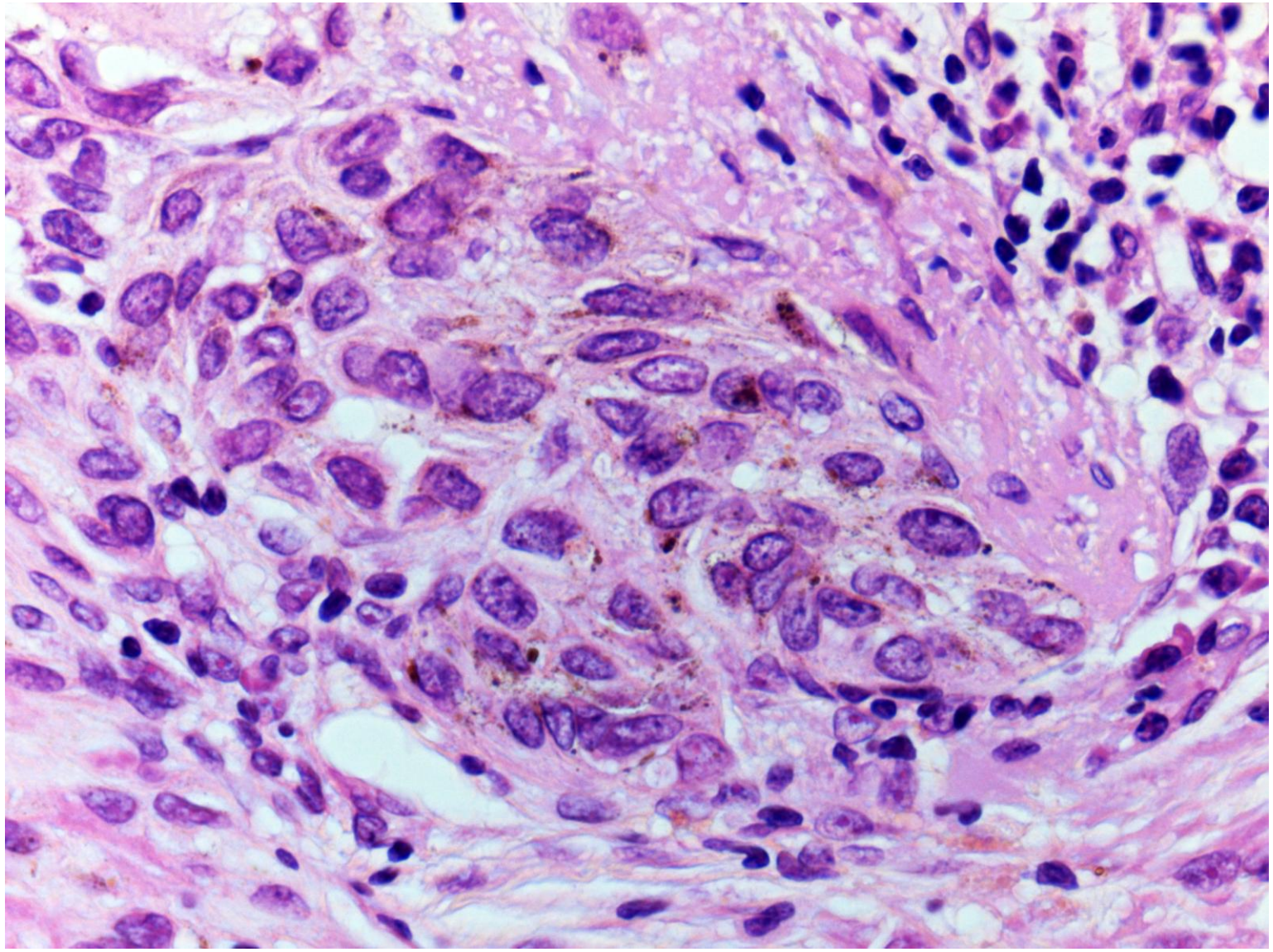
Ref.: Morais PM, et al. Pigmented squamous cell carcinoma: case report and importance of differential diagnosis. An Bras Dermatol 2018; 93(1): 96-98. doi: 10.1590/abd1806-4841.20186757



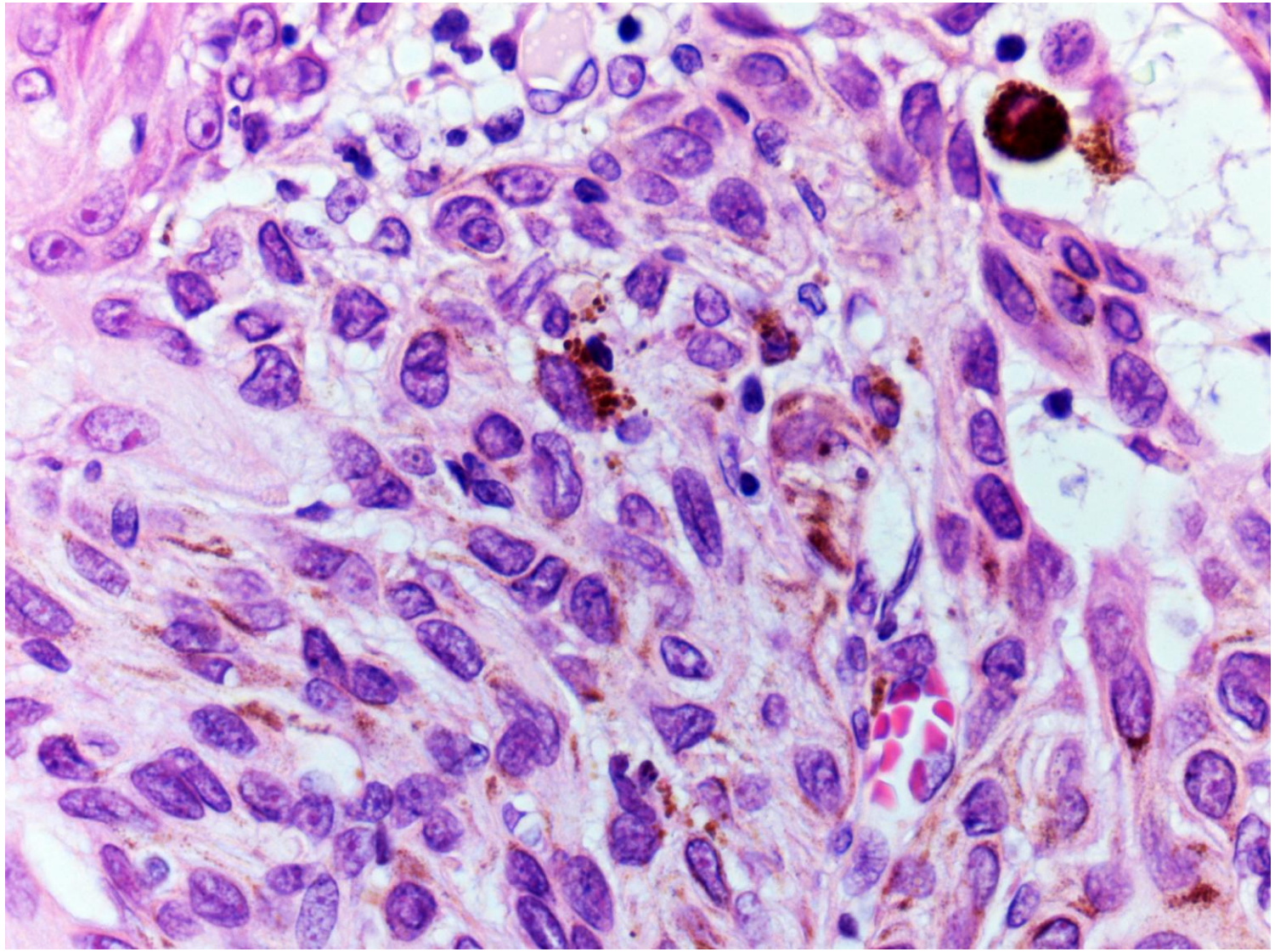
Pigmented squamous cell carcinoma of the solar elastotic skin of the scalp of an 81 y-o male patient. Ulcerated black-colored tumor reveals invasive squamous cell carcinoma with keratinization (H&E-1).



