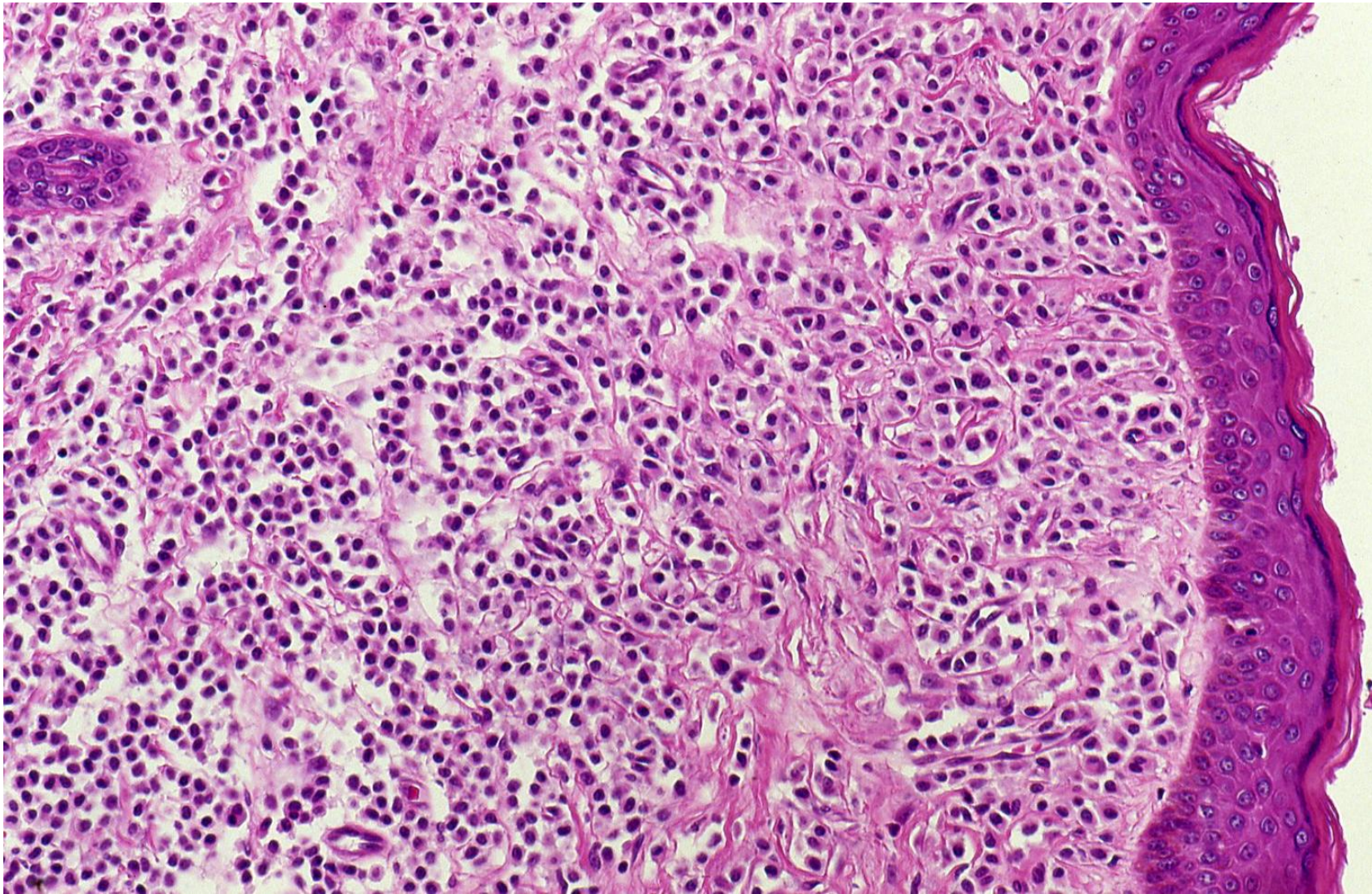


# Cutaneous mastocytoma

Mastocytoma shows monomorphic nodular growth of mast cells with rare eosinophils to form red, brown pink or yellow nodules on the skin at birth or during the first 3 months of life. The extremities and trunk are mainly involved. Flushing attacks due to high histamine content may be complicated. The prognosis is excellent, and spontaneous involution frequently occurs. Toluidine blue and Giemsa stains give metachromatic reactions. ASD-chloroacetate esterase activity and immunoreactivities of CD117 (c-kit) and mast cell tryptase are useful markers to prove mast cell nature of the tumor cells. Mutations in the CD117 gene can be detected. Ultrastructural study is also a valuable tool for the diagnosis.

