Parathyromatosis

18

Parathyromatosis is a rare cause of persistent or recurrent hyperparathyroidism. It is characterized by small nodules and nests of hyperfunctioning parathyroid tissue in soft tissue caused by seeding or implantation of parathyroid tissue during surgical removal or by overgrowth of embryologic nests of parathyroid tissue left behind in development. Parathyromatosis is more common in females, in the fifth to sixth decade, and in end-stage renal disease [1]. Differentiating parathyromatosis from parathyroid carcinoma may be difficult, but patients with parathyroid carcinoma usually have higher serum calcium levels (≥14 mg/dL) and may have a palpable neck mass [2]. Serum calcium levels may overlap in benign and malignant parathyroid disease; thus, careful histologic examination is required to separate these entities. Although nests and nodules of parathyroid cells are identified in soft tissue in parathyromatosis, they usually do not appear to have an infiltrative growth pattern. This lack of invasive growth is helpful in separating parathyromatosis from parathyroid carcinoma. Treating parathyromatosis may be difficult because surgical treatment may fail or not be feasible, and calcimimetic agents may be used [1].

L.A. Erickson, *Atlas of Endocrine Pathology*, Atlas of Anatomic Pathology,
DOI 10.1007/978-1-4939-0443-3_18, © Springer Science+Business Media New York 2014

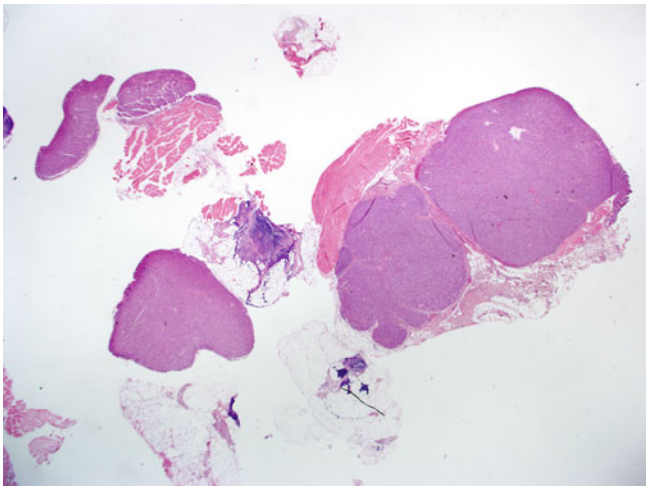

Fig. 18.1 Parathyromatosis. Parathyromatosis is characterized by small nodules and nests of hyperfunctioning parathyroid tissue in soft tissue. This may be caused by seeding or implantation of parathyroid tissue during surgical removal or by overgrowth of parathyroid rests left behind in development

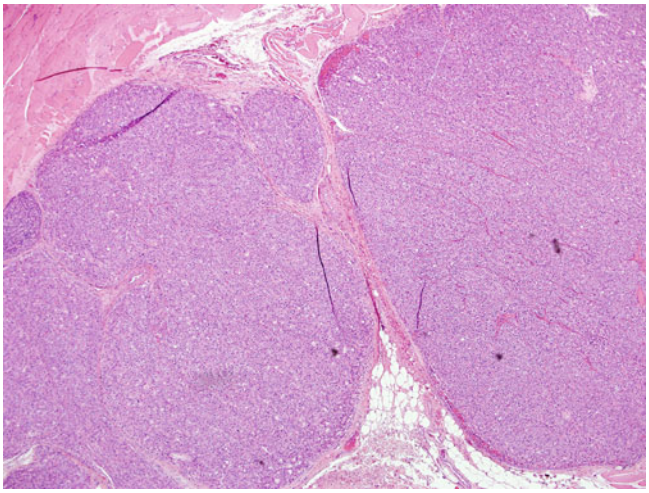

Fig. 18.3 Parathyromatosis. The nests and nodules of parathyroid cells in parathyromatosis are within soft tissue but do not appear to have an infiltrative growth pattern. Rather, they appear to be expansive but not infiltrating. This lack of invasive growth is helpful in separating parathyromatosis from parathyroid carcinoma