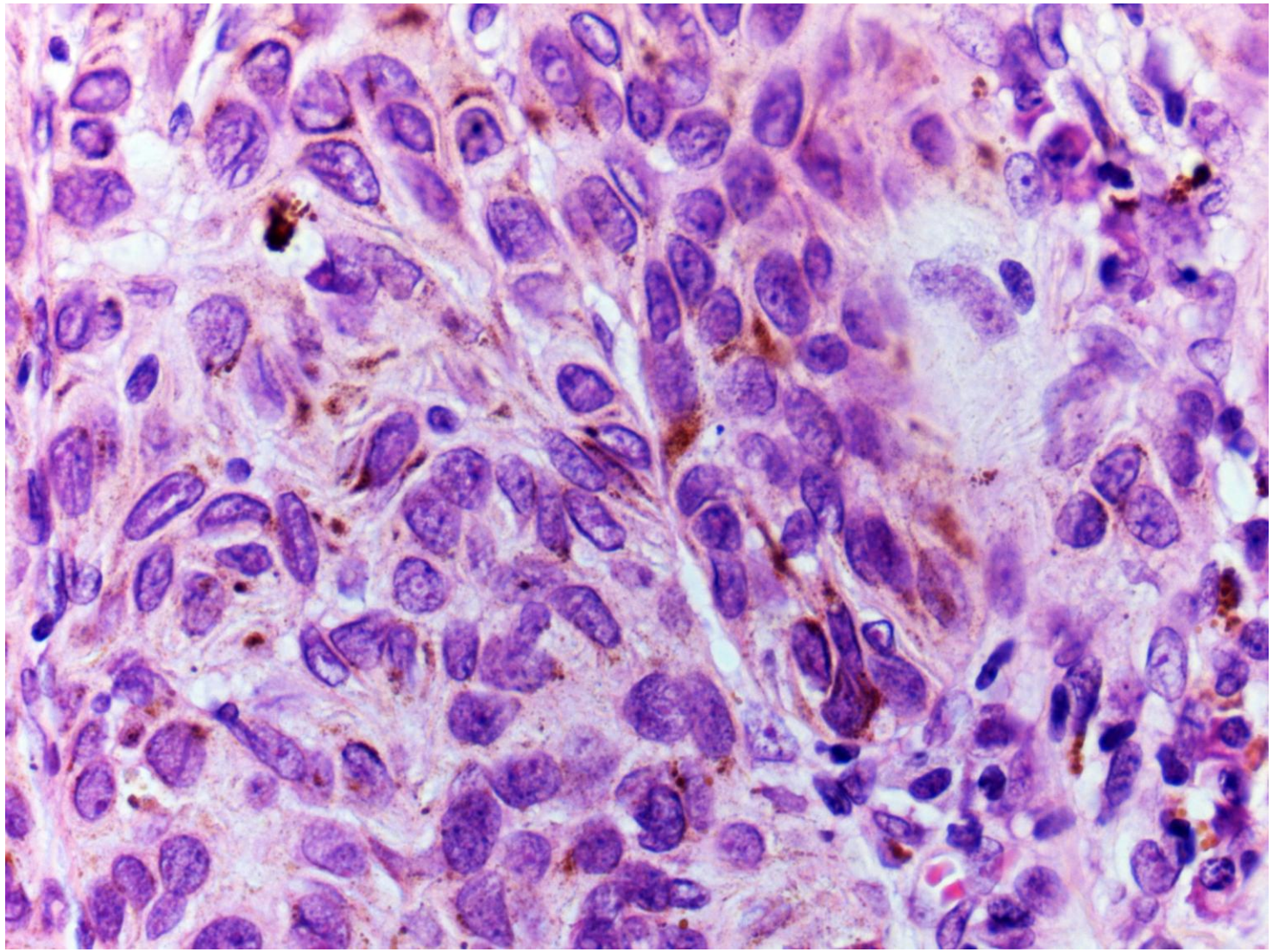
Pigmented squamous cell carcinoma of the solar elastotic skin of the scalp of an 81 y-o male patient. Ulcerated black-colored tumor reveals invasive squamous cell carcinoma with keratinization (H&E-2).



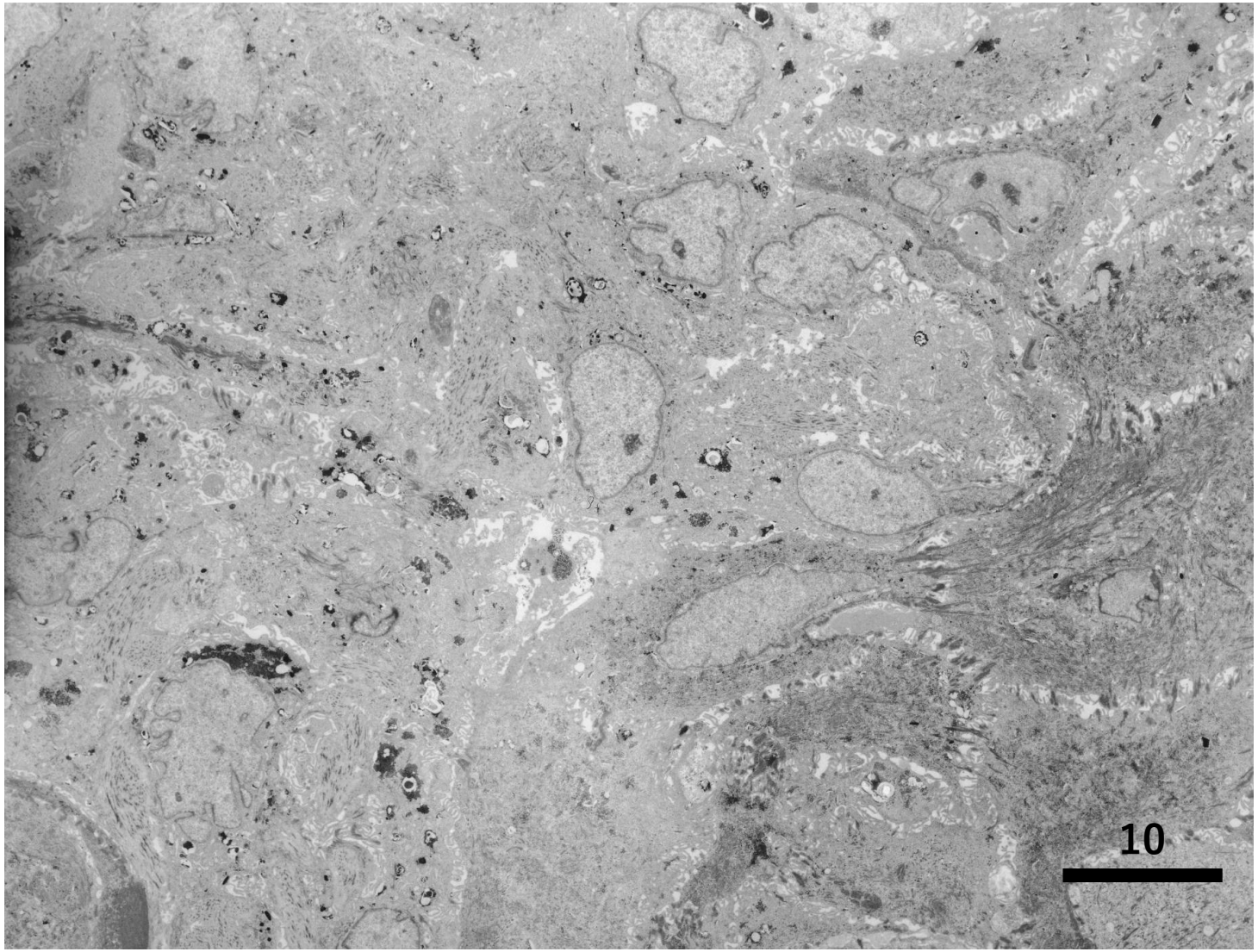
Pigmented squamous cell carcinoma of the solar elastotic skin of the