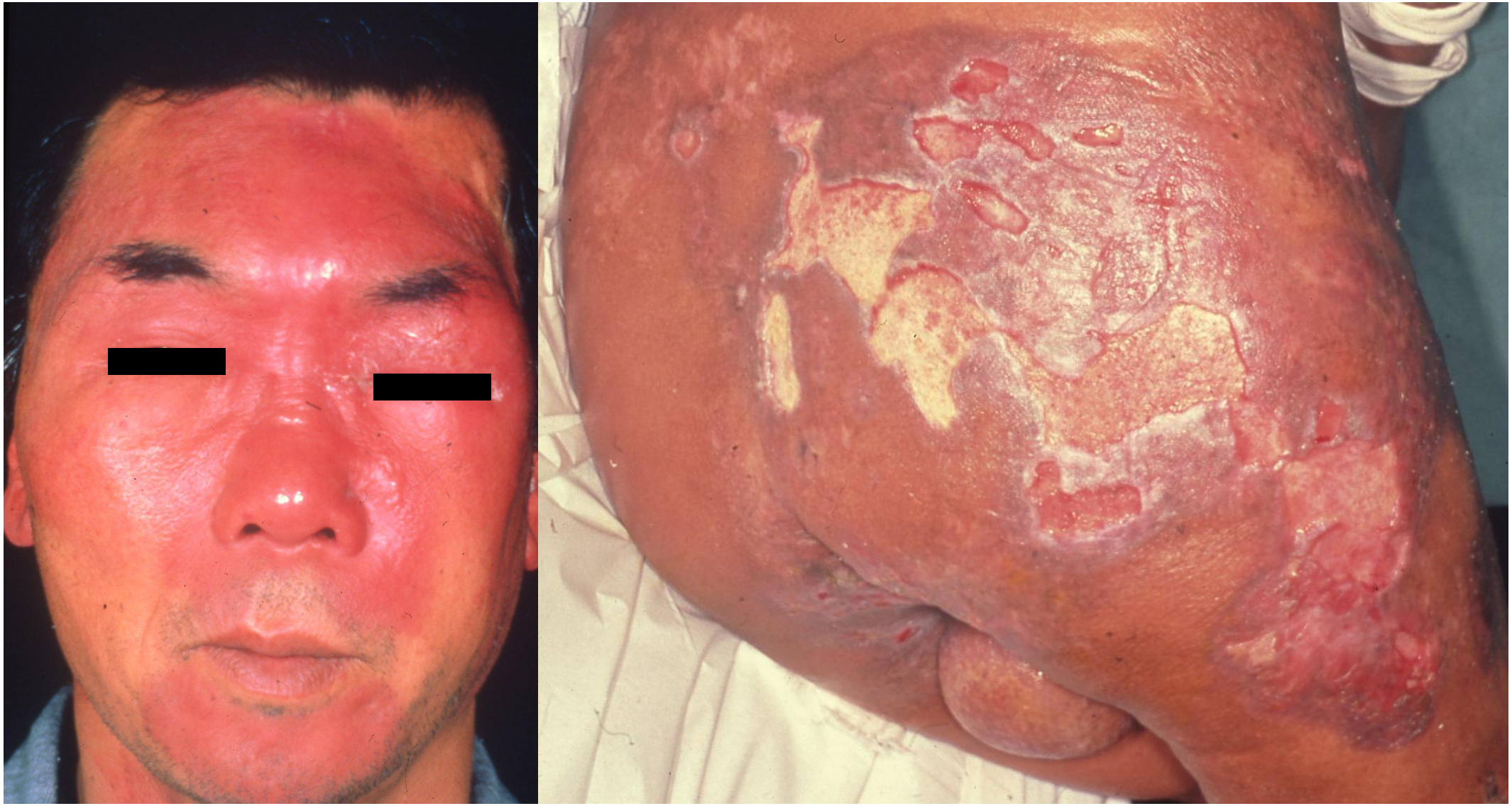
Mycosis fungoides: general views

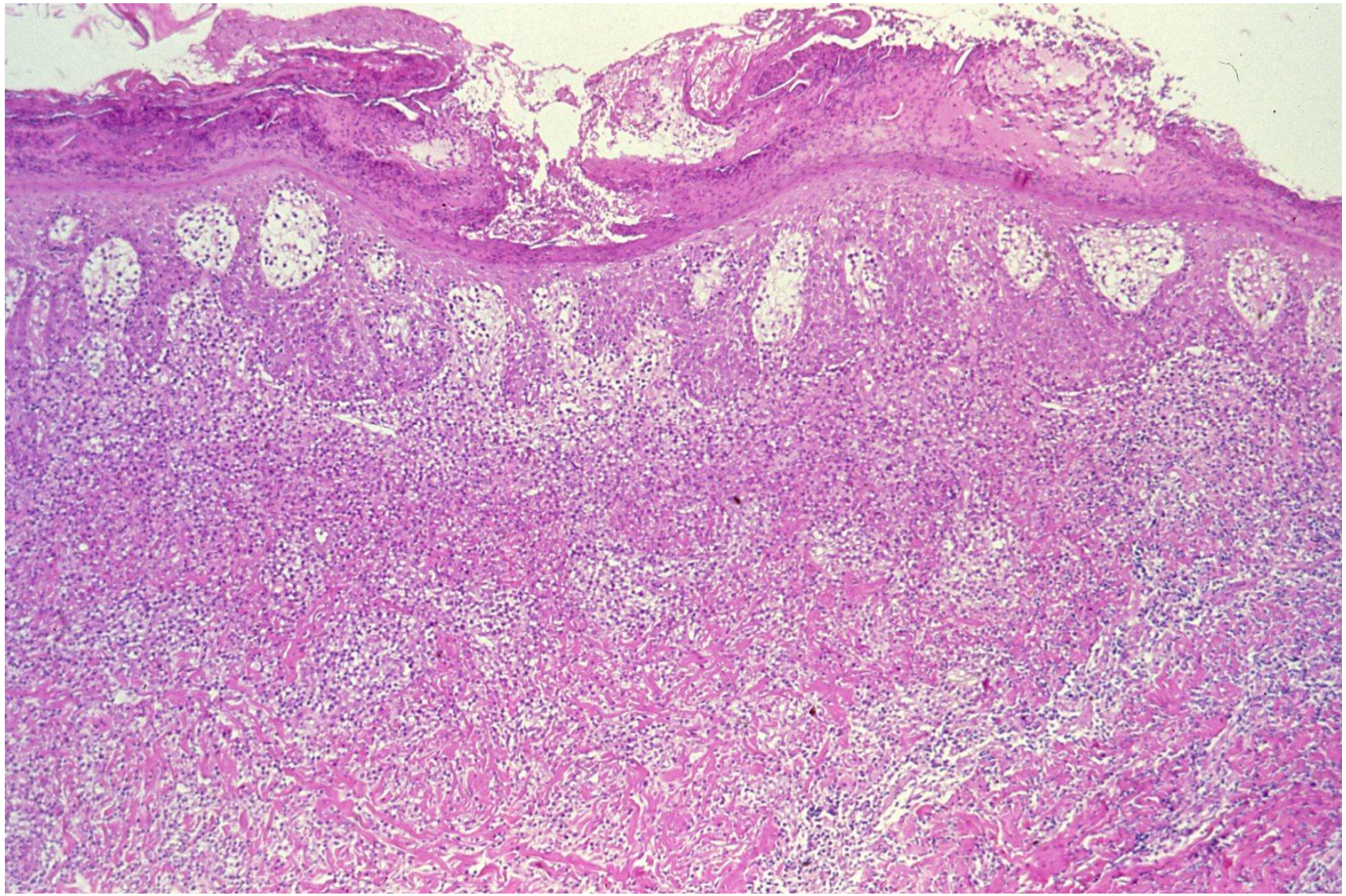
Mycosis fungoides is indolent T-cell cutaneous lymphoma with three clinical stages: patch (erythematous), plaque and tumorous stages. The clinical course is protracted over years or decades. Microscopically, mycosis fungoides is characterized by an epidermotropic infiltrate of CD4+ helper T