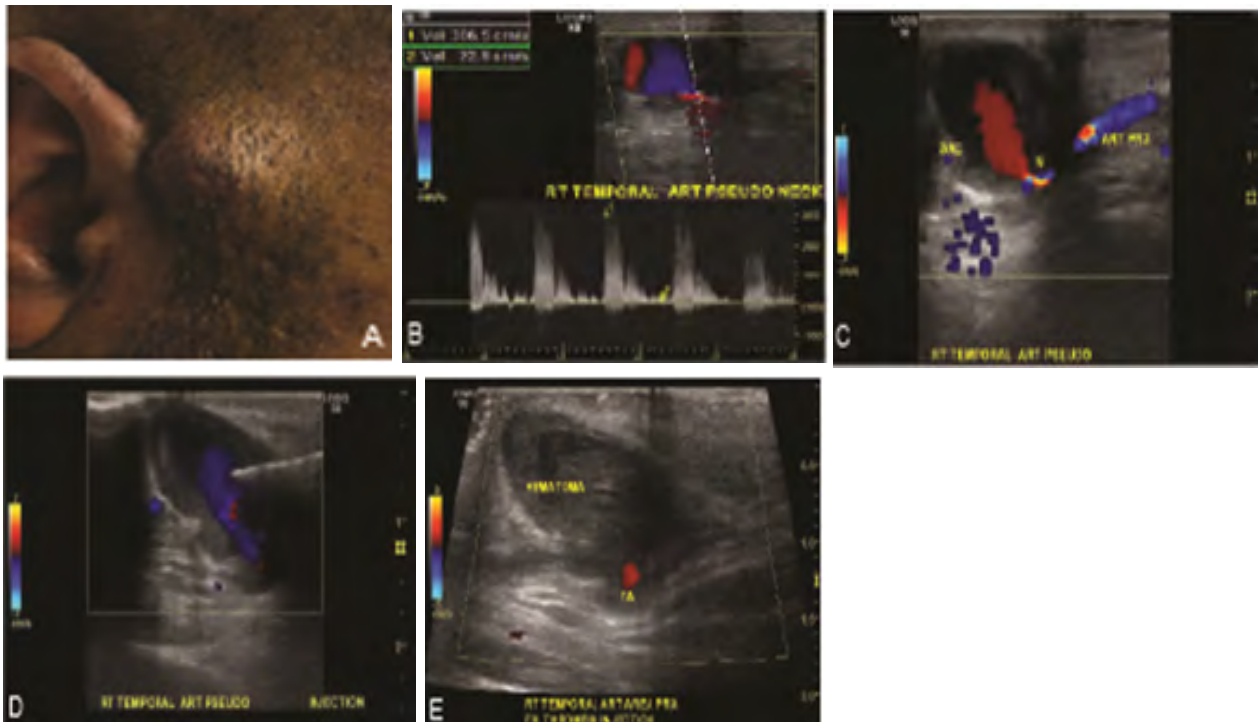


Clinical Image

## Ultrasound-Guided Temporal Artery Pseudoaneurysm Repair with Thrombin Injection

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**Figure A:** The pulsating temporal pseudoaneurysm after trauma.

**Figure B:** Color Doppler demonstrates "Yin/Yang" flow in the pseudoaneurysm.

**Figure C:** Neck of the pseudoaneurysm (labeled by N).

**Figure D:** Injection of thrombin into the pseudoaneurysm.

**Figure E:** The flow disappeared after the thrombin injection.

**Video:** Color Doppler shows the "Yin/Yang" flow and the position of the injection needle in the temporal aneurysm.

### Abstract

Superficial temporal artery pseudoaneurysm a relatively uncommon condition mostly resulted from traumatic injury. Although the most successful standard treatment has been surgical resection, other nonsurgical treatment methods have been employed, including thrombin injection, endovascular embolization, coiling, or conservative treatment. We report a case of right superficial temporal pseudoaneurysm successfully treated with thrombin injection under ultrasound guidance. Our case provides more evidence regarding the efficiency and safety of treatment of pseudoaneurysm with thrombin injection under ultrasound guidance.

### Case Presentation

A 41-year-old presented with a progressive right temporal throbbing headache as well as a right preauricular pulsating mass for one week (Figure A). The symptoms started gradually one week after a motor vehicle accident, during which he suffered a large laceration to the right-sided parietotemporal area of the head that necessitated more than 20 stitches. CTA of the head showed right preauricular pseudoaneurysm of the superficial temporal artery of  $16 \times 9.3 \times 8.6$  mm in size. Sonography of the right temporal region demonstrated a "Ying/Yang" flow (Figure B, Video) and some eccentric thrombus within this pseudoaneurysm.

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Subsequently, a 25-gauge needle was advanced into the structure under direct ultrasonographic guidance, and approximately 20-30 units of thrombin was injected into the pseudoaneurysm under direct color Doppler observation resulting in thrombosis and absence of appreciable flow. He tolerated the procedure well, and the headache resolved. Follow-up duplex ultrasonography 3 and 10- days after thrombin injection confirmed the thrombosis and lack of blood flow in the previous pseudoaneurym (Figures C-E).