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# World Congress On Vascular Diseases, Medicine & Surgeons Summit

October 24-25, 2016 Chicago, USA

Theme: *“Insights Research & Innovation on Vascular Medicine”*



**\*\*For Available Speaker Slots\*\***

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# World Congress On Vascular Diseases, Medicine & Surgeons Summit

October 24-25, 2016 Chicago, USA

Day 1				
Morning Sessions	Reception/Registration	08:30-09:30		
		Time	General Session	
		09:30-09:55	Inaugural Address	
	Least of 3 Keynote/Plenary Talks	10:00-10:25	Keynote/Plenary Talk 1	
		10:25-10:50	Keynote/Plenary Talk 2	
		10:50-11:15	Keynote/Plenary Talk 3	
	Panel Discussions/Group Photo			
	Coffee/Tea Break 11:15-11:30 (Networking)			
		11.30-01.10	Vascular Physiology and Pathology	Vascular Diseases
	Evening Sessions	Lunch Break 13:10-13:50		
		13.50-16:10	Trauma Induced Vascular Disorders	Non Pharmacological Approach to Vascular Diseases
Coffee/Tea Break 16.10-16.25 (Networking)				
		16.45-18.25	Pharmacotherapeutic approach to Vascular Diseases	Clinical and Translational Vascular Medicine

Day 2				
Morning Sessions		Time	Session 1	Session 2
		10:00-11:15	Keynote Forum	Endovascular Intervention
	Coffee/Tea Break 11:15-11:30 (Networking)			
		11:30-12:15	Vascular Imaging and Diagnostic Testing	
		12:15-13:10	Pediatric Vascular Medicine	

## Program at A Glance

Evening Sessions	Lunch Break 13.10-13.50			
		13.50-16.10	Vascular Surgery	Advance Approaches to Vascular Disorders
	Coffee/Tea Break 16.10-16.25 (Networking)			
		16.25-18.30	Vascular Bleeding Disorders	Vascular Oncology
	Awards & Closing Ceremony			

## Biography

*Gerard A. Rongen has completed his PhD at the age of 30 years from Radboud university medical center (Radboudumc) and postdoctoral studies from University of Toronto and Mount Sinai Hospital, Toronto. He completed his specialty training in Internal Medicine in 2000. In 2011, he was appointed professor in Translational Cardiovascular Research at Radboudumc. He has published more than 100 papers in reputed journals and serves in the executive boards of the Dutch Society for Clinical Pharmacology and the European Association of Clinical Pharmacology and Therapeutics*

## Abstract

### Role of adenosine in the mechanism of action of cardiovascular drugs

**Gerard A. Rongen**  
Radboud university medical center, Nijmegen, the Netherlands

Under physiological condition, adenosine is continuously formed in the extracellular matrix from ATP (released from sympathetic nerve endings, endothelial cells and erythrocytes) with the conversion of AMP to adenosine by 5'-ectonucleotidase (CD73) as a rate limiting step. By activating specific adenosine receptors (A1, A2a, A2b and A3), extracellular adenosine has various actions including stimulation of endothelial NO release, modulation of immunocompetent cells, modulation of the autonomic nervous system and inhibition of platelet aggregation. Adenosine signaling is terminated by cellular uptake (diffusion, facilitated by nucleoside transporters and intracellular metabolism). In pathophysiology, adenosine likely reduces development of atherosclerosis and may activate cellular pathways that prevent ischemia-reperfusion injury. In this lecture, I will discuss animal and human in-vivo data to support the concept that frequently used drugs in cardiovascular disease, such as rosuvastatin, dipyridamole and possibly also metformin interfere with adenosine signaling which may contribute to their cardiovascular benefit.

## Biography

*Prof. Petr Stadler, M.D., Ph.D., Head Department of Vascular Surgery, Na Homolce Hospital in Prague, Czech Republic. He was certified as a console surgeon for the da Vinci surgical system in August, 2005 at the University of California, Irvine. Dr. Stadler is a member of the Czech Association of Cardiovascular Surgery, the ESVS, the ISMICS, the SRS and a founding member of the International Endovascular and Laparoscopic Society. He has also received a few prestigious honors from the Czech Association of Cardiovascular Surgery for the best publications in 2004 and 2006, the Letter of Appreciation from Korean Society of Endoscopic and Laparoscopic Surgeons in May 2008, the price of the Czech Society of Angiology for the publication in the year 2007 and the best audiovisual presentation in 2009 in USA (ISMICS) and in 2013 in USA (SCVS). He performed also the robot-assisted vascular operations in South Korea, Russia, Poland and India.*

## Abstract

### The Minimally Invasive Robotic Vascular Surgery

**Petr Stadler**

**Na Homolce Hospital, Roentgenova 2,  
Praha, 15030, Czech Republic**

The da Vinci system has been used by a variety of disciplines for laparoscopic procedures but the use of robots in vascular surgery is still relatively unknown. The feasibility of laparoscopic aortic surgery with robotic assistance has been sufficiently demonstrated. Our clinical experience with robot-assisted vascular surgery performed using the da Vinci system is herein described.