scalp of an 81 y-o male patient. The invasive squamous cancer cells are pigmented. Melanotic processes of melanocytes are scattered among the cancer cells (H&E-3).



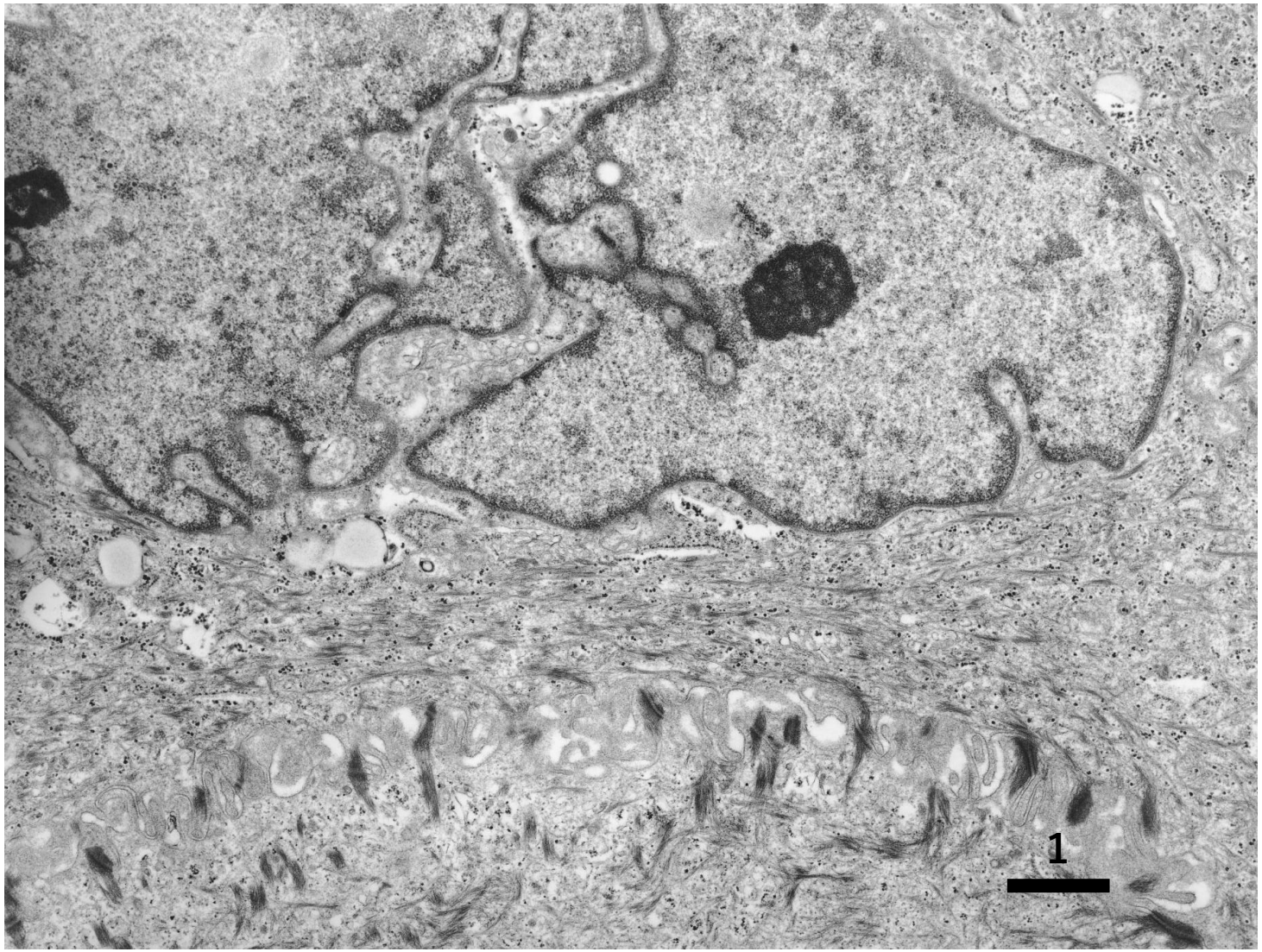
Pigmented squamous cell carcinoma of the solar elastotic skin of the scalp of an 81 y-o male patient. The invasive squamous cancer cells are