New Advances in the Diagnostic and Treatment of Patients with Chronic Cerebro Spinal Venous Insufficiency - Our Experiences

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Background: The venous extracranial abnormalities in multiple sclerosis (MS) provide a new perspective in the treatment. The primary endpoint of our study was to evaluate the occurrence of venous obstructions in the extracranial venous pathway and the secondary endpoint to assess the effect of angioplasty on the clinical disability.

Methods: In MS patients with 2 or more of the required 5 sonographic criteria, under local anaesthesia selective catheter venography (CV) of the azygous (AZY) and the internal jugular veins (IJVs) was performed.

Results: In our study 158 consecutive MS patients - 39 relapsing-remitting and 119 with progressive course of disease were included. In 6/158 patients (3.8%) CV did not reveal any vascular abnormality. The left IJV was more often affected (86%). Restenosis occurred in 21%. No major side effect was observed. In our study no stents were used. The brain biopsy tissue of the patients with the tumefactive form of MS demonstrated inflammatory perivascular changes with intact arteriolar wall. Also an intima thickening of IJV was found. The important improvement of clinical disability in the relapsing-remitting group was achieved (p<0.001). MS patients with the progressive course of disease reported an amelioration of the fatigue headache, spasms, bladder dysfunction and quality of life.

Conclusion: Our results support the contribution of venous obstructions in the extracranial venous pathway to the clinical picture of MS. The removal of venous abnormalities may importantly influence the degree of clinical disability. Recently, a close association between venous extracranial abnormalities and the presence of heart disease was reported.

Endovascular Treatment of Obesity: Early Results from First in Man Study

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Introduction: Bariatric surgery proposed for treatment of obesity is often related with different types of complications and side effects.

Ghrelin, a recently discovered neuropeptide which is predominantly produced in the gastric fundus, is the only known hormone stimulating food intake (orexigenic hormone). Catheter-directed left Gastric Artery Chemical Embolization (GACE) performed in animal models showed to decrease blood ghrelin levels and lead to weight loss.

Here we provide our preliminary results of the First-In-Man study of Left Gastric Artery Chemical Embolization (GACE) safety and efficacy in obese patients.

Methods: 5 patients with different degrees of obesity underwent left GAE with ReaBlock Embolic Bead 300–500μm microspheres (Biocompatibles UK Limited, Chapman House, Farnham Business Park, Weydon Lane Farnham, Surrey, GU9 8QL, UK).

Gastroscopy was performed in all patients before and after GAE and at 1 week follow up. Blood Ghrelin level was also measured before the procedure as well as at 1, 2, 3 and 4 weeks follow up.

Observation on Ghrelin levels and patients’ weight is planned at 3, 6 and 12 month follow up.

Results: There was no case of perioperative complications. 3 of 5 patients complained about slight pain in epigastrium after embolization during first few hours after the embolization, but control gogastroscopy did not reveal any impairments.

All patients reported significantly decreased appetite in first days after procedure. Weight loss was observed in all patients at 1 month follow up: mean initial weight - 128.1±24.4kg was decreased to 114.86±21.3kg and mean initial Body Mass Index (BMI) - 42.26±6.8 was decreased to 37.86±5.7.

Conclusions: Early follow-up has demonstrated that GAE is safe and feasible. It may become a less invasive and effective method for treatment of obesity. Further controlled studies enrolling larger number of patients is underway performed to confirm these initial findings.

Peripheral Vascular Intervention

Twelve Months Patency Rate After Percutaneous Mechanical Thrombectomy For Treatment Of Acute Femoropopliteal Bypass Occlusion In 22 Patients

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Acute and subacute ischemia of the legs in acute and subacute femoropopliteal bypass occlusion is a dramatic situation that endangers the survival of the limbs, depending on the severity of the ischemia. Different therapy options like percutaneous mechanical thrombectomy procedures, which include rotation thrombectomy, have become available in recent years in addition to local byss and surgical thrombectomy. Rotational thrombectomy with the Straub Rotarex® system as an endovascular therapy option has demonstrated promising results leading to amputation-free survival in multiple studies. We recently provided data in 22 Patients with acute femoropopliteal bypass occlusion were we examined the feasibility of the Rotarex® system in this indication. A technical success rate of 82% was demonstrated. During a follow up period of 6 months no reinterventions in these patients had to be performed. We now provide patency rates in 21 patients of our study group after a follow up period of 12 months. The average ABI after 12 months was 0,80 ± 0,1. One patients showed a hemodynamic restenosis in a Nitinolstent distal to the femoropopliteal bypass which was implanted in the index procedure. No reocclusion of the femoropopliteal bypasses occurred in all patients.