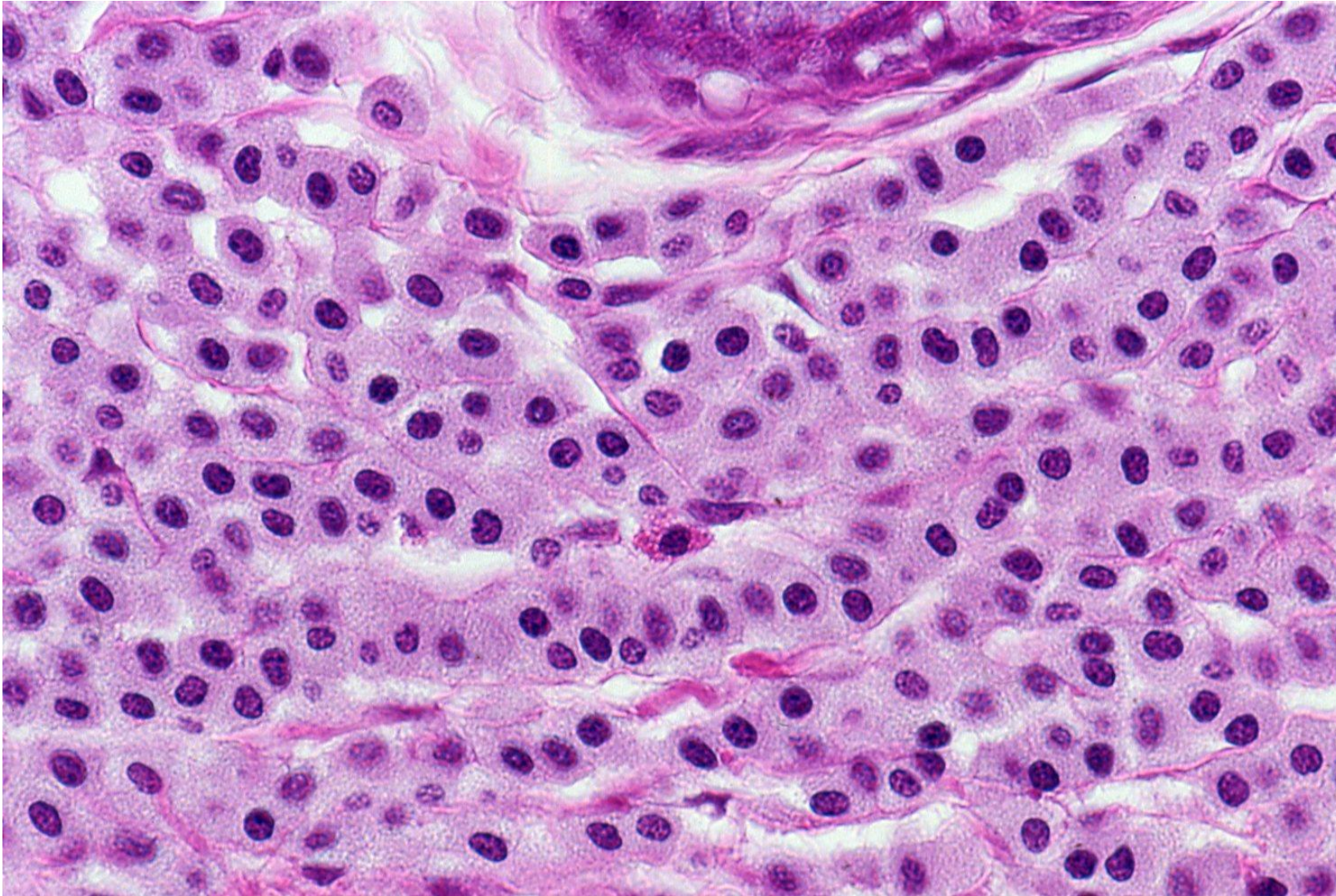
Ref.: Hale CS., Hamodat M. Cutaneous mastocytosis. PathologyOutlines.com website. 2025.

