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Multiple Schwannomas in a Patient with Gynecomastia

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A 29-year-old man presented for evaluation of a left subareolar mass. It had been present for 8 years but had recently begun to rapidly enlarge. He denied nipple discharge or chest-wall changes. Family history was notable only for a grandmother with breast cancer. There was no personal history suggesting neurofibromatosis. He had no history of testicular masses, chest trauma, headaches, vision changes, or neoplasms. He had occasionally used dietary supplements while wrestling competitively in high school but otherwise took no medications, occasionally used alcohol, and did not smoke or use recreational drugs. A large, firm, and palpable left subareolar mass without skin changes was identified on exam (Fig. 1). There was right-sided gynecomastia, but no café au lait spots or freckling of the axillae.

Diagnostic mammogram (Fig. 2a) revealed right-sided gynecomastia and three left-sided circumscribed, high-density masses. All had increased internal vascularity with parallel orientation on ultrasound (Fig. 2b). Ultrasound-guided biopsy revealed a schwannoma.

The patient underwent subcutaneous mastectomy with trunk liposuction. 186 g of tissue was removed, including all three masses (Fig. 3). The main mass was 3.5 × 4 cm, well-circumscribed, and encapsulated. Pathology confirmed Antoni-A and B regions as well as S-100 staining (Fig. 4).

Only 2.6% of schwannomas are found in the breast. In addition, of the 28 breast cases that have been reported, only six were in males. These ranged in size from 0.7 to 11 cm, with a median of 3 cm. In our case of a male without genetic conditions, the



Figure 1. Physical exam. [Colour figure can be viewed at wileyonlinelibrary.com].

4.0-cm schwannoma had grown slowly over an 8-year course with only recent acceleration. The previous maximum reported duration in a male was 2 years. Due to wide differences in presentation with regard to time, symptomology, and size, this rare condition might easily be confused with alternate diagnoses, including fibroadenoma, intra-cystic papilloma, simple gynecomastia, or even breast cancer.

Schwannomas are benign neoplasms of peripheral nerve sheaths arising from perineural Schwann cells. While exceedingly rare in the breast, they can occur throughout the body, most commonly in nerves of the head and neck or extremities. Schwannomas may also be intracranial, usually arising from the vestibular portion of the acoustic nerve. Histologically, they are marked by Antoni A patterns: hypercellular areas with elongated monomorphic spindle-shaped Schwann cells surrounded by nuclear palisading (“Verocay bodies”), and by Antoni B patterns: hypocellular areas with loose stroma and myxoid changes.

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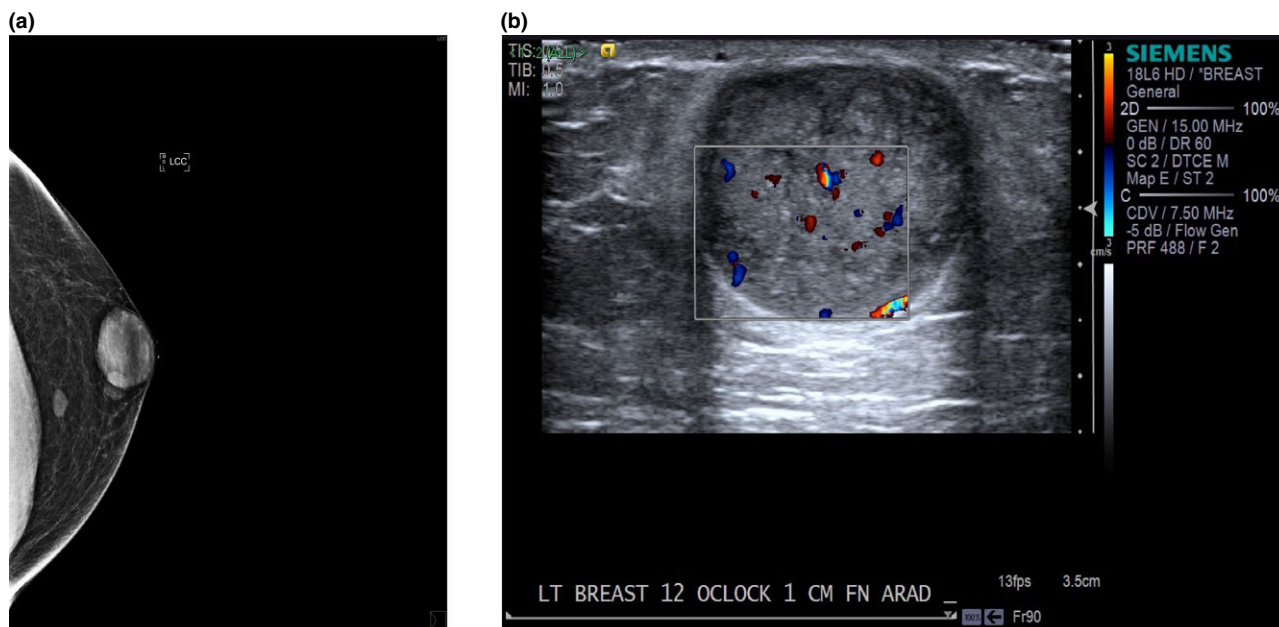


Figure 2. (a) Mammography. Left craniocaudal view. (b) Left breast ultrasound with flow. [Colour figure can be viewed at wileyonlinelibrary.com].



Figure 3. Intraoperative image of two of the three tumors. [Colour figure can be viewed at wileyonlinelibrary.com].

Mammography has a sensitivity and specificity above 90% in differentiating between benign and malignant processes, and can decrease the need for biopsy. However, several schwannomas have been mammographically occult. Ultrasound may often show a well-defined, solid, hypoechoic mass with variable acoustic enhancement. A core biopsy is ultimately indicated to establish the diagnosis. Following definitive diagnosis, complete surgical excision is recommended.

While rare, schwannoma should be in the differential diagnosis when investigating male breast masses.

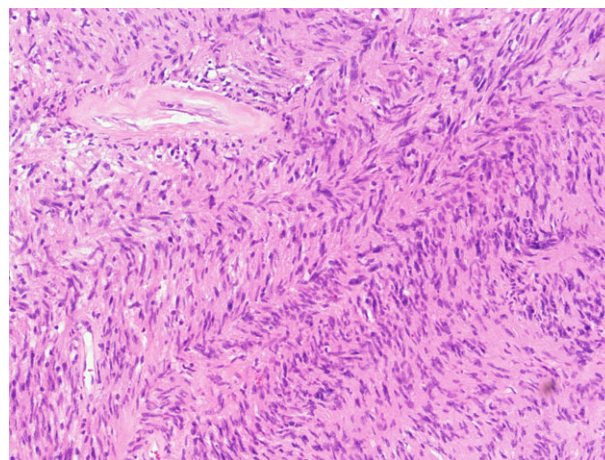


Figure 4. Histologic examination demonstrates Antoni A tissue and Verocay bodies. (Image courtesy Dr. Allan Kremp, Department of Pathology, Naval Medical Center San Diego). [Colour figure can be viewed at wileyonlinelibrary.com].

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