<table>
<thead>
<tr>
<th></th>
<th>6 months follow up</th>
<th>12 months follow up</th>
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<tbody>
<tr>
<td>Follow up patients</td>
<td>21/22</td>
<td>21/22</td>
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<tr>
<td>Rutherford stage</td>
<td>I (15 patients)</td>
<td>I (14 patients)</td>
</tr>
<tr>
<td></td>
<td>II (6 patients)</td>
<td>II (7 patients)</td>
</tr>
<tr>
<td>Walking capacity</td>
<td>323 meter</td>
<td>312 meter</td>
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<tr>
<td>Ankle brachial index (ABI)</td>
<td>0,81 ± 0,1</td>
<td>0,80 ± 0,1</td>
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<tr>
<td>Death</td>
<td>0/21</td>
<td>0/21</td>
</tr>
<tr>
<td>Reinterventions</td>
<td>0/21</td>
<td>1/21</td>
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</table>

Safety and One-Year Revascularization Outcome of Excimer Laser Ablation Therapy In Treating In-Stent Restenosis of Femoropopliteal Arteries: A Retrospective Review from a Single Center

Nicolas W Shamas, Gail A Shamas, Alexander Hafez, Ryan Kelley, Emily Reynolds, Andrew N Shamas Midwest Cardiovascular Research Foundation, Davenport, IA
Fractures And Restenosis Of Nitinol Stents In The Superficial Femoral Artery: Is There An Association?

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Background: Maintenance of long-term patency after implantation of Nitinol stent in the superficial femoral artery (SFA) remains to be one of the most challenging aspects of endovascular therapy. Studies have made conflicting observations regarding a possible association between Nitinol stent fractures (SF) in the SFA and development of in-stent restenosis (ISR).

Methods: We studied 63 consecutive patients (66 limbs) with angiographically confirmed obstructive Nitinol self-expandable stent ISR in the SFA. Mean age of the group was 72.4 ±7.5 years, 42.4% females, 25.8% smokers, 56% with diabetes. We excluded patients with Vabhant stents. Stents were evaluated by fluoroscopy/CINE using at least 2 orthogonal views for SF presence. We analyzed SF rates, severity, and angiographic relationship to ISR pattern and location. Procedural and demographic characteristics such as: time to ISR, number of stents, stented length, stent diameter and type, run off score, smoking, age, sex, and presence of comorbidities were analyzed as well.

Results: Mean time from stent implantation to presentation with ISR was 14.5 ± 7.2 months. Out of the 66 limbs with ISR, SF was present in 25 (37.8%) and among those patients with ISR did not have SF. SF occurred more frequently in males. In our study the association was seen in only 12% of patients with SF. Majority of the patients with ISR did not have SF. SF occurred more frequently in males.

Conclusions: Stent fractures in the SFA play a modest role in the development of ISR. In our study the association was seen in only 12% of patients with SF. Majority of the patients with ISR did not have SF. SF occurred more frequently in males.

Baseline characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>All ISR limbs (n=66)</th>
<th>Stent fracture present (n=25)</th>
<th>Stent fracture absent (n=41)</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age (years)</td>
<td>72.4±7.5</td>
<td>72.6±6.1</td>
<td>72.3±8.3</td>
<td>0.884</td>
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<tr>
<td>Men</td>
<td>38 (57.6%)</td>
<td>19 (76%)</td>
<td>19 (46.3%)</td>
<td>0.018</td>
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<tr>
<td>Diabetes</td>
<td>37 (56.1%)</td>
<td>15 (60%)</td>
<td>22 (53.7%)</td>
<td>0.615</td>
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<tr>
<td>Smoking</td>
<td>17 (25.8%)</td>
<td>9 (36%)</td>
<td>8 (19.5%)</td>
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<tr>
<td>Mean stented length (mm)</td>
<td>193±105</td>
<td>220.8±112.2</td>
<td>176.24±98.6</td>
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<tr>
<td>Mean time to ISR (months)</td>
<td>14.5±7.2</td>
<td>15.2±7.3</td>
<td>14.1±7.1</td>
<td>0.548</td>
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<td>Mean stent width</td>
<td>6.2±0.6</td>
<td>6.4±0.5</td>
<td>6.2±0.7</td>
<td>0.089</td>
</tr>
<tr>
<td>Mean number of stents implanted</td>
<td>1.9±0.9</td>
<td>2.1±1.2</td>
<td>1.8±0.8</td>
<td>0.256</td>
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<tr>
<td>Median run-off score</td>
<td>5</td>
<td>3</td>
<td>5.5</td>
<td>0.678</td>
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