<https://www.pathologyoutlines.com/topic/skintumornonmelanocyticmastcell.html>



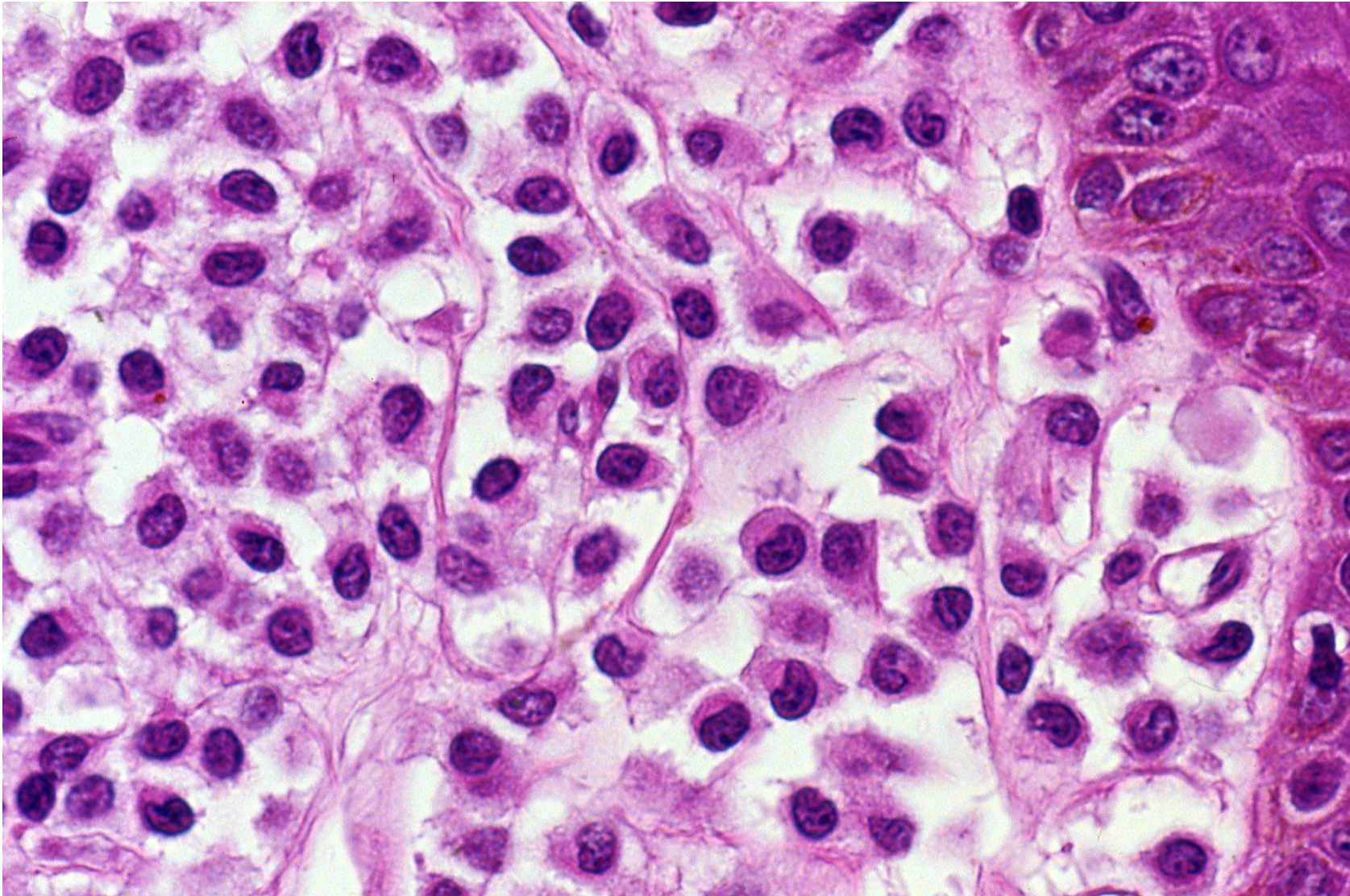
Mastocytoma of the elbow skin of a 1 year and 5 months-old boy. Dense intradermal growth of monomorphous round cells with basophilic cytoplasm is observed (H&E-1).





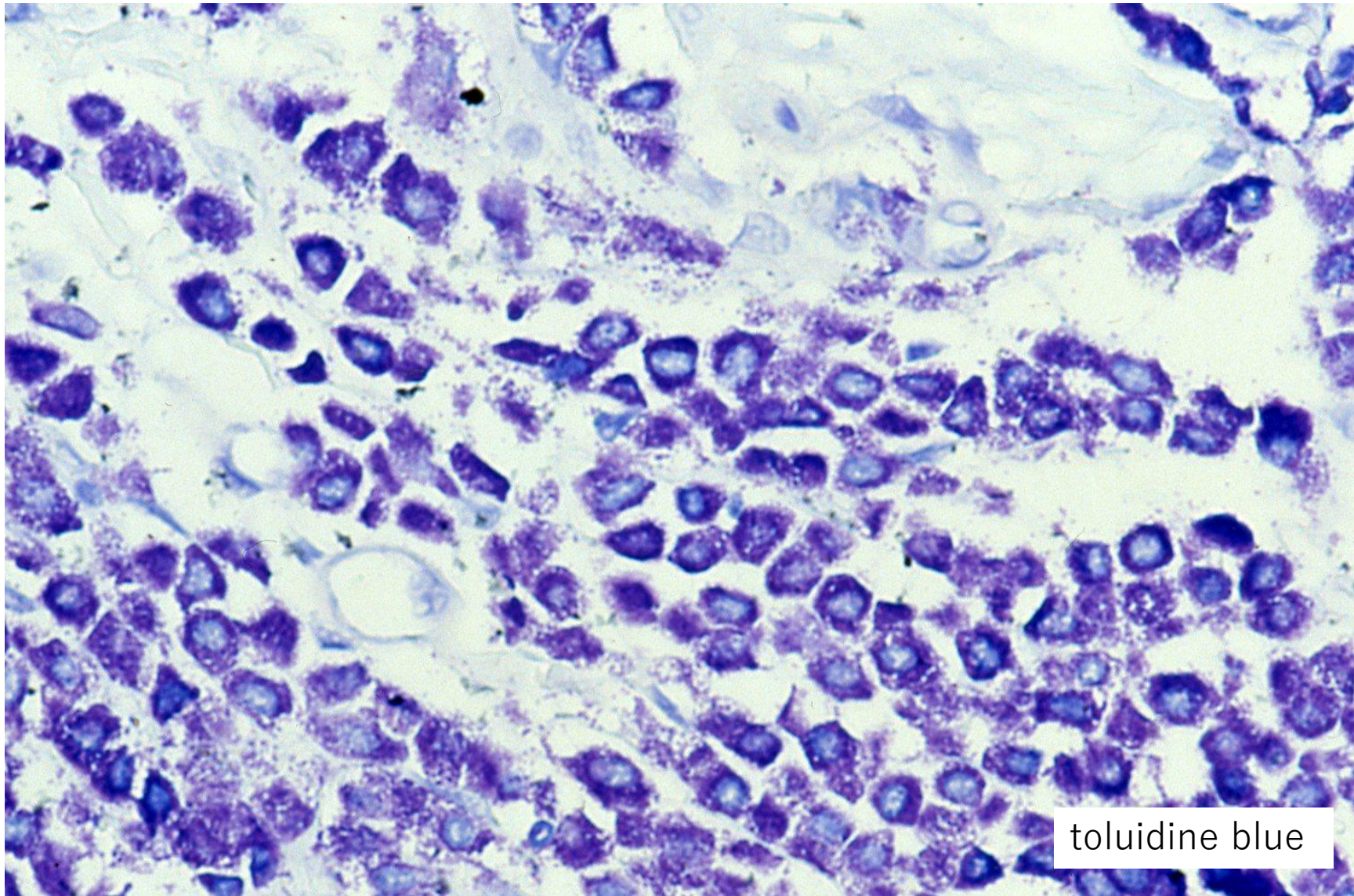
Mastocytoma of the elbow skin of a 1 year and 5 months-old boy. Dense intradermal growth of monomorphous round/oval cells with plump basophilic cytoplasm is observed. A few eosinophils are intermingled (H&E-2).





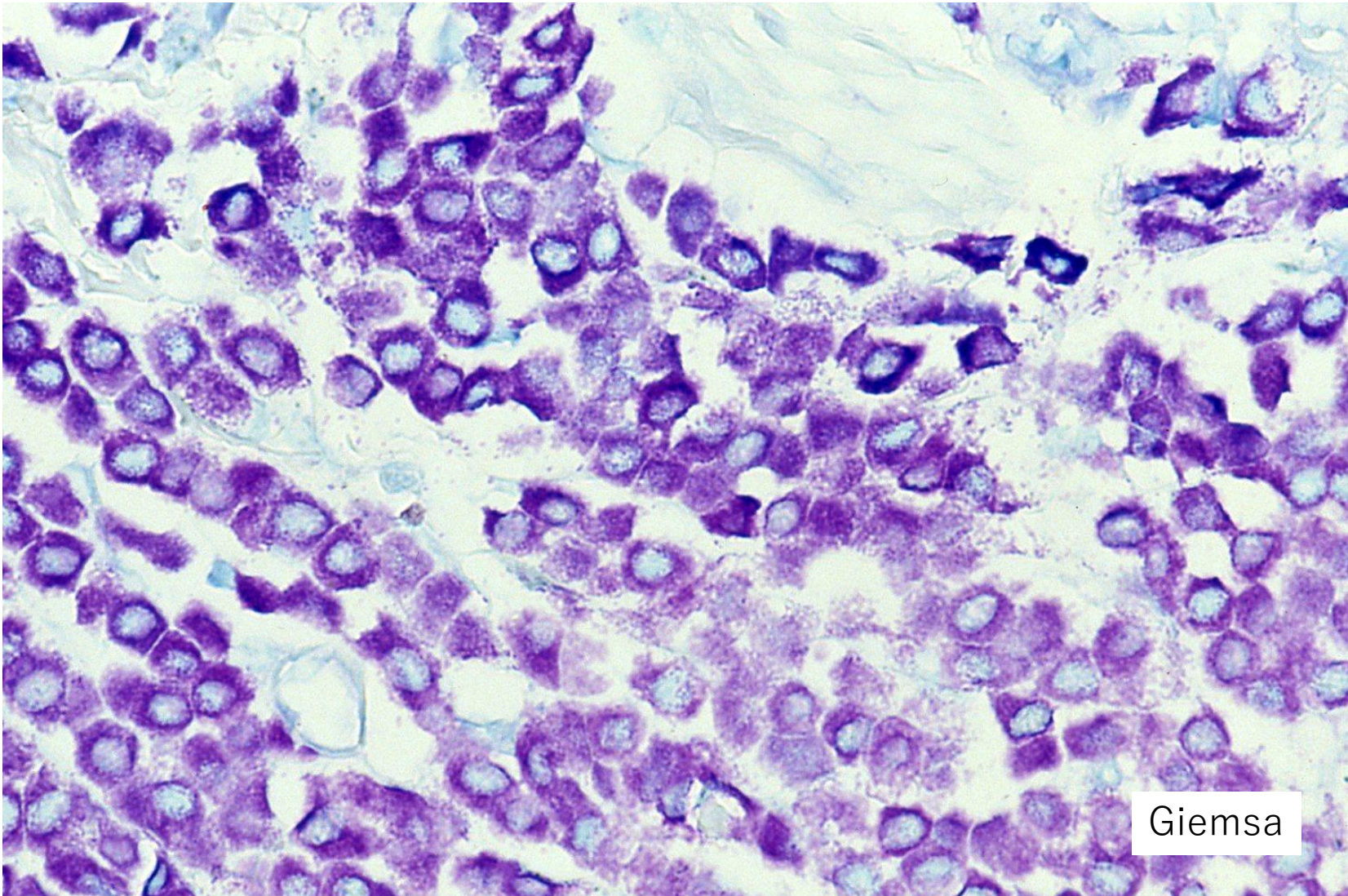
Mastocytoma of the elbow skin of a 1 year and 5 months-old boy. Dense intradermal growth of monomorphous