pigmented. Melanotic processes of melanocytes are scattered among the cancer cells (H&E-4).



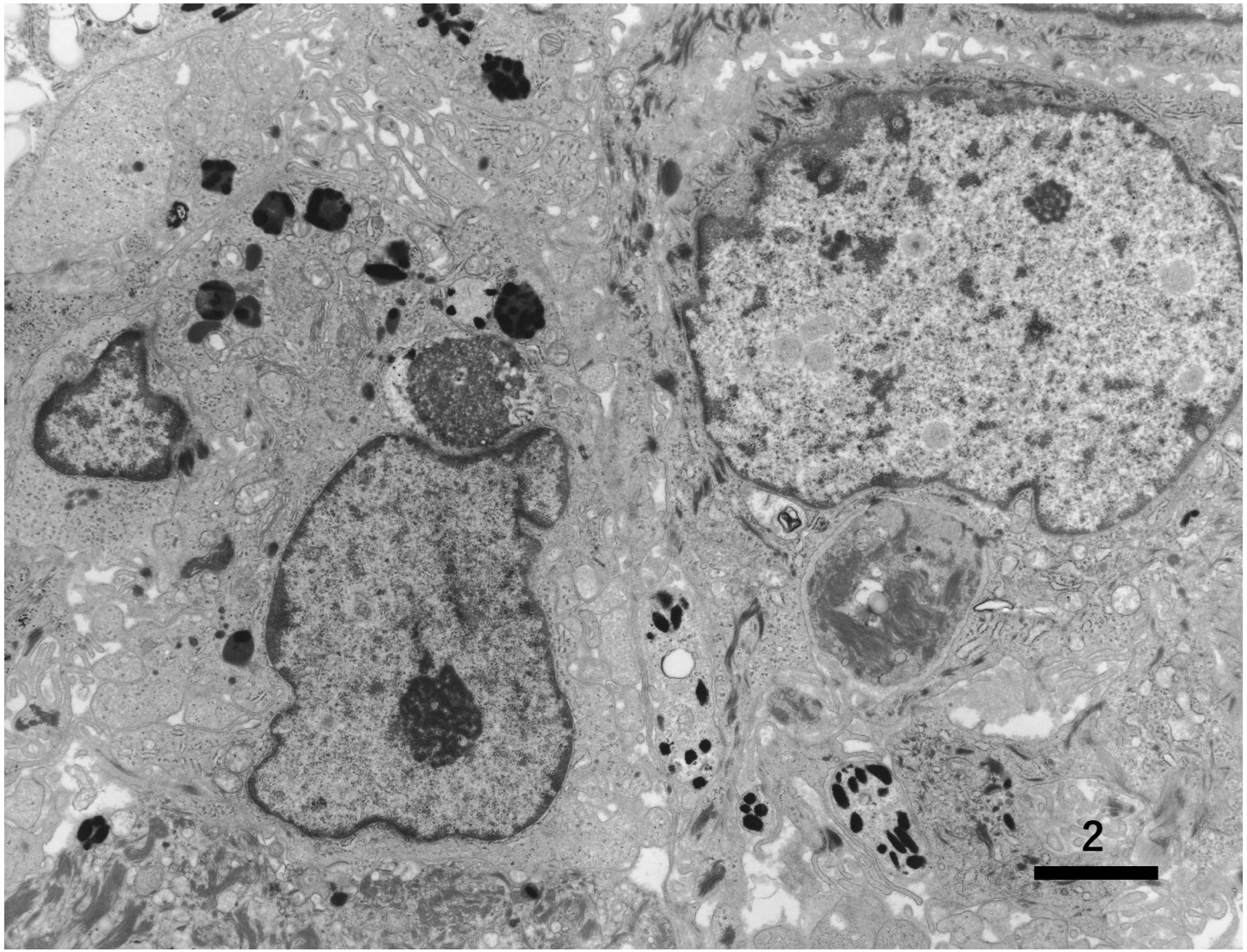
Pigmented squamous cell carcinoma of the solar elastotic skin of the scalp of an 81 y-o male patient. The invasive squamous cancer cells are pigmented. Melanotic processes of melanocytes are scattered among the cancer cells (H&E-5).