lymphocytes. The association of cerebriform or convoluted nuclei is pathognomonic. Systemic chemotherapy or single-agent chemotherapy (gemcitabine) usually gives good results in advanced (tumorous) stage of the disease.

Ref.: Cerroni L. Mycosis fungoides-clinical and histopathologic features, differential diagnosis, and treatment. Semin Cutan Med Surg 2018; 37(1): 2-10. doi: 10.12788/j.sder.2018.002

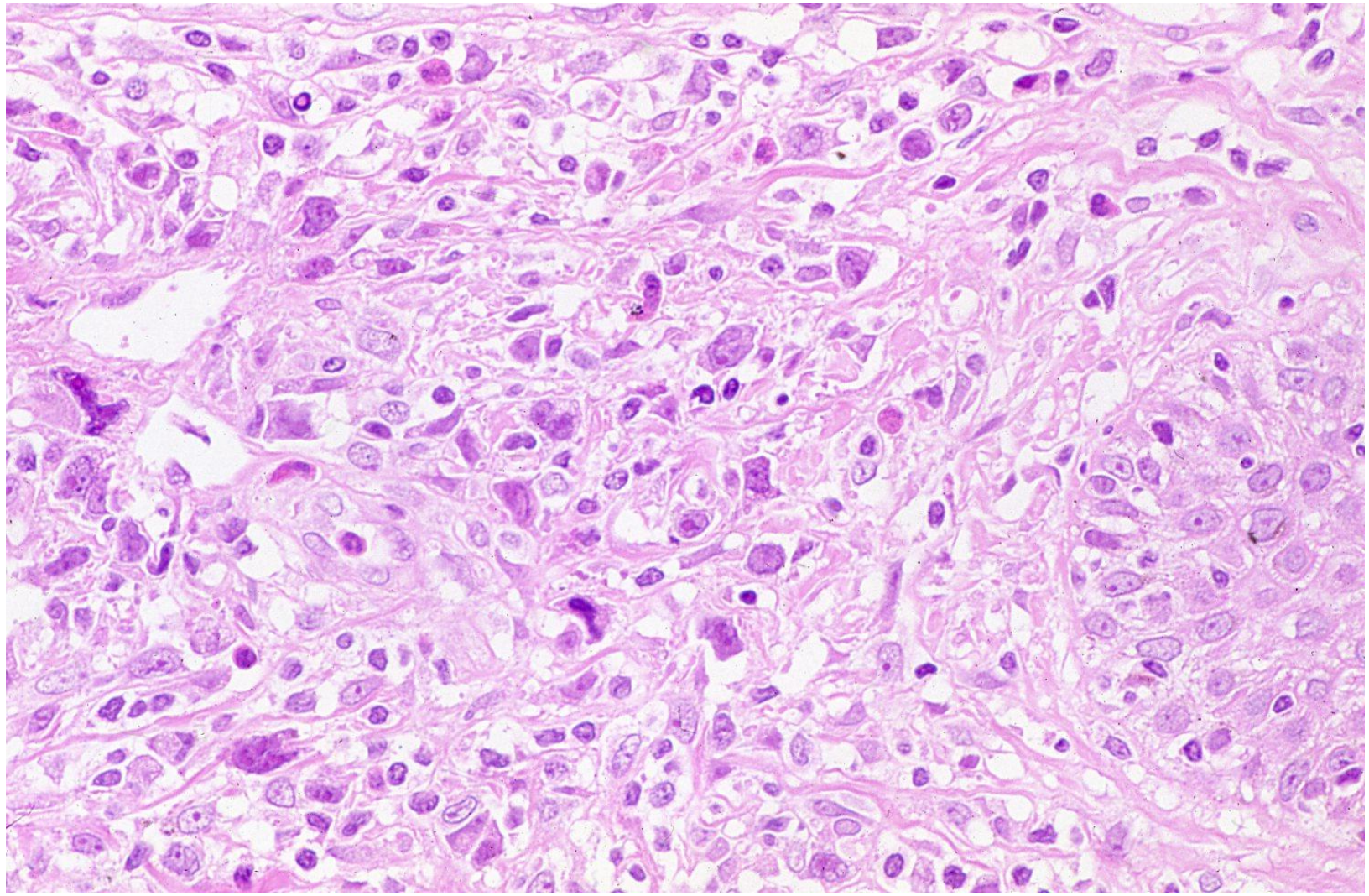
Mycosis fungoides, erythematous stage. Erythematous and patchy skin lesions persist for a long period of time.



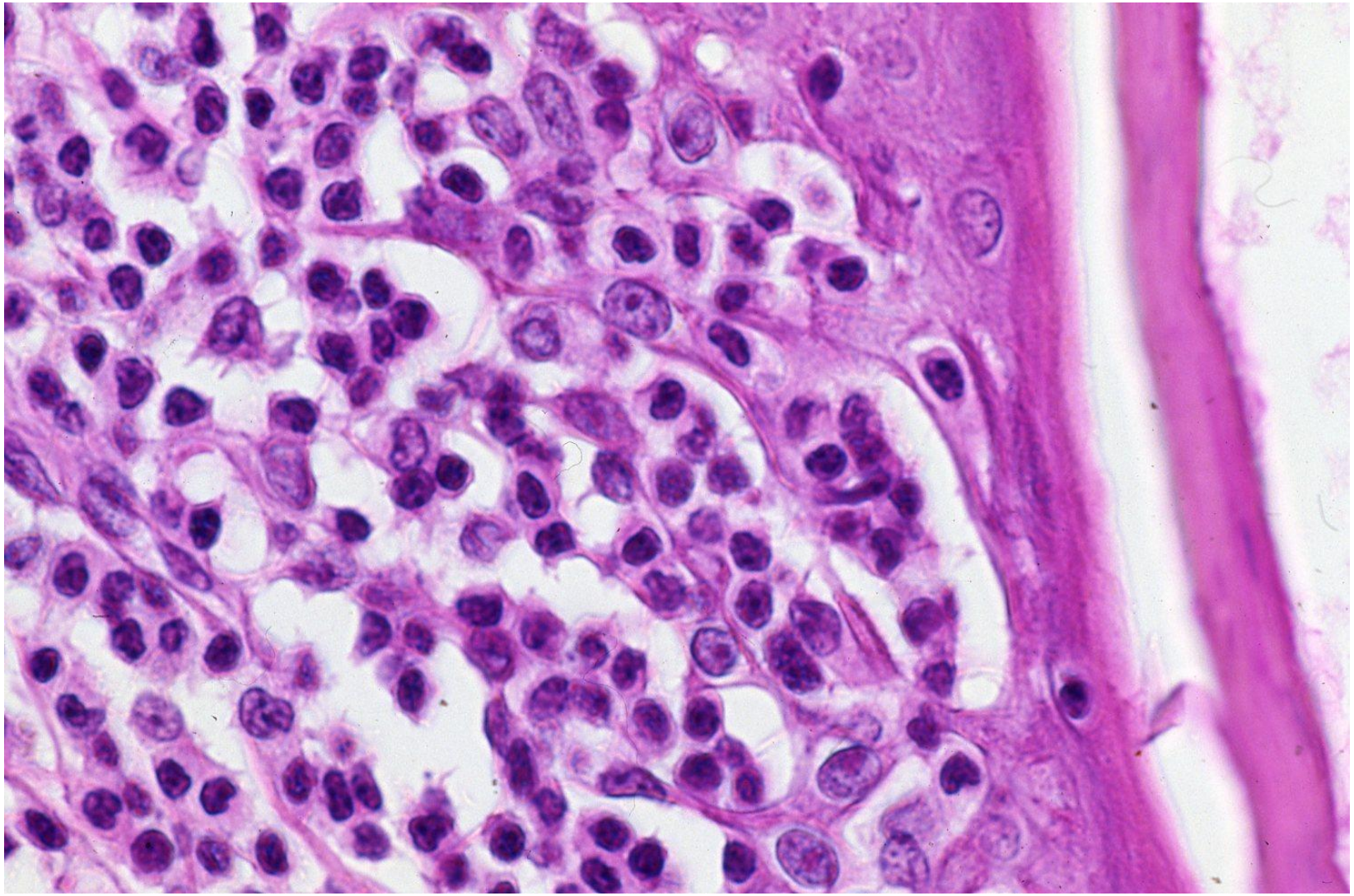
Mycosis fungoides (left: plaque stage, right: tumorous stage). The disease slowly progress to the plaque stage (left) and eventually to the tumorous stage (right). Ulceration is often associated in the tumorous stage.



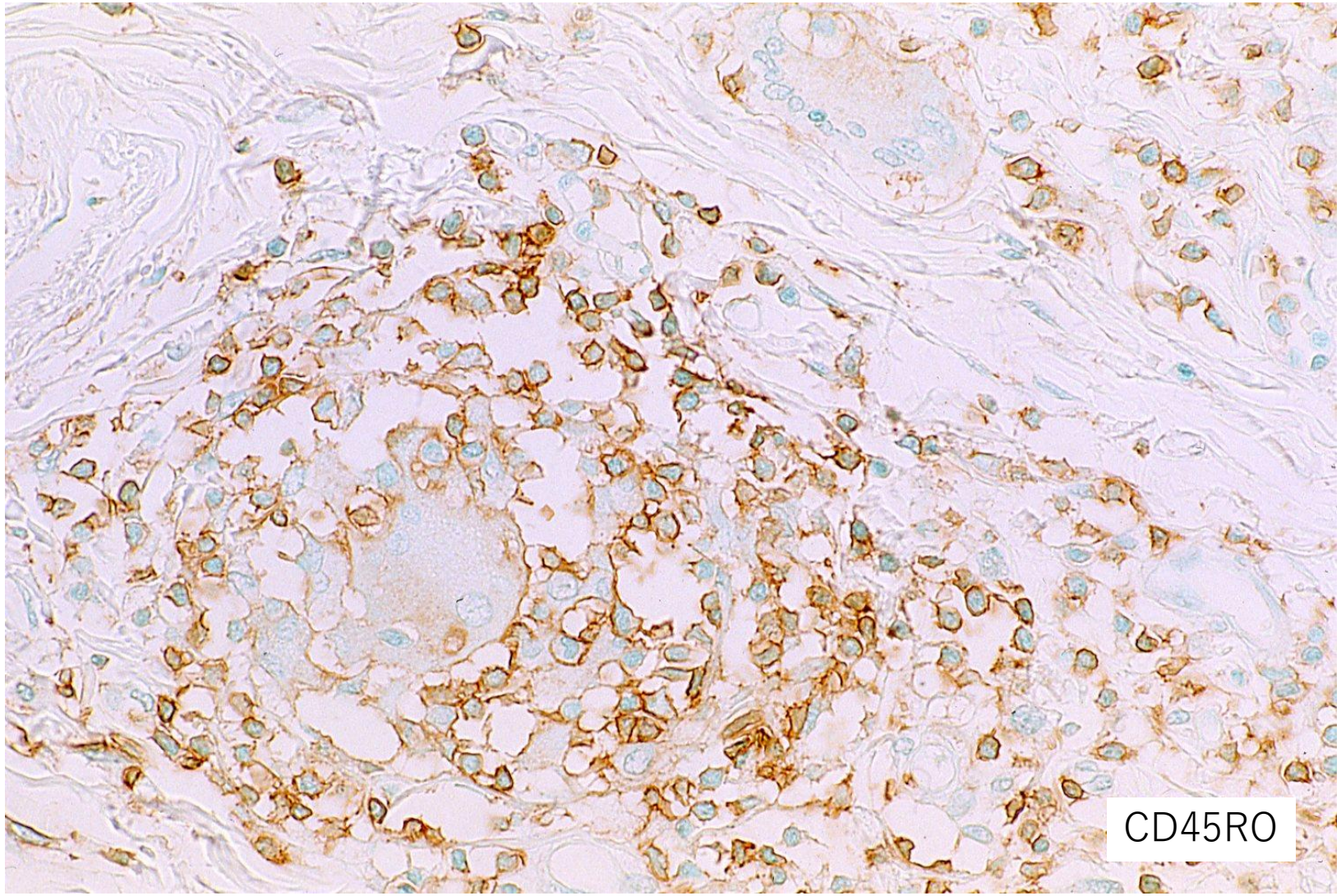
Mycosis fungoides in the tumorous stage. Biopsy was taken from the hip skin of a male patient aged 50's. Epidermotropism of the tumor cells is noted (H&E-1).



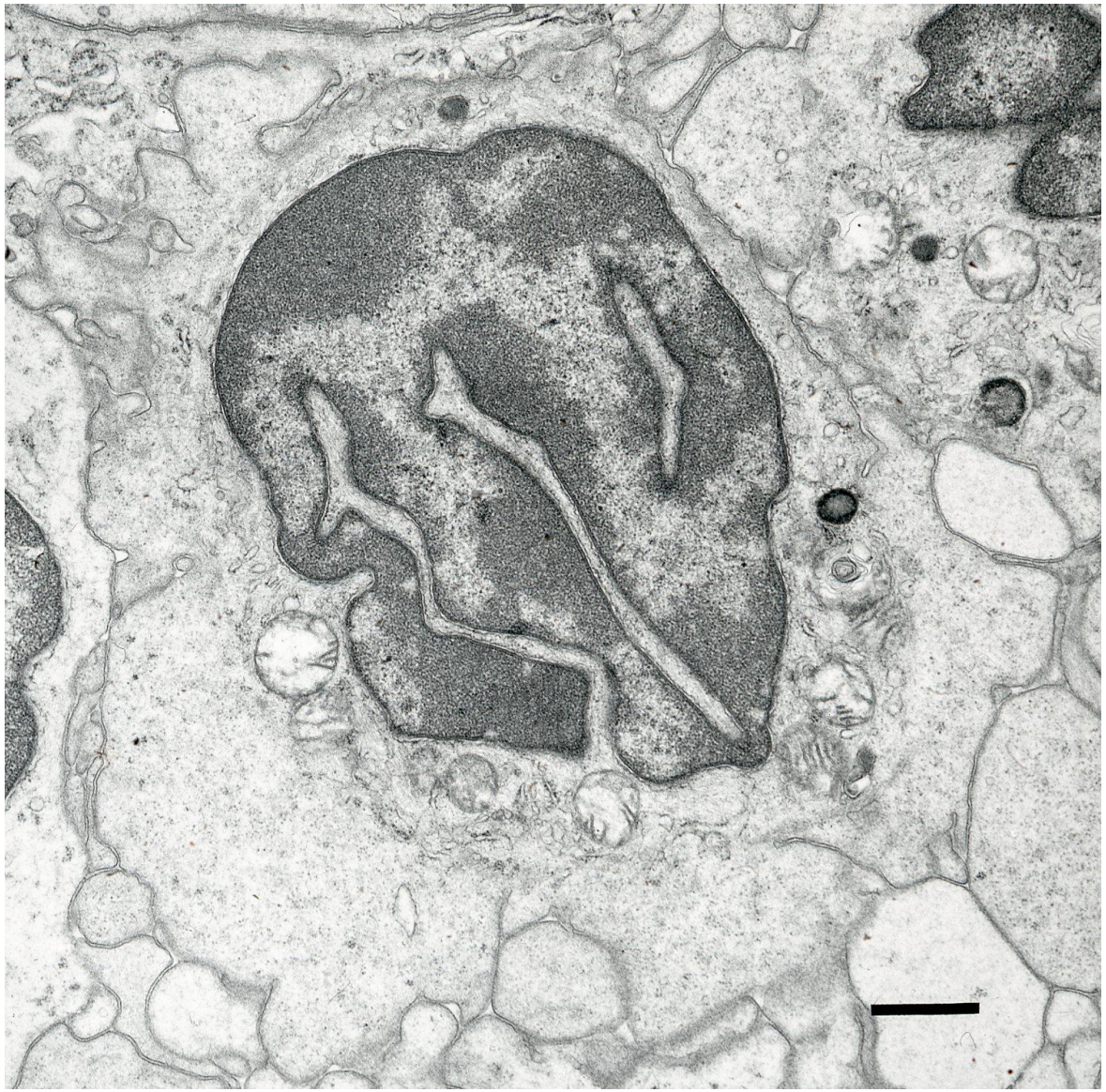
Mycosis fungoides in the tumorous stage. Biopsy was taken from the hip skin of a male patient aged 50's. The infiltrating lymphoid cells show evident nuclear pleomorphism with anisonucleosis (H&E-2).