round/oval cells with plump basophilic cytoplasm is observed. The nuclei are round and focally indented (H&E-4).





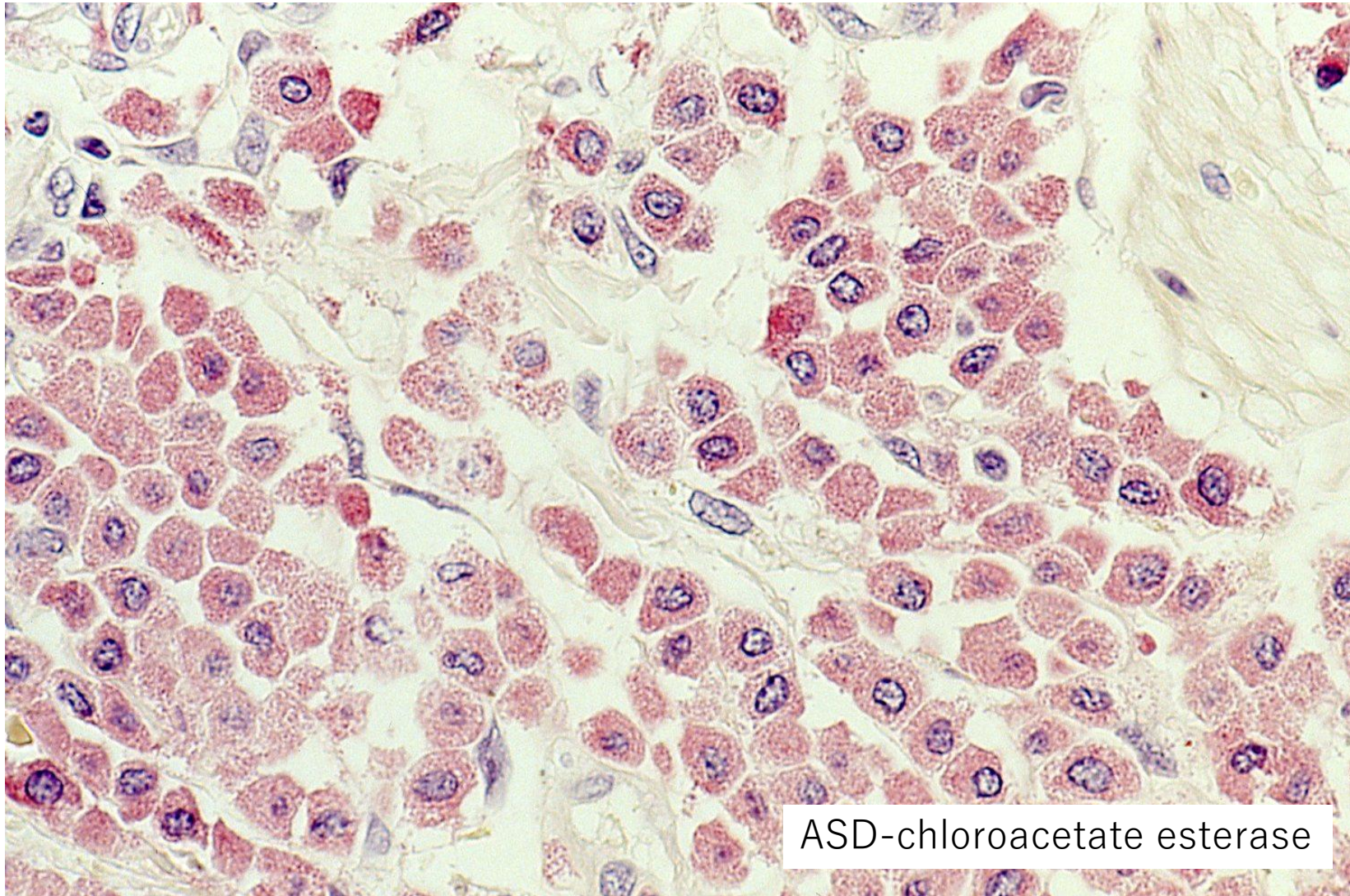
Mastocytoma of the elbow skin of a 1 year and 5 months-old boy. The intradermal monomorphous round/oval cells show purple-colored, metachromatic cytoplasmic granules with Toluidine blue staining.





