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PTA AND STENTING FOR CHRONIC TOTALLY OCCLUDED ILIAC OR SUPERFICIAL FEMORAL ARTERIES IN PATIENTS WITH PVD: LONG-TERM CLINICAL AND ANGIOGRAPHIC RESULTS

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Background: Iliac or femoral (SFA) artery stenosis is a common vascular disease that results in lower limb claudication, rest pain or even gangrene. Percutaneous transluminal angioplasty (PTA) is an established alternative to surgery in the treatment of short segment stenosis. However, chronic occlusions, particularly those involving a long segment, are considered a contraindication for PTA. Chronic totally occluded lesions are associated with a low procedural success rate and a high restenosis rate. The aim of this study is to evaluate the short and long term efficacy of PTA and stenting in chronically occluded iliac and femoral arteries.
Methods: From Dec 1994, we have performed 52 lower limb vessel PTA procedures. Of these, 19 (36.5%) vessels in 16 patients (10M/6F, mean age 69±10yrs) were chronic total occlusions. 7/16 (43.8%) has diabetes. The occluded lesion length ranged from 20-80mm (mean 55mm) in the iliac artery (n=7) and 40-220mm (mean 81mm) in the SFA (n=12). All the lesions were treated with PTA plus primary stenting. A total of 25 stents were deployed (mean: 1.5 stents per SFA vessel, 1 stent per iliac vessel). Clinical and angiographic follow-up were performed to assess symptoms and patency of the artery.
Results: Recannulisation was successful in 18/19 (94.7%) vessels. One SFA with a 220mm long lesion was not recannulisable due to failure to cross with guidewire. During clinical follow-up (18.4±14.9 months), all (15/15) patients reported improvement in their claudication symptoms. 16/18 (88.9%) vessels were clinically patent. 11 vessels had completed angiographic follow-up to date. 9 (81.8%) vessels remained widely patent. Two vessels (both SFA, lesion length 40mm and 80mm) had restenosis of >50% in luminal diameter. Repeat angioplasty was performed successfully, with 1 vessel requring a third procedure which has remained patent since (21months). Thus, overall restenosis rate was 11.1% (2/18) clinically, 18.2% (2/11) angiographically, 0% (0/7) for iliac arteries and 18.2% (2/11) for SFA. Secondary patency rate at 18 months was 100%.
Conclusion: PTA and stenting is a feasible alternative to surgery even in the treatment of chronic and totally occluded iliac and femoral arteries with lesion lengths of up to 22cm. The procedure has a high success rate and a low restenosis rate. Close surveilence combined with repeat angioplasty for the small number with restenosis can maintain a high secondary patency rate in these patients.

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Assessment of Diastolic Dysfunction by Tissue Doppler Echocardiography in Patients with Heart Failure

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Background: Left ventricular diastolic dysfunction is highly prevalent in patients with systolic dysfunction. Although Doppler echocardiography is a commonly employed tool to diagnose diastolic dysfunction, it is affected by haemodynamic and other physiological factors. Whether tissue Doppler echocardiography (TVI) is useful to assess this condition is not clear.
Methods: 31 patients with heart failure and a left ventricular ejection <45% (mean age = 66.4 ± 8.6, 22 males) had Doppler echocardiography with transmitral and pulmonary vein studies performed to define the pattern of diastolic dysfunction. TVI study with computer digitised signal were analysed in the six basal segments of left ventricle.
Results: The mean ejection fraction was 34 ± 1.7%, and 87% was ischaemic in etiology. Seven patients (23%) had a restrictive filling pattern (RFP), and the rest had non-RFP. Using TVI, an early and late phase ventricular diastolic motion were detected. The time from peak motion to the accomplishment of early phase relaxation (i.e., early deceleration time, TVI-EDT) and the ratio of early to late phase relaxation peak velocity (TVI-E/A) were measured at each basal segment of the ventricle. Patients with a RFP had significantly shortening of early TVI-EDT at 5 out of 6 basal segments when compared to non-RFP patients (anterior segment: 78 ± 16 Vs 160 ± 20ms, p=0.04; inferior: 80 ± 19 Vs 176 ± 19ms, p=0.02; posterior: 82 ± 12 Vs 157 ± 16, p=0.02). Similarly, the TVI-E/A ratio were significant larger in RFP in 4 most of the segments investigated (Anterior: 2.0 ± 0.7 Vs 0.9 ± 0.2, p=0.03; inferior: 2.4 ± 1.0 Vs 0.8 ± 0.1, p=0.02; posterior: 3.1 ± 1.5 Vs 1.1 ± 0.2, p=0.03)
Conclusion: Tissue Doppler echocardiography is a sensitive tool in the assessment of left ventricular diastolic function in heart failure patients.