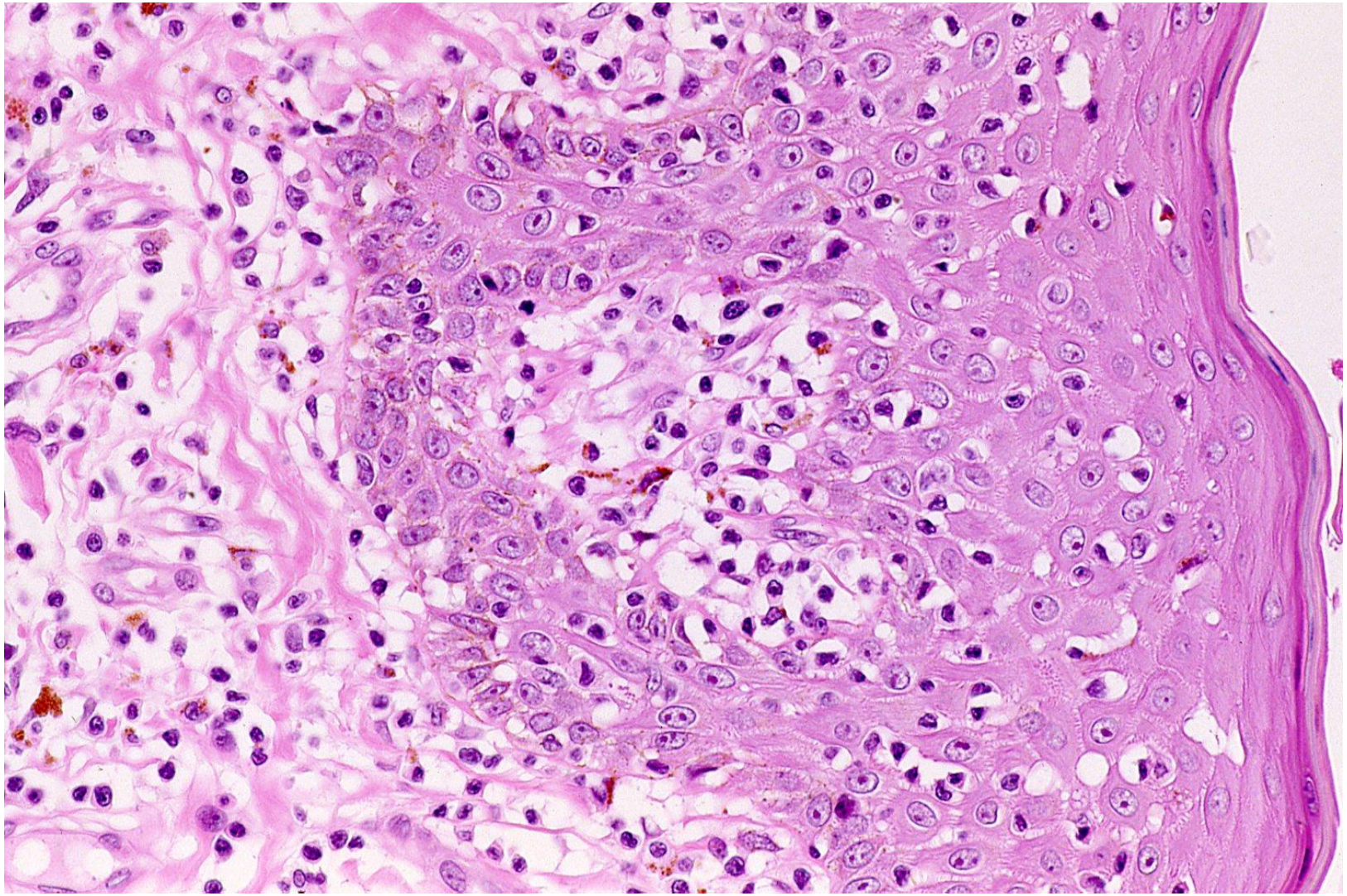
Mycosis fungoides in the tumorous stage. Biopsy was taken from the hip skin of a male patient aged 50's. The infiltrating lymphoid cells with nuclear convolution show epidermotropism (H&E-3).



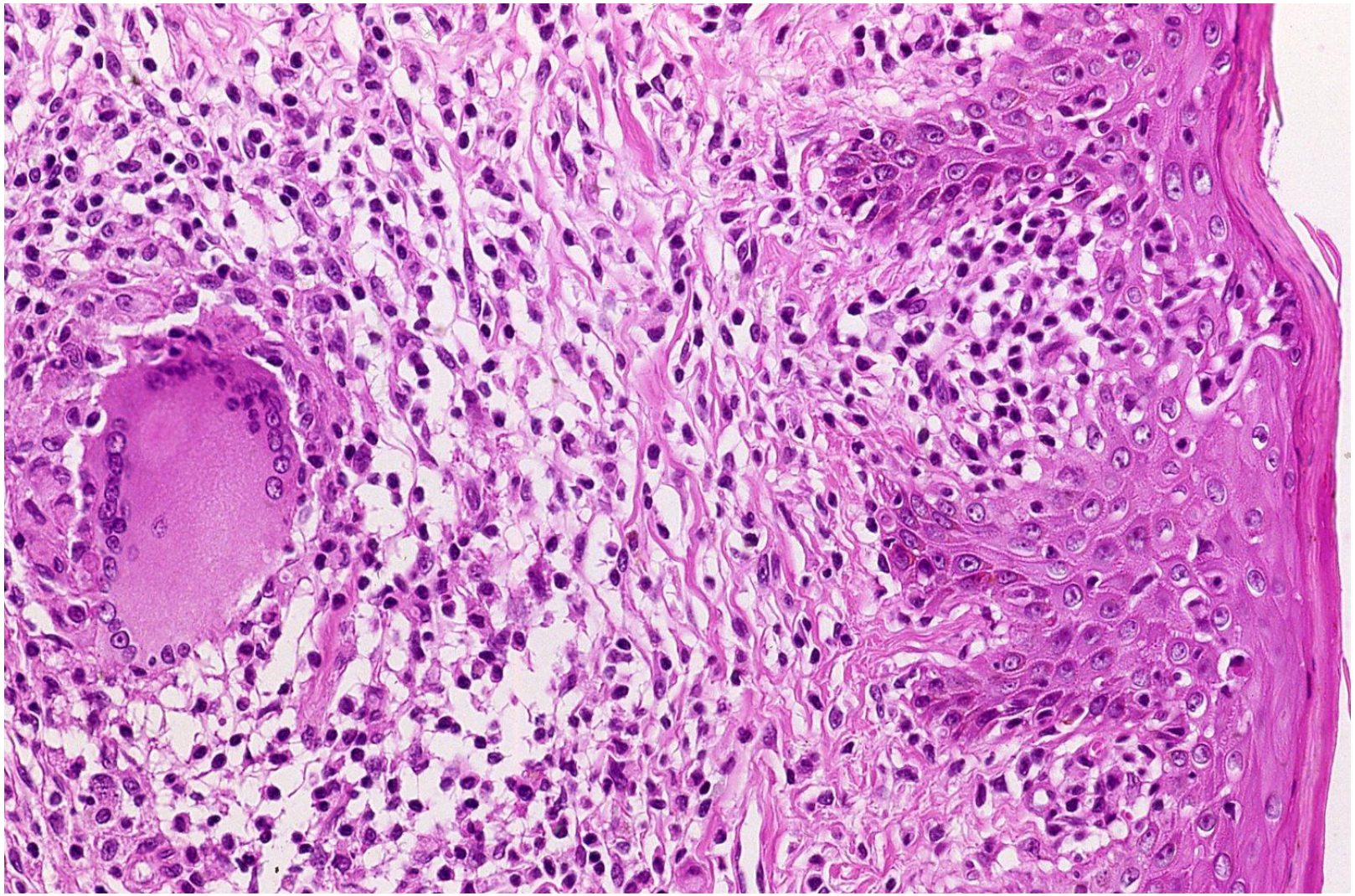
Mycosis fungoides in the tumorous stage. Biopsy was taken from the hip skin of a male patient aged 50’s. The infiltrating lymphoid cells with nuclear convolution are immunoreactive for a T-cell marker (CK45RO) (immunostaining).



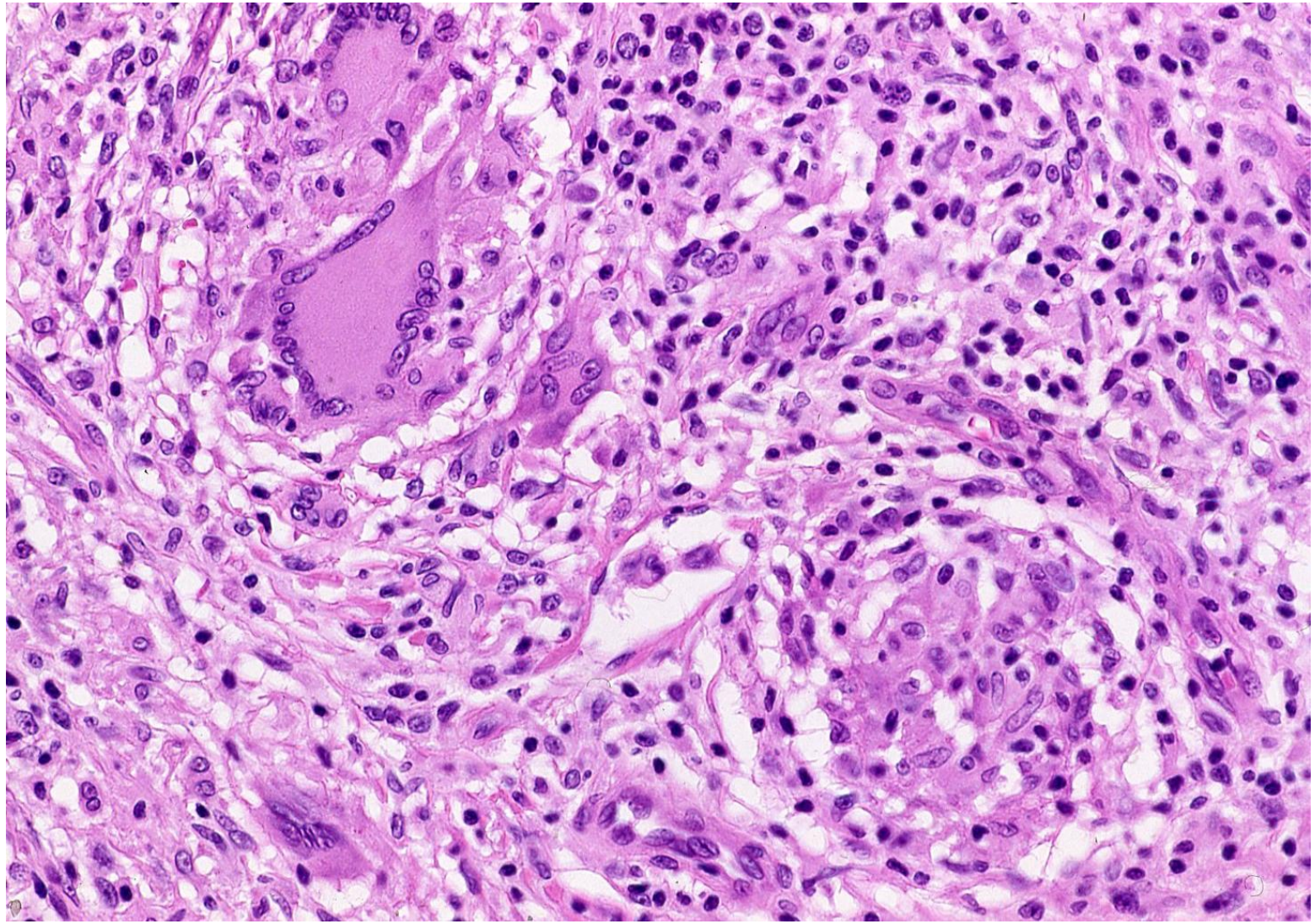
Ultrastructure of mycosis fungoides in the skin. A cerebriform (convoluted) nucleus is located in the center of the T-lymphoma cell.



