

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Vascular Diseases Quiz – Case 39

A 72-year-old male patient referred to our outpatient clinic by his nephrologist because of a serosanguinous exudate derived from a forearm arteriovenous (AV) synthetic graft for hemodialysis. The AV graft was inserted 3 years ago, having an optimal function during this period. The patient reported fever, chills and poor glycemic control during the last week. His past medical history was significant for diabetes mellitus, hypertension and of course end-stage renal disease (ESRD) under hemodialysis.

Physical examination revealed erythema over the course of the AV graft and purulent drainage (fig. 1). Leukocytosis was prominent.

What is the diagnosis?

Comment

Infectious complications of vascular access comprise a leading cause of morbidity and mortality among patients with ESRD. Synthetic grafts are more prone to infections than AV fistulas. Infections

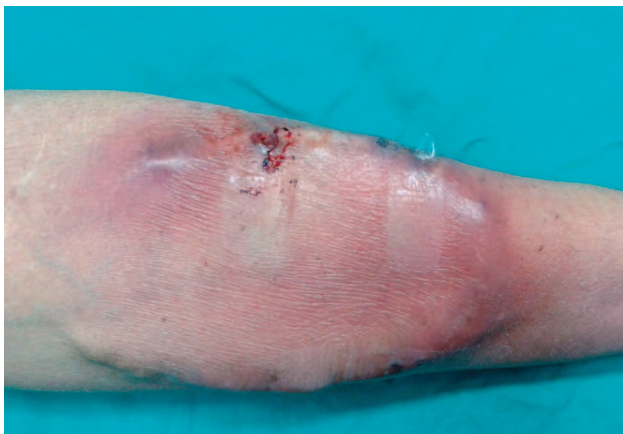


Figure 1. Infected arteriovenous (AV) forearm graft. Erythema over the course of the graft and purulent drainage were noted.

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can be categorized as early (occurring within 30 days from access construction) or late. Late infections are by far more frequent. Several risk factors have been identified such as diabetes, HIV, poor sterile technique in the dialysis unit. The most common offenders seem to be Staphylococcus aureus and MRSA Staphylococcus. Local signs of inflammation, purulence, fever, pain and even sepsis are the most frequent clinical findings. Intravenous antibiotic administration and surgical removal of the synthetic graft are strongly recommended. Many times due to the scarcity of anatomic positions to construct a new vascular access several attempts at salvage of the infected graft could be acceptable in selected patients. For example, in case of a localized graft infection, segmental excision of the graft with the use of a short interposition graft inserted through a new tunnel at a certain distance from the previous one may be a solution. In our case due to the extended infection along the whole graft, total surgical excision was made and an artery repair with a vein patch was performed. Postoperative recovery was uneventful and the patient was discharged from hospital on the same day.

References

1. INRIG JK, REED SD, SZCZECH LA, ENGEMANN JJ, FRIEDMAN JY, COREY GR ET AL. Relationship between clinical outcomes and vascular access type among hemodialysis patients with *Staphylococcus aureus* bacteremia. *Clin J Am Soc Nephrol* 2006, 1:518–524

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Diagnosis: Arteriovenous graft infection