Popliteal Artery Stenting is a Controversial Treatment, A Study Analysis

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Purpose:
To evaluate the efficacy & complications of popliteal artery stenting as a treatment for popliteal occlusive or aneurysmal diseases.

Materials & methods:
54 patients were exposed to: Popliteal artery stenting either for occlusion or aneurysmal lesions from January 2012 to December 2015, were analyzed to the data of these procedures as regard the patency rates (primary & secondary) and the complications incidence including the stents failure & acute thrombosis.

Results:
54 patients were treated by stenting of popliteal artery, 50 patients had popliteal artery occlusive lesions & the remaining 4 were treated for aneurysmal disease. The primary technical success after popliteal artery stenting was 100%. One year primary & secondary patency rate was 86.71% & 70.5% respectively. We had two non-procedure related mortality (5.7%). The total major amputation rate was 16.6%. The total stents fracture rate was 24% at one year.

All demographic features are listed in Table 1. The mean age is 63 years old.

Demographic Feature | Number of Patients (%)
--- | ---
Male gender | 37/54 (68.5%)
Diabetes | 42/54 (77.7%)
Hypertension | 31/54 (57.4%)
IHD | 14/54 (25.9%)
Renal Impairment | 11/54 (20.4%)
CRF (on haemodialysis) | 6/54 (11.1%)
Dyslipidemia | 44/54 (81.1%)
Autoimmune disease (vasculitis) | 3/54 (5.5%)
Smoking | 4/54 (7.4%)

Table 1: Demographic features

The presenting symptoms of the patients were illustrated in Table 2. The rate of amputation was unhealed ulcer of the foot.

Table 2: Presenting symptoms

| Presenting symptom | Number of Patients (%) |
--- | ---
Intermittent Claudication | 4/54 (7.4%)
Rest pain | 9/54 (16.6%)
Unhealed foot ulcer | 25/54 (46.3%)
Gangrenous toe(s) or foot | 13/54 (24%)
Asymptomatic aneurysm | 3/54 (5.5%)

The degree of stenosis or occlusion was classified according to TASC II classifications. Table 3 showed the degree of the lesions among the patients who are suffering of occlusive disease.

Table 3: TASC classification

| TASC classification | Number of Patients (%) |
--- | ---
A | 1/50 (2%)
B | 21/50 (42%)
C | 13/50 (26%)
D | 11/50 (22%)

The concomitant lesions sites at the vascular tree are shown in Table 4. Most of cases (%) had SFA stenotic lesions

Table 4: Associated Lesions Site

| Lesions Site | Number of Patients (%) |
--- | ---
Iliac | 9/54 (16.7%)
CFA | 3/54 (5.5%)
SFA | 26/54 (46.3%)
Tibial | 44/54 (81.1%)
Aortic aneurysm | 5/54 (9.2%)

The tibial runoff was addressed in all cases and graded from 0-3 according the number patient distal vessels. Table 5 showed the grades of distal runoff.

Table 5: Grades of distal runoff

| Grade of runoff | Number of Vessels |
--- | ---
0 | 0 |
1 | 1 |
2 | 2 |
3 | 3 |

The primary technical success was 100%. The primary patency rate was 52/54 (96.2%) %, 45/52 (83.0%) % at 1, 6 & 12 months respectively and secondary patency rate was 52/54 (96.2%), 45/52 (83.0%) & 38/51 (74.5%) at 1, 6 & 12 months respectively.

Two patients died within 6 months follow up due to acute cardiac ischemia (2/54, 3.8%) & one patient was lost during the follow up after one month. The rate of major amputation at this study was 9/54 (16.6%) in 24 months follow up. Figure 1 showed the patency rate

Figure 1: Suggested stenosis classification (TASC) with Superior amputation

References: