

CONTROVERSES ET ACTUALITÉS EN CHIRURGIE VASCULAIRE
CONTROVERSIES & UPDATES IN VASCULAR SURGERY

JANUARY 19-21 2017

MARRIOTT RIVE GAUCHE & CONFERENCE CENTER

PARIS, FRANCE



Leg artery lesions : Is endovascular treatment below distal graft worthy ?

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Disclosure

Speaker name:

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I do not have any potential conflict of interest



- All published and recent data suggest that in CLI and for limb salvage combined procedures using proximal PTA and distal bypass are effective as primary femoro distal bypass or popliteal distal bypass graft



Intraoperative superficial femoral artery balloon angioplasty and popliteal to distal bypass graft: An option for combined open and endovascular treatment of diabetic gangrene

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Purpose: The purpose of this study was to evaluate the results of combining intraoperative balloon angioplasty (IBA) of the superficial femoral artery (SFA) with distal bypass graft originating from the popliteal artery as a method of lower extremity revascularization in diabetic patients with gangrene.

Methods: Among 380 infrainguinal bypass grafts performed over a 6-year period, there were 110 reversed saphenous vein bypass grafts to the tibial or pedal arteries to treat diabetic patients with gangrene. Diffuse infrainguinal disease was treated with femoral-distal bypass graft (long; n = 46). Popliteal-distal bypass graft was performed when the inflow femoral artery was not significantly diseased (short; n = 52). Focal SFA stenosis and severe infrageniculate disease were treated with combined IBA of the SFA and distal bypass graft originating from the popliteal artery (combined; n = 12). Follow-up was performed with duplex scan surveillance of both the bypass graft and IBA sites. Treatment groups were compared with life-table analysis.

Results: There were no perioperative graft failures or amputations. The perioperative mortality rate was 1% (1 of 110). The 2-year primary patency rates were similar in the three groups: 72% in the long bypass graft group, 82% in the short bypass graft group, and 76% in the combined group ($P = .8$, log-rank test). SFA IBA sites developed recurrent stenosis in two patients, at 7 and 48 months; both were detected with surveillance and treated with percutaneous transluminal balloon angioplasty. The overall 5-year rate of primary patency was 63%, secondary patency was 78%, limb salvage was 81%, and survival was 35%. There were no significant differences among the three treatment groups with respect to these outcomes.

Conclusion: Results with the combined procedure were similar to those achieved with either femoral-distal bypass graft or popliteal-distal bypass graft without SFA IBA. These data suggest that IBA of the inflow SFA may be combined with popliteal to distal bypass graft and that this technique is a reasonable alternative to longer, femoral-origin bypass graft in selected diabetic patients with gangrene. (J Vasc Surg 2001;33:955-62.)



Tibioperoneal (Outflow Lesion) Angioplasty Can Be Used as Primary Treatment in 235 Patients With Critical Limb Ischemia Five-Year Follow-Up

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Lynne M. Mathiak, RN; Thomas He, PhD

Background—In a prospective, nonrandomized, consecutive series of tibioperoneal vessel angioplasty (TPVA), critical limb ischemia (CLI) patients' data were analyzed with regard to immediate and follow-up success.

Methods and Results—TPVA was successful in 270 of 284 critically ischemic limbs (95%), with 167 limbs (59%) requiring dilatation of 333 ipsilateral inflow obstructions to access and successfully dilate 486 of 529 (92%) tibioperoneal lesions. A clinical success (relief of rest pain or improvement of lower-extremity blood flow) was attained in 270 limbs at risk (95%). Clinical 5-year follow-up of 215 of 221 successful CLI patients (97%) with 266 successfully revascularized limbs revealed that bypass surgery occurred in 8% and significant amputations in 9% of limbs; 91% of the limbs were salvaged. The cohort's probability of survival was 56%: 58% for Fontaine class III and 33% for class IV patients. Class III compared with class IV patients had significantly ($P<0.05$) fewer surgical bypasses (3% versus 16%) and amputations: above-knee, 1% versus 4%; below-knee, 3% versus 12%; and transmetatarsal, <1% versus 21%.