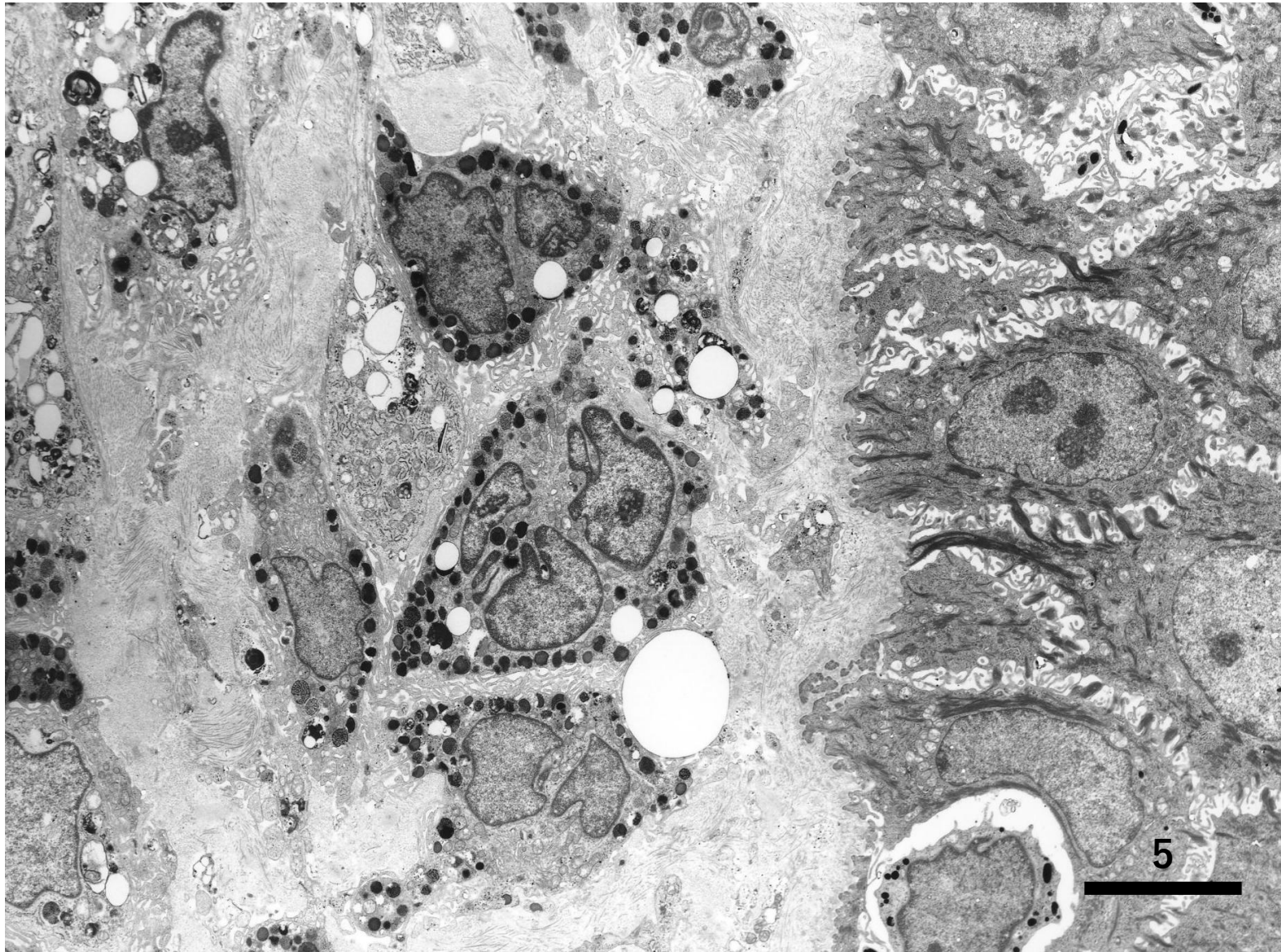
Mastocytoma of the elbow skin of a 1 year and 5 months-old boy. The intradermal monomorphous round/oval cells show purple-colored, metachromatic cytoplasmic granules with Giemsa staining.