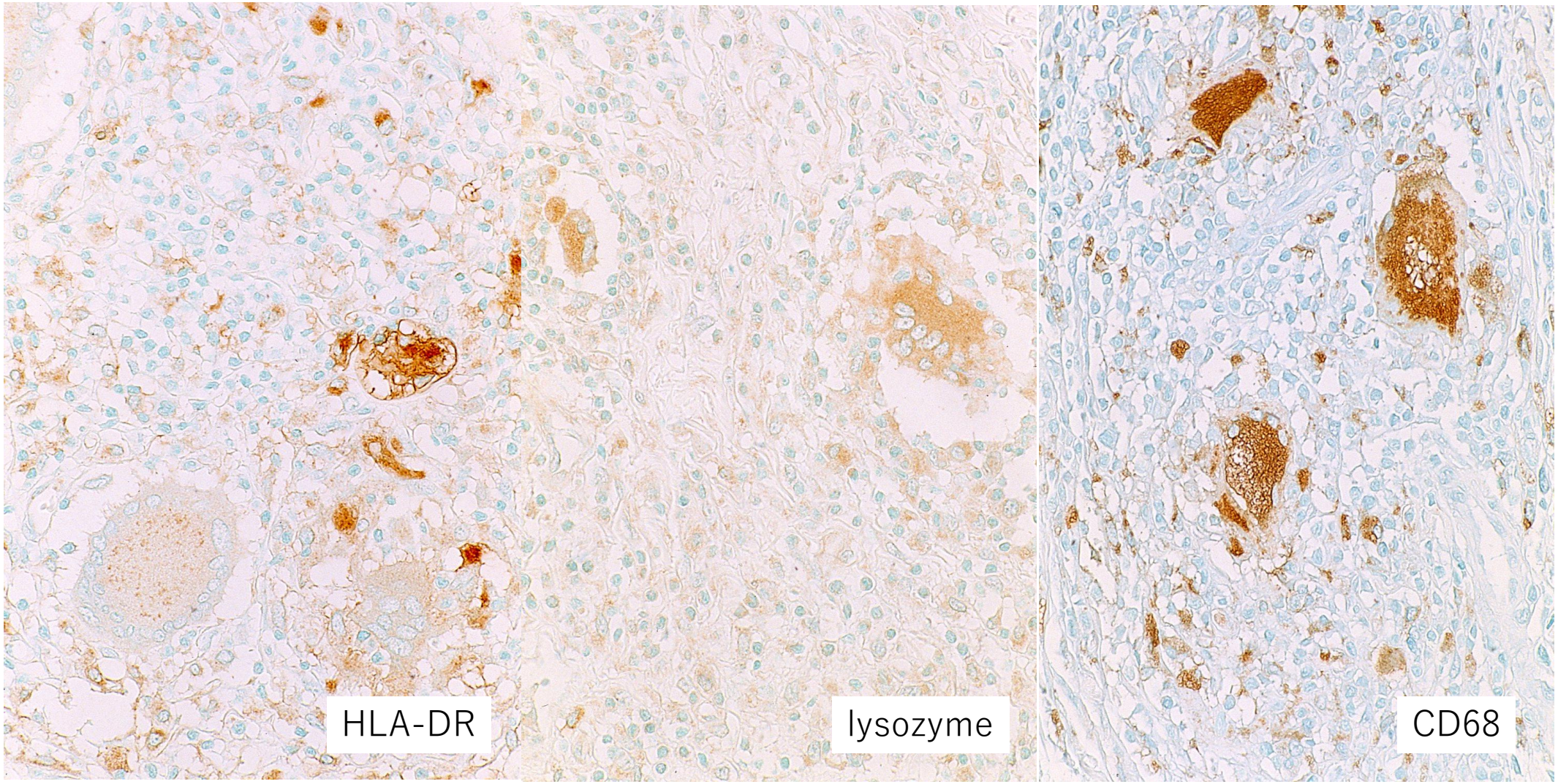
Mycosis fungoides, granulomatous variant. Biopsy was taken from the back of a 47 y-o female patient. The small-sized lymphoid cells infiltrate into the epidermis (epidermotropism) (H&E-a).



Mycosis fungoides, granulomatous variant. Biopsy was taken from the back of a 47 y-o female patient. Multinucleated giant cells of macrophage origin are observed among the infiltrating small-sized T-lymphoid cells with epidermotropism (H&E-b).



Mycosis fungoides, granulomatous variant. Biopsy was taken from the back of a 47 y-o female patient. Multinucleated giant cells of macrophage origin are observed among the infiltrating small-sized T-lymphoid cells (H&E-c).



Mycosis fungoides, granulomatous variant. Biopsy was taken from the back of a 47 y-o female patient. Multinucleated giant cells dispersed in the lesion are immunoreactive for HLA-DR (left), lysozyme (center) and CD68 (right), indicating their macrophage origin (immunostaining).

Ultrastructure of mycosis fungoides, granulomatous variant. Biopsy was taken from the back of a 47 y-o female patient. A multinucleated giant cells of macrophage origin is surrounded by lymphoid cells with convoluted nuclei (EM).