Conclusions—TPVA, often in combination with inflow lesions, is an effective primary treatment for critical limb ischemia. The poor cumulative survival reflects the existence of severe comorbidities, which could potentially be affected by aggressive and effective cardiovascular diagnostic and therapeutic strategies. (*Circulation*. 2001;104:2057-2062.)

Key Words: angioplasty ■ peripheral vascular disease ■ surgery ■ vasculature



Changing pattern of surgical revascularization for critical limb ischemia over 12 years: Endovascular vs open bypass surgery

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Objective: This study is a review and evaluation of our 12-year experience of revascularization for critical limb ischemia (CLI) with angioplasty/stenting and bypass surgery to identify specific trends of procedure volume and outcomes in this particular group.

Methods: Endovascular and open bypass procedures done for CLI by a single surgeon between 1993 and 2004 were evaluated retrospectively. Thrombolysis and thrombectomy procedures done as the only revascularization procedure were excluded from analysis. The data were divided into three groups by time periods: the first period, 1993 to 1996; the second period, 1997 to 2000; and the third period, 2001 to 2004. Outcomes were defined according to the reporting standards of the Society for Vascular Surgery/International Society for Cardiovascular Surgery. The study included 416 procedures done in 237 limbs in 192 patients. The mean follow-up was 23 months (range, 1 to 122 months).

Results: Primary revascularization procedures for CLI were angioplasty in 153 limbs (65%) and bypass surgery in 84 (35%). Subsequent procedures were angioplasty in 102 limbs (57%) and open surgery (bypass and/or patch angioplasty) in 77 limbs (43%). The rates for technical and clinical success and complications in the entire group were 99%, 95%, and 4%, respectively. One patient died perioperatively (0.5%). Among the three periods, TransAtlantic Inter-Society Consensus lesion types were significantly more severe in patients in the first period ($P < .05$). Additionally, the complication rate was significantly higher and the mean hospital stay was significantly longer in the first period compared with the second and third periods ($P < .05$). Furthermore, between the first and third periods, the number of endovascular revascularization procedures done as primary and secondary procedures significantly increased from 15 to 84 (+460%) and from 13 to 57 (+340%), whereas the number of open surgical procedures done as primary and secondary procedures decreased from 39 to 20 (-49%) and from 35 to 18 (-49%), respectively ($P < .0001$). The assisted primary patency rates in the third period were significantly higher than those in the first and second periods ($P = .012$); otherwise, the long-term outcomes among the three periods were not statistically different. Multivariate analysis revealed that, while controlling for other factors, the third period showed improvement in the primary patency ($P = .032$) and assisted primary patency ($P = .051$), and the bypass group showed improvement in the primary patency ($P = .008$).

Conclusions: In our experience, open surgical procedures for the treatment of CLI have been largely replaced by angioplasty procedures without compromising outcomes. Angioplasty is a feasible, safe, and effective procedure and can be the procedure of choice for the primary and secondary treatment of CLI. Open surgical procedures can be reserved for lesions technically unsuitable for endovascular procedures and patients who do not demonstrate clinical improvement after angioplasty. (*J Vasc Surg* 2006;44:304-13.)



- In our clinical practice and in selected patients we are treating CLI by combining distal PTA to distal bypass
- Between 2012 and 2015 and among patients operated for CLI and limb salvage (82 patients) , 26 patients were treated by combined interventions
- 17 patients were in IV and 9 in III
- For many issues :
 - No adequate vein
 - Severe comorbidities
 - Anatomical issues



- 10 fempop bypass with PTFE graft (AK)
- 9 fempop bypass with ISVG/In situ bypass(BK)
- 7 femdistal bypass
- Mean age was 68 y
- 80% of patients were diabetic
- 11% under hemodialysis
- M/F : 21/5
- 8 of them operated for CABG



