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Doppler ultrasonography (USG) has become a diagnostic tool for renal physicians because arteriovenous fistula stenosis can be diagnosed morphologically and functionally by USG and requirement of preemptive angioplasty can be determined. If patients cannot be dialyzed due to negative pressure, it may be due to decreased blood flow or improper needling technique. USG study can explain the causes of dysfunction. Functional evaluations, especially through blood flow volume check, Resistive Index (RI) check, and diastolic waveform measurement through the brachial artery, are an important tools because morphological stenosis is frequently found on USG. In cases with the accompanying functional abnormalities only had an increasing risks of thrombosis therefore, preemptive angioplasty can be justified. The treatment of mild morphologic stenosis without functional severity leads to frequent relapse, high cost and shortened lifespan of the fistula. On the contrary to above mention, the decreased blood flow on USG without morphologic stenosis hints the presence of USG undetected focal stenosis. Venous stenosis was classified as a juxtaanastomotic (2-5 cm) or an outflow vein (> 5 cm) depends on distance from anastomosis. On the B-MODE, there was a reduction of more than 50% of the diameter of stenotic area compared to the normal pre or post stenotic vein diameters. The stenotic area can be viewed by aliasing phenomenon on the color doppler and by the peak systolic velocity ratio greater than 2 in spectral doppler. In radial artery stenosis, there may be seen as a decrease of overall diameter and rarely focal stenosis. Currently, a hemodynamic criterion, which is the cut off value of angioplasty, varies depending on the center, site of fistula (upper or lower).