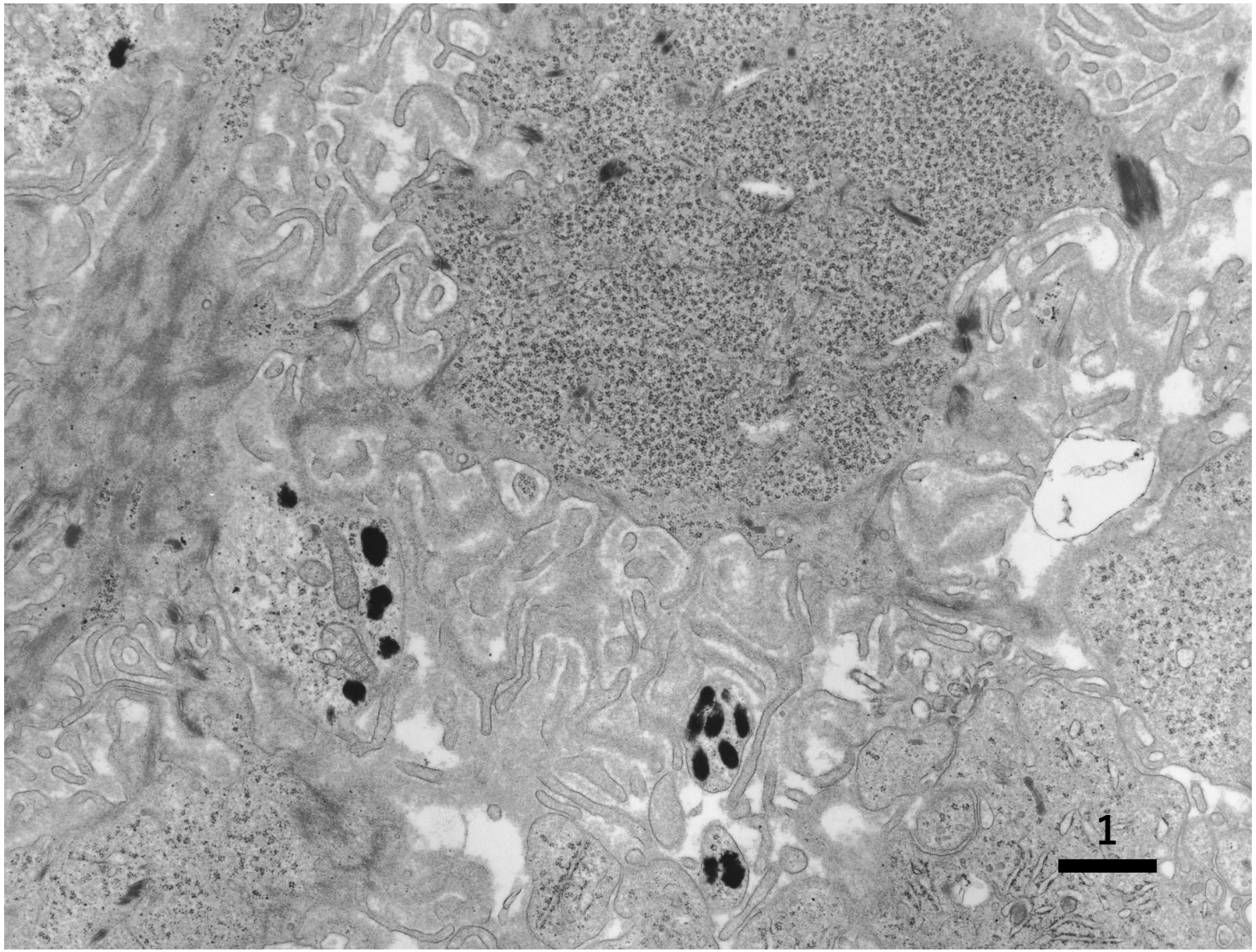
Ultrastructure of pigmented squamous cell carcinoma of the solar elastotic skin of the scalp of an 81 y-o male patient. Electron-dense melanin granules are dispersed in and around the squamous cancer cells (TEM-1).



