A woman in her 60s presented with primary hyperparathyroidism. The parathyroid gland removed weighed 300 mg and was composed almost entirely of oncocytic cells with a “rim” of normocellular/suppressed-appearing parathyroid tissue (Figures 1 and 2).

Which of the following statements regarding oncocytic parathyroid adenoma is true?

- a. Oncocytic parathyroid neoplasms are functional and associated with increased parathyroid hormone and serum calcium levels.
- b. Oncocytic parathyroid neoplasms are always benign.
- c. Oncocytic parathyroid neoplasms occur only in women.
- d. Oncocytic cells are identified only in single-gland parathyroid disease and are not seen in multiglandular parathyroid disease.

(see page 2169 for answer)
Answer: a. Oncocytic parathyroid neoplasms are functional and associated with increased parathyroid hormone and serum calcium levels.

Oncocytic (oxyphilic) parathyroid neoplasms are functional tumors that are associated with increased serum parathyroid hormone and calcium levels. Oncocytic parathyroid neoplasms usually occur in adults, similar to chief cell parathyroid neoplasms. Whereas oncocytic parathyroid adenomas are more common in women than in men, similar to the female predominance of chief cell parathyroid adenomas, oncocytic adenomas can occur in both men and women. Oncocytic parathyroid cells can be identified in single-gland and multiglandular parathyroid disease and in normal parathyroid glands. Parathyroid adenomas are characterized as “oncocytic” when they consist of more than 75% oncocytic cells (Figures 1 and 2). Oncocytic adenomas are often larger and may have higher serum calcium levels than conventional chief cell parathyroid adenomas. Oncocytic parathyroid neoplasms can occur in the setting of sporadic hyperparathyroidism as well as in sporadic hyperparathyroidism. Oncocytic parathyroid disease can affect 1 parathyroid gland or be associated with multiglandular parathyroid disease. In addition, oncocytic parathyroid carcinomas can occur, although they are uncommon. Similar to oncocytic parathyroid adenomas, oncocytic parathyroid carcinomas are also functional neoplasms.

REFERENCES