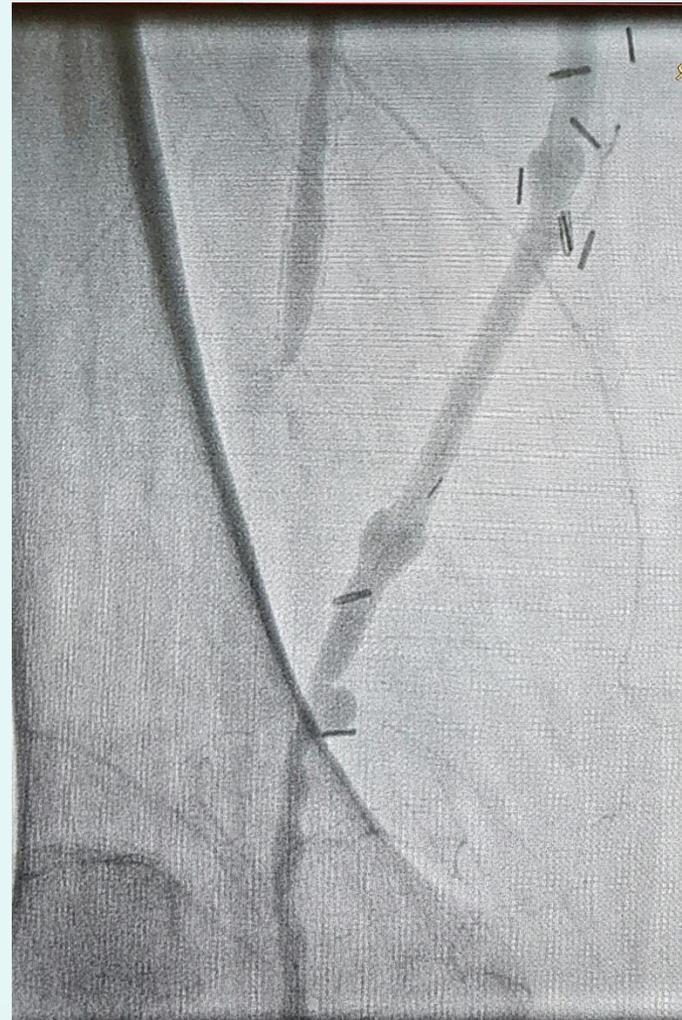
- Technical success was 96%
- Mortality : 3.8% (one patient died of myocardial infarction)
- No stenting done
- All procedures were done under local anesthesia except one under GA
- Done by the same surgical team
- All patients were on asp & clop for at least one year and LMWH at preventive dose for 10 d



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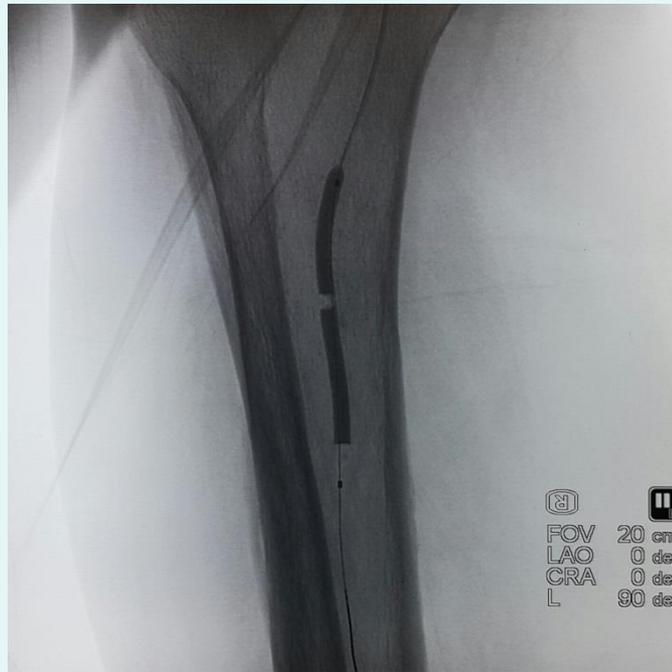
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- Primary patency at 1 year and 18 months was respectively 73 % and 65 %
- Secondary patency at 1 year and 18 months was respectively 80 % and 70 %
- Limb salvage was around 73 %
- **But :**
- *In looking in more detailed results we can conclude that patency and limb salvage were better in patients in whom the distal lesions were located proximal to the TPT*



IN CONCLUSION

- Despite inferior results to primary distal bypass and to primary PTA in terms of patency , Combined distal PTA to distal bypass must remain an option with good results in terms of limb salvage
- And of course we need a greater number of patients to validate these results

THANK YOU



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