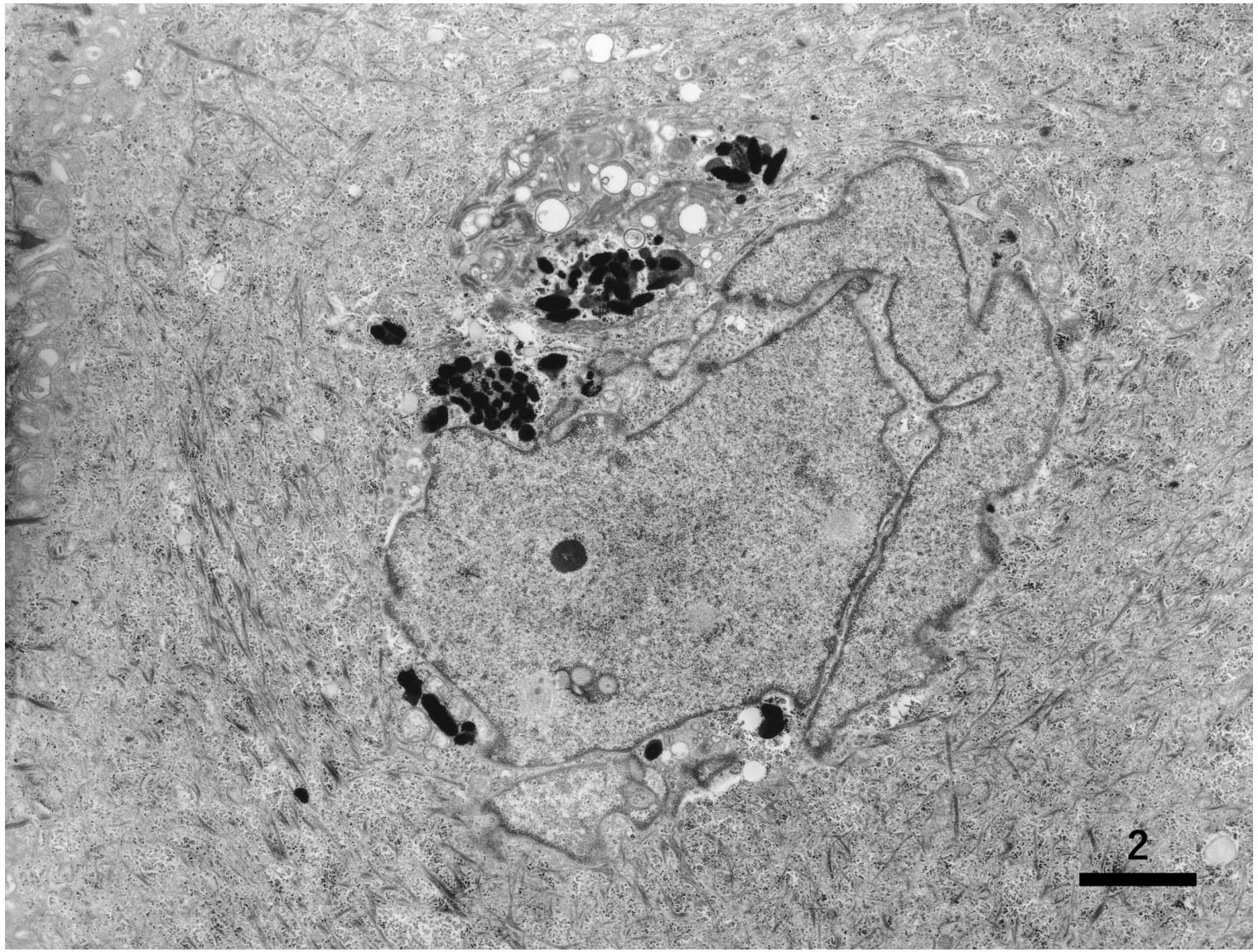
Ultrastructure of pigmented squamous cell carcinoma of the solar elastotic skin of the scalp of an 81 y-o male patient. The squamous cancer cell with an indented nucleus possesses well-developed desmosomes and keratin filaments (TEM-2).