Methods

## Biography

*Amy Leung completed her undergraduate medical degree at James Cook University in 2014. She has had several publications in the area of thrombosis. She is now currently working at the Mater Health Services in Brisbane*

## Abstract

### The Incidence of Peripheral Catheter-Related Thrombosis in Surgical Patients

**Amy Leung**

**Mater Health Services, South Brisbane, Queensland, Australia**

Central venous catheters and peripherally inserted central catheters are well established risk factors for upper limb deep vein thrombosis. There is limited literature on the thrombosis rates in patients with peripheral catheters. A prospective observational study was conducted to determine the incidence of peripheral catheter-related thrombosis in surgical patients. **Methods.** Patients deemed high risk for venous thrombosis with a peripheral catheter were considered eligible for the study. An ultrasound was performed on enrolment into the study and at discharge from hospital. Participants were reviewed twice a day for clinical features of upper limb deep vein thrombosis during their admission and followed up at 30 days. **Results.** 54 patients were included in the study. The incidence of deep vein thrombosis and superficial venous thrombosis was 1.8% and 9.2%, respectively. All cases of venous thrombosis were asymptomatic. Risk factor analysis was limited by the low incidence of thrombosis. **Conclusion.** This study revealed a low incidence of deep vein thrombosis in surgical patients with peripheral catheters (1.8%). The study was underpowered; therefore the association between peripheral catheters and thrombosis is unable to be established. Future studies with larger sample sizes are required to determine the association between peripheral catheters and thrombosis.

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## Biography

*Guillermo Vilalta-Alonso obtained the Degree of Mechanical Engineering from Instituto Superior Politécnico José A. Echeverría/Havana, Master and Dr. in Mechanical Engineering from the University of São Paulo/ Brazil. Currently is associated professor at Thermal Sciences and Fluid Department of the Federal University of São João del-Rei/Brazil. His research interests include numerical simulation, fluid mechanics, turbomachinery and biomechanics. Member of the European Society of Biomechanics.*

## Abstract

### Abdominal aortic aneurysm rupture risk prediction, an open challenge for vascular surgeons

**Guillermo Vilalta-Alonso**

**Federal University of Sao Joao del-Rei**

Abdominal aortic aneurysms (AAAs) rupture is one of the main causes of death in the world. Nowadays, there is consensus that current criteria to assess the aneurysm rupture risk (maximum transverse diameter and growth rate) cannot be considered as reliable indicators. Hence, the clinical management of aneurysmatic patients faces the challenge of identifying if other indices could be used as rupture predictors. Recently, rupture predictor indices have been proposed among them asymmetry, effect of intraluminal thrombus, wall stiffness and thickness saccular index, mechanical stress. Some of these indices have been more successful than others due to the difficulty for extracting in-vivo and non-invasive information, difficulting its implementation in daily clinical management. To overcome this limitation and considering the influence of the AAA morphology on aneurysm rupture potential, some size and shape geometric indices, based on lumen centerline, have been proposed and have been correlated with the hemodynamic stresses, as an indicator of the rupture risk. The main advantage of the geometric indices is that they can be determined, in easy way, from computed tomography. The objective of this study is to discuss the basics of this approach and how it can help to gain physical insight based on quantitative results. The results up to now obtained show that statistical techniques could be an appropriate method to determine potential correlations and that other indices like, asymmetry, deformation rate, AAA length, saccular index, are important and could also be readily incorporated into surgeon's decision making.

## Biography

*Kapil Pant holds a Ph.D. in engineering with expertise in particulate systems, fluid mechanics, and biological transport. Over the past 15 years, he has led the development of conventional and micro biomedical and environmental technologies, micro- and nano- fluidic sample preparation and detection systems, and advanced computational models for cell and particulate systems. He is the Vice President of Biomedical & Energy at CFD Research Corporation ([www.cfdrc.com](http://www.cfdrc.com)), a small high tech business, and the Chief Operating Officer (COO) of SynVivo, LLC ([www.synvivobio.com](http://www.synvivobio.com)), a leading provider of advanced cell-based assays.*

