

Abstract

Necessity of Routine Forearm Radiography before Arterio Venous Fistula Creation in Diabetics & Old Patients

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Introduction:

One of the long-term hemodialysis(HD) vascular accesses for end stage renal disease (ESRD) patients is Arterio Venous fistula (AVF). Presence of arterial diseases such as atherosclerosis can interfere with failure and adequate development of AVF and also causing difficulty in anastomosis of the calcified artery in these patients. Some studies reported different impact of diabetic mellitus (DM) on arterial changed. We aimed to determine the incidence of arterial calcification in forearm X-ray in ESRD patients and also its relation to DM.

Method:

In this prospective cross-sectional study, patients with ESRD candidate for AVF creation were included from April 2008 to March 2009 in Hasheminejad Kidney Center by convenient sampling. Forearm X-ray (AP and lateral projection) was done for all individuals before surgery and reported by a radiologist. Clinical and laboratory data (including atherosclerosis risk factors) were obtained through convenient check lists.

Results:

From all 174 patients with the mean age of 56 ± 16.1 years (58.6% male and 41.4% female), 18% of patients (n=34) had arterial calcification in their forearm radiographies. Diabetic patients had significantly more calcified arteries in forearm X-ray than other patients ($P < 0.001$). In blood tests, only FBS was significantly higher in patients with calcified artery in forearm X-ray ($P < 0.001$). patients with calcified artery in forearm X-ray were significantly older than others ($P < 0.001$).

Conclusion:

AVF loss and recurrent requirement of AVF constitution increase with HD vintage. Studies in different regions shows different results in the impact of presence of DM on AVF survival. This study showed that age and DM had significant relation with arterial calcification in Iranian patients who had renal failure.

Studies in order to find any effect of controlling the DM, on the arterial calcification is suggested.