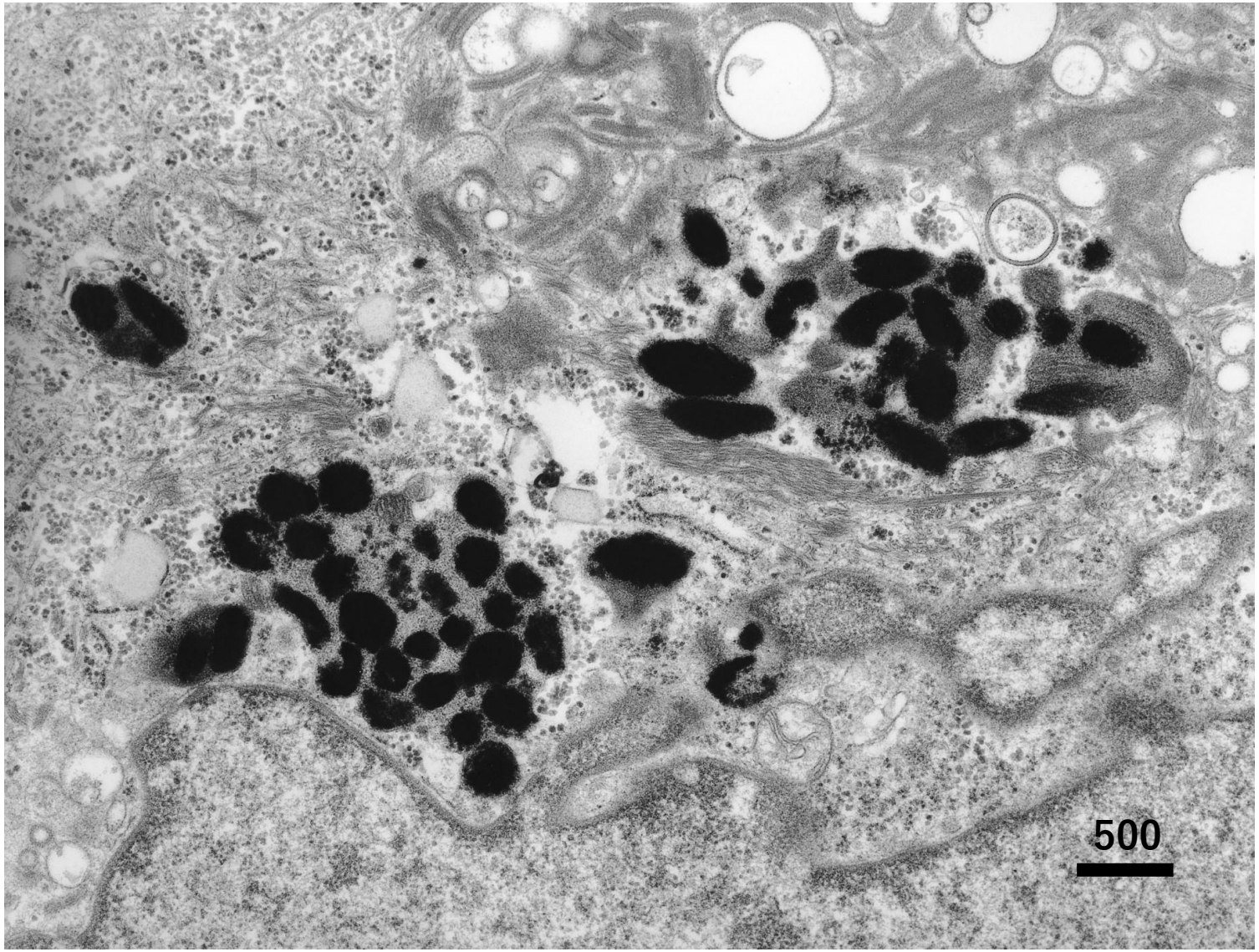
Ultrastructure of pigmented squamous cell carcinoma of the solar elastotic skin of the scalp of an 81 y-o male patient. Electron-dense melanin granules are seen in the cytoplasm of the cancer cells and in the cellular processes of melanocytes among the cancer cells (TEM-3).



Ultrastructure of pigmented squamous cell carcinoma of the solar elastotic skin of the scalp of an 81 y-o male patient. Electron-dense melanin granules are seen in the cellular processes of melanocytes distributed among the cancer cells (TEM-4).



Ultrastructure of pigmented squamous cell carcinoma of the solar elastotic skin of the scalp of an 81 y-o male patient. Electron-dense melanin granules are seen in the melanophagosomes in the cytoplasm of the cancer cells (TEM-5).



Ultrastructure of pigmented squamous cell carcinoma of the solar elastotic skin of the scalp of an 81 y-o male patient. Electron-dense melanin granules are seen in the melanophagosomes in the cytoplasm of the cancer cells (TEM-6).