Case of the week:

Provided by Dr. Bornaventure Matimati

Clinical presentation: 45yr old male with a history of trauma to the scalp 12 years ago. Now presenting with a pulsatile scalp mass increasing in size.

Imaging:

Figure 1. Left frontal oblique view of the skull with volume rendering showing a complex vascular mass in the scalp
Figure 2. Left lateral, volume rendered image of the skull showing the prominent feeding artery and draining veins of the scalp AV fistula

Figure 3. Cross sectional axial MiP image of the vertex of the skull showing tortuous and distended vessels in the left scalp region
Discussion:

Traumatic arteriovenous fistulas (AVFs) are rare and not frequently encountered by radiologists or neurosurgeons.

An AVF of the scalp is a result of a direct connection between the arterial feeding vessels and the draining veins without intervening capillary beds.

These vessels are usually grossly dilated and can create a cosmetic deformity. The symptoms include a pulsatile mass, bruit, tinnitus, and headache.

Treatment options include surgical excision, ligation of feeders, injection of sclerosing agent and transarterial and transvenous embolization.

References: