Images in Clinical Tropical Medicine
Bancroftian Filariosis—Absence of Wolbachia after Doxycycline Treatment

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A 59 year-old Ghanaian presented with scrotal enlargement for 5 years. Ultrasonography showed a hydrocele with dilated lymphatic vessels (0.61 cm) in the left supratesticular area (spermatid cord) containing motile adult filariae (Figure 1A, arrowheads; Figure 1B, Pulse Wave Doppler-mode and video clip displaying filarial movements).

Laboratory results showed 2,040 microfilariae/mL and 65,804 units of circulating filarial antigen. The patient was treated with 200 mg doxycycline/d for 6 weeks. He underwent ultrasound-guidedd hydrocelectomy 6 weeks after the end of treatment. The tissue was fixed in ethanol for immunohistology. Adult worm sections (Figure 1C) showed degenerated embryos after doxycycline treatment. No Wolbachia were detected in the hypodermis, embryos, or oocytes using Wolbachia-specific antibodies (Figures 1C and 1D), whereas worm sections of an untreated patient contained many Wolbachia (Figure 1E). The treated patient was amicrofilaremic at the 12- and 24-month follow-ups. Antigen units dropped to 5,092 and 968 units (borderline positive), respectively, with no relapse of the hydrocele. Ultrasound re-examinations showed no worm nests.

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Note: A supplemental video clip appears online at www.ajtmh.org.

REFERENCES
FIGURE 1. A. Hydrocele fluid (echo-free area) and a worm nest (arrowheads) in a dilated lymphatic vessel in the supratesticular area (B-mode). This figure can be seen as video at www.ajtmh.org. B. Irregular peaks in the Pulse Wave Doppler-mode reflecting movements of adult filariae. C and D. Section of a female *W. bancrofti*, excised 6 weeks after doxycycline treatment with degenerated embryos (arrows in C) and without *Wolbachia* endobacteria in the hypodermis (arrowheads), embryos, and oocytes (arrows in D). E. Untreated female *W. bancrofti* with many bacteria in oocytes (arrows). Immunohistologic staining using antiserum against *Wolbachia* surface protein. Scale bars = 30 μm. This figure appears in color at www.ajtmh.org.