

to renal related secondary intervention was 450 days (Q1–Q3, 124–991.5) for both procedures.

Conclusion: FEVAR and BEVAR are durable options for the treatment of complex aortic aneurysms and are associated with a low renal morbidity rate. Freedom from renal composite events was significantly higher with FEVAR. Renal volume is as accurate way to depict renal dysfunction during follow-up.

Angiosome Guided Surgical Revascularization; the Truth and Falsehood

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Introduction: The usefulness of angiosome guided therapy in critical limb ischemia has been under debating. We tried to evaluate the efficacy of angiosome guide revascularization comparing the results between complete revascularization using great saphenous vein (GSV) Y graft and single graft bypass.

Methods: From Jul 2008 to Dec 2012, a total of 102 CLI patients underwent BTK or pedal bypass surgery for critical limb ischemia. 71 pts (83 limbs) underwent single graft bypass (Anterior tibial artery or posterior tibial artery), otherwise 31 patients (37 limbs) underwent complete revascularization using GSV Y graft.

Results: There is no statistical difference between both two groups in terms of preoperative demographics, postoperative complications and mean 3 years follow up results. However, in the patients who underwent single graft bypass surgery, primary patency is longer in positive pedal arc group compared to no pedal arch group (85% in positive pedal arc group vs. 47.6% in no pedal arch group). In the patients who underwent Y graft bypass surgery, primary patency was similar in both groups (87.5% in positive arc group vs. 80% in no pedal arch group).

Conclusion: Angiosome guided treatment is necessary in the cases of negative pedal arch. If the patients shows negative compatibility in terms of wound location with angiosome area, and poor pedal arch, complete revascularization using GSV Y graft or angiosome guided single bypass surgery is reasonable. Otherwise, if pedal arch is competent in peri-operative evaluation, single bypass surgery regardless of angiosome is sufficient.

One Bout of Calf Raises Induces Improvement of Mitochondrial Function in Claudicants

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Introduction: Mitochondria in patients with PAD do not produce as much ATP as mitochondria in normally perfused muscle. Therefore patients with PAD do not only have a decreased supply of nutrients and oxygen, as a result of diseased arteries, but the concurrent mitochondrial respiratory defects also lead to an even lower ATP production from the amount of O₂ present.

Ischemic preconditioning is known to improve functionality and to increase the number of mitochondria. We wanted to explore whether any impact on the mitochondria would be seen already after one bout of training. The extended goal being whether specific “mitochondrial training” with increased ATP production to follow could improve symptoms for patients with claudication.

Methods: Two groups were tested: a control group with healthy elderly individuals ($n = 11$) and another group with intermittent claudication ($n = 8$).

In patients with claudication we used one bout of continuous calf raises followed by 5 extra repetitions after initiation of pain. This approach secured local ischemia and reperfusion = ischemic preconditioning in the gastrocnemius muscle. The control group performed 100 calf raises.

Biopsies from the gastrocnemius muscle were taken 15 minutes prior to the training and another four at fixed time intervals (15 min, 1 h, 3 h and 24 h) after the single bout of exercise.

Respiratory capacities were determined by using mitochondrial respirometry. The main substrates used were octanoylcarnitine, glutamate (fatty acid oxidation), malate (complex I), succinate (complex I and II), and FCCP and rotenone (complex II).

Repeated measures mixed model was used for statistical analysis. Statistical significance was indicated by a value of $p < 0.05$.

Results: Within the group of claudicants Complex I respiratory capacity reached the highest value at 24 hours (15.4 ± 3.14) compared to the lowest (8.9 ± 3.28), ($p = 0.04$). Also fatty acid oxidation had the highest value at 24 hours (9.2 ± 2.56) compared to the lowest (4.7 ± 2.45), ($p = 0.07$).

Conclusion: The muscular mitochondrial respiratory capacity improves already after one bout of ischemic preconditioning in claudicants. Calf raise exercise with five extra repetitions after initiation of pain might therefore be an alternative to reach specific “mitochondrial training” of the gastrocnemius muscle. This concept is promising and might be a new conservative approach to intermittent claudication; leading to a decrease of necessary vascular interventions.

Influence of Microbiology and Wound Scores in the Diabetic Foot Syndrome Outcome

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Introduction: The diabetic foot syndrome (DFS) is an important complication of DM resulting very often in amputation, disability and reduced quality of life. Little is known about the relationship between the different wound classifications and the microbiology of DFS. We aimed to identify accurate predictors to establish the best empiric therapy and to reduce the rate of amputations.

Methods: Prospective study of 250 consecutive patients diagnosed of DFS from January 2009 to September 2013 attended at our institution. Tissue samples for culture were obtained at admission and 48 hours after. Wound classification scores were recorded at admission and a re-evaluation was performed 48 hours after.

Results: Median age was 66 years (22–91), being male 199 patients (80%). Hundred and five patients had received antibiotics prior to hospital admission and 162 (65%) had femoro-popliteal or tibial ischemia. Osteomyelitis was present on plain X-ray in 51 patients (36%). Infection was mono-microbial in 131 patients (52%). *Staphylococcus aureus* was the most frequent pathogen (76 patients, 30%); being MRSA in 26% (20/76) *E. coli* and *E. faecalis* were 2nd and 3rd most frequent pathogens. Two hundred and nine patients (85%) needed amputation being major in 25 patients (10%). Seven patients (3%) died during hospitalization. After one year of follow-up, 51 patients (21%) were readmitted because of worsening and 38 needed minor or major amputation.