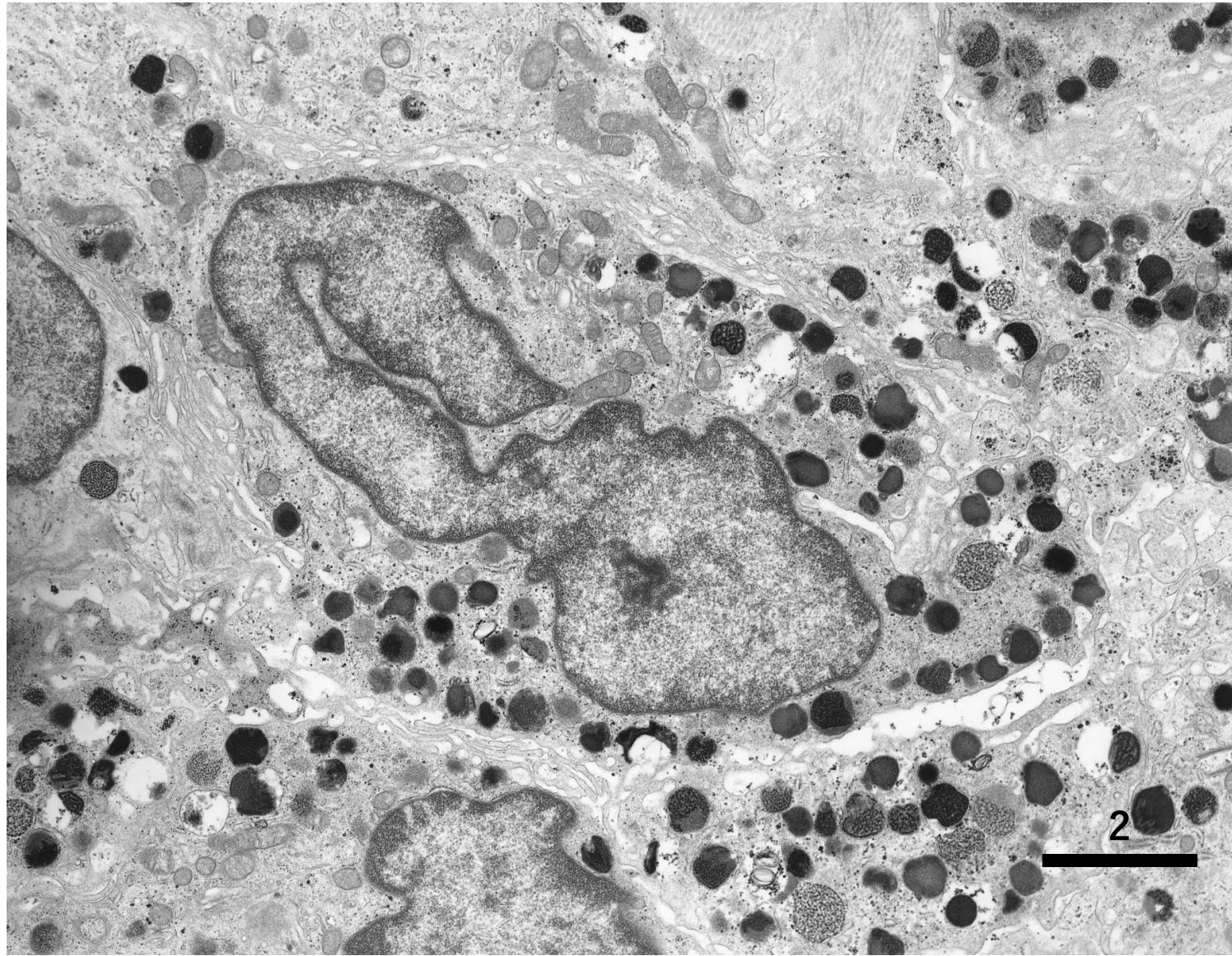
Mastocytoma of the elbow skin of a 1 year and 5 months-old boy. The intradermal monomorphous round/oval cells show granular ASD-chloroacetate esterase activity in the cytoplasm (paraffin-tolerant enzymatic activity for ASD-chloroacetate esterase). CD117 (c-kit) and mast cell tryptase immunoreactivities are also practical to identify the mast cell nature of the tumor cells.





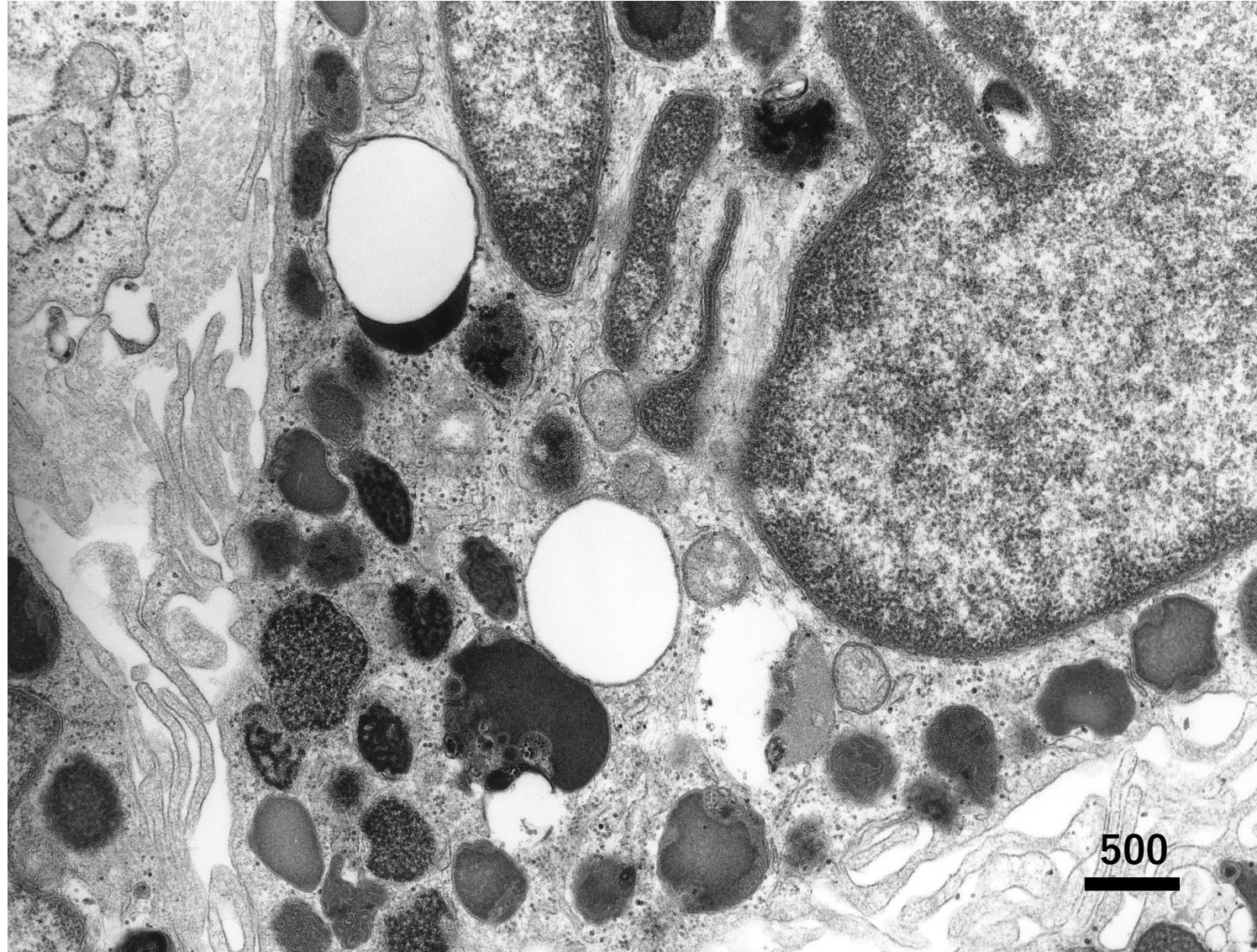
Ultrastructure of mastocytoma of the elbow skin of a 1 year and 5 months-old boy. The tumor cells in the upper dermis possess electron-dense coarse mast cell granules in the cytoplasm (TEM-1).





Ultrastructure of mastocytoma of the elbow skin of a 1 year and 5 months-old boy. The tumor cells with indented nuclei contain electron-dense coarse granules in the cytoplasm. Fingerprint-like appearance is consistent with mast cell granules (TEM-2).





Ultrastructure of mastocytoma of the elbow skin of a 1 year and 5 months-old boy. The tumor cells contain electron-dense coarse granules with fingerprint-like appearance. Thin and elongated cytoplasmic processes are associated. Mast cell nature of the tumor cells is ultrastructurally confirmed (TEM-3).