ARTERI-VENOUS MALFORMATION OF THE HAND, IS LOSING A FINGER AN OPTION?

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Introduction: Arteriovenous malformation (AVM) is a congenital or acquired abnormal direct communication between an artery and a vein leading to abnormal blood circulation. Management of AVM rupture is challenging not only because of the need to preserve optimal hand function, but also because of the high rate of complications in treatment.

Discussion: A 24-year-old gentleman with a known case of arteriovenous malformation (AVM) of the hand located largely at base of ring finger had presented to our Emergency Department with profuse bleeding from his hand. Compressive bandaging was unsuccessful, and to control bleeding it was decided after consultation to surgically intervene. Intra-operatively bleeding nidus was ligated and cauterized. Unfortunately, within 6 hours post-op he developed acute compartment syndrome of the hand and we were forced to proceed with fasciotomy and compartment release of the limb. Post-operatively, the compartments of the hand and the circulation of his fingers were good, except for his ring finger which became bluish.

Conclusion: Digital AVMs are rare and one of the most difficult hand diseases to treat because of their high complication rates. Diagnostic angiography is important to help identify the feeding vessels/nidus to give the surgeon a better picture in deciding the most optimal strategy for surgical exploration and choice of embolisation agents. Invasive treatment would be justified in the case of bleeding AVM due to the potential risk of disease progression leading to gangrene of the fingers. Reports show good results for microsurgical intervention with ligation. The other option is to selectively band one of the digital arteries while monitoring the blood flow through duplex ultrasound to avoid critical ischemia and loss of the finger. However even with the best of effort, many patients may still end up with digital amputations.