## Abstract

### Micro vascular Systems on a Chip

**Kapil Pant**

**CFD Research Corporation, Huntsville**

Cellular and molecular interactions are critical to many physiological, pathological and pharmacological processes in the microvasculature. For instance, they play an important role in determining the delivery performance of therapeutics transport in vivo. Static well plate assays and in vitro fluidic devices have been instrumental in our understanding of the biological interactions in. However, widely used flow chambers suffer from several limitations for studying the in vivo microvascular environment. These include (a) lack of critical morphological features (e.g., bifurcations, tortuosity), (b) inability to distinguish between healthy vs. diseased vasculature, (c) large consumable volumes, and (d) inability to support co-cultures. To overcome these limitations, we have developed SynVivo (derived from 'synthetic in vivo') microfluidic assays for studying cell-cell and cell-drug studies in an in vivo like environment. The SynVivo devices are based on idealized and in vivo derived microvascular networks patterned onto a plastic, disposable substrate to mimic the morphological and physiological conditions observed in vivo. The devices can be functionalized using a variety of cells (e.g., endothelial, tissue, tumor) and combine two critical elements characteristic of the in vivo microvascular milieu: (a) 3D multi-cellular cultures to capture the realism, and (b) fluid shear and mechanical strain to capture the dynamics, thereby affording high-fidelity simulation of cell, tissue or organ physiology. Sample results from case studies on drug particle adhesion, drug transport, particle shape effects, gene delivery, cell migration and toxicity will be presented. Future applications of the platform will be discussed.

## Biography

*Fred as known to most of his colleagues grew up in Gent – Belgium and finished medical school in Gent cum laude. After qualifying he moved to South Africa where he trained in radiation oncology, and went on to do a fellowship in particle radiotherapy in Vancouver, Canada where he worked with negative pi-mesons for brain tumours under the guidance of Dr G Goodman.*

*He joined the department of radiotherapy at Tygerberg Hospital (Cape Town) in order to be involved in the start up of the proton beam program at NAC, now called iThemba LABS. He became Ass Prof of the department at Tygerberg Hospital in 2002.*

*In the beginning of 2011 he moved to Ireland, where he continues with his research in the non surgical management of AVM's. He presented over 80 papers on national and international meetings and has published 26 papers.*

## Abstract

### **Vascular endothelial growth factor blockade: A potential new therapy in the management of cerebral arteriovenous m**

**Frederik Vernimmen**

**Department of Radiation Oncology,  
Cork University Hospital**

Cerebral Arterio Venous Malformations (AVM) occurs universally in 1.1 per 100000 people. They are the cause of serious neurological morbidity or even death when they bleed. AVM's are not necessarily static congenital abnormalities. They can undergo internal changes due to angiogenesis resulting in vascular remodelling. They can even re-grow after successful therapy. Vascular endothelial growth factors (VEGF) play an important role in angiogenesis. Drugs are available that block the action of VEGF on VEGFR receptors on the endothelial cell surface. This blockade causes an anti-angiogenic effect. Anti-angiogenic drugs are widely used as adjuvant therapy in the management of cancers because they suppress the formation of new blood vessels required by the tumour for growth. For similar reasons they are used in the treatment of age related macular degeneration. The present treatment options for AVM's are surgery, embolization and irradiation either on their own or in combination. Irradiation with Stereotactic Radiosurgery (SRS) offers the advantage of being non invasive, but relies on the late radiation effects to achieve its therapeutic goal of complete obliteration. This latent time (1 – 3 years) during which the risk for a bleed remains is an inherent drawback of SRS. The histopathology of surgical specimens of post SRS AVM's demonstrates a role of endothelial cells in repairing the radiation damage. Suppressing their activity post SRS by a VEGF Blockade has the potential to enhance the radiation damage and hence speed up the obliteration process and reduce the latent time. It is postulated that such a "VEGF Blockade" could be useful as an adjuvant therapy to SRS. In addition there is the potential for a neo adjuvant use, whereby a VEGF blockade could cause regression in the size of the AVM, making definite therapy easier. The rationale for the VEGF-blockade concept will be presented and discussed.

## Biography

*Dr. Joris Rotmans is an internist-nephrologist and associate professor at the Department of Nephrology of the Leiden University Medical Center (LUMC) in the Netherlands. He obtained his master's degree in Medicine (cum laude) at the Free University in Amsterdam. He received his PhD in 2005 at University of Amsterdam on new therapeutic strategies for vascular access for hemodialysis whereupon he started his residency in Internal Medicine. In 2008-2009, he did postdoctoral research on vascular tissue engineering at the Australian Institute of Bioengineering and Nanotechnology in Brisbane, Australia. Since 2010, he combines clinical work as internist-nephrologist with vascular and renal research at the Department of Nephrology of the LUMC. His main focus of research is vascular access for hemodialysis. He was the principle investigator of the DialysisXS consortium in which a novel method to generate in vivo engineered blood vessels was developed. Furthermore, he was the chairman of the organizing committee of the First International Symposium on Vascular Tissue Engineering that was held in 2013. He received the first prize at the Investors forum of the Dutch LifeScience Conference in 2013. In 2014, he received a prestigious VIDI grant from NWO that allows him to expand his research group and to continue his research on vascular tissue engineering.*