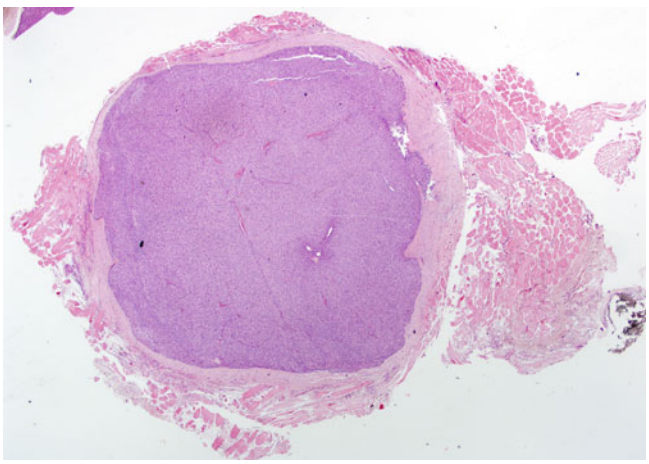

Fig. 18.2 Parathyromatosis. Nodules of hypercellular parathyroid tissue are seen in the soft tissue in this case of parathyromatosis. Parathyromatosis, although rare, is a cause of recurrent or persistent hyperparathyroidism. Parathyromatosis is more common with end-stage renal disease, in females, and in the fifth to sixth decade of life [1]. Treating parathyromatosis may be difficult because surgical treatment may fail or not be feasible, and calcimimetic agents may be used [1]

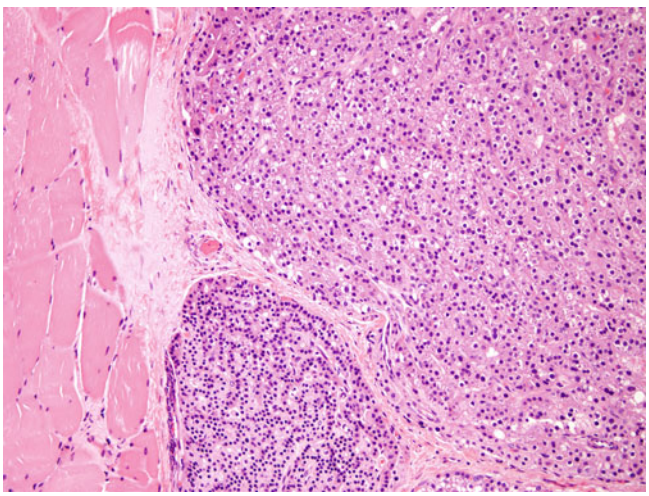

Fig. 18.4 Parathyromatosis. This nodule of parathyromatosis is adjacent to skeletal muscle in this photograph. Note the lack of infiltrative growth. Comparing 13 cases of parathyromatosis with 7 atypical adenomas and 28 carcinomas, a palpable neck mass and hoarseness were identified almost exclusively in carcinoma [2]. Patients with parathyroid carcinoma usually have a higher serum calcium level, with 16 of 26 patients with levels $\geq$14 mg/dL, whereas only 1 of 6 patients with atypical adenoma and none of the 13 patients with parathyromatosis were associated with this degree of hypercalcemia [2]. However, serum calcium levels may overlap; thus, careful histologic evaluation is required

References

1. Hage MP, Salti I, El-Hajj Fuleihan G. Parathyromatosis: a rare yet problematic etiology of recurrent and persistent hyperparathyroidism. Metabolism. 2012;61(6):762–75.
2. Fernandez-Ranvier GG, et al. Parathyroid carcinoma, atypical parathyroid adenoma, or parathyromatosis? Cancer. 2007;110(2):255–64.