## Abstract

### In vivo tissue engineered blood vessels

**J.I. Rotmans**

**Leiden University Medical Center,  
Netherlands**

There's a large clinical need for novel vascular grafts. Tissue engineered blood vessels (TEBVs) have great potential to improve the outcome of vascular grafting procedures. We present a novel approach to generate autologous TEBV in vivo. Polymer rods were engineered and implanted, evoking an inflammatory response that culminates in encapsulation by a fibrocellular capsule. We hypothesized that, after extrusion of the rod, the fibrocellular capsule differentiates into an adequate vascular conduit once grafted into the vasculature.

Rods were implanted subcutaneously in pigs. After 4 weeks, rods with tissue capsules grown around it were harvested. Tissue capsules were grafted bilaterally as carotid artery interposition. One and 4-week patency were evaluated by angiography whereupon pigs were sacrificed. Tissue capsules before and after grafting were evaluated on tissue remodeling using immunohistochemistry, RNA profiling and mechanical testing. Rods were encapsulated by thick, well-vascularized tissue capsules, composed of circumferentially aligned fibroblasts, collagen and few leukocytes, with adequate mechanical strength. Patency was 100% after 1 week and 87.5% after 4 weeks. After grafting, tissue capsules remodeled towards a vascular phenotype. Gene profiles of TEBVs gained more similarity with carotid artery. Wall thickness and aSMA-positive area significantly increased. Interestingly, a substantial portion of (myo)fibroblasts present before grafting expressed smooth muscle cell markers. While leukocytes were hardly present anymore, the lumen was largely covered with endothelial cells. Burst pressure remained stable after grafting. In conclusion, autologous TEBVs can be created in the subcutis, with sufficient mechanical strength enabling vascular grafting. These grafts differentiate towards a vascular phenotype upon grafting.

**Biography**

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## Biography

*Rica Tanaka MD.,PhD is associate professor and a director of the lab of Juntendo University of School of Medicine, Department of Plastic and Reconstructive Surgery from year 2011. She is specialized in plastic surgery, wound healing, diabetic foot therapy, vascular medicine, and stem cell medicine and also is the board member of Japanese Society of Plastic Surgery, Japanese Society of Regenerative Medicine, Japanese Wound Healing Society, Japanese Society of Foot care and more. She has published more than 50 papers in reputed journals and has been serving as an editorial board member of repute.*

## Abstract

### Simple and effective vascular and tissue regenerative cell therapy for non-healing wound patients.

**Rica Tanaka**

**Hiroshi Mizuno**  
**Juntendo University School of Medicine,**  
**Department of Plastic and Re-constructive Surgery**

The quality and quantity of endothelial progenitor cells (EPC) is known to be impaired in various diseases, thereby raising declined tissue repair in autologous EPC therapy. We have recently disclosed a newly developed serum free ex vivo expansion system called Quantity and Quality Control Culture System (QQc) using peripheral blood mononuclear cells (PbMNC) to potentiate the vasculogenic property of diabetic EPCs for enhanced vasculogenesis and tissue repair from small amount of blood. QQc system of autologous peripheral blood MNC (MNC-QQc) can expand EPCs to 10 times and the vasculogenic function of MNCs up to 40 times compared to non-cultured MNCs in diabetic patients. Our new technology will provide the methodological clue to overcome the insufficient efficacy of naïve mononuclear cell therapy for diabetic non-healing wounds. From our data, 150cc of peripheral blood will be necessary to replace the existing EPC therapy. With this new technology, we will be able to establish outpatient based simple, safe and effective vascular and regenerative therapy for diabetic patients. We have validated the safety and efficacy of human MNC-QQc cell therapy for non-healing wounds prior to clinical trial overcoming the new regenerative therapy law recently passed in Japan. With approval from the government, we have now started the clinical trial. Under the new law, stem cell therapy approval for government reimbursement will be conducted rapidly. Our goal is to deliver an outpatient based simple, safe and effective vascular and regenerative therapy for patients with non-healing wounds by year

## Biography

*Dr. Subroto Chatterjee (Ph.D.Biochemistry) is a full Professor in the Departments of Medicine and Pediatrics-Cardiology Division at the Johns Hopkins University, School of Medicine. And serves as the Director of a Sphingolipid Signaling laboratory. Dr. Chatterjee earned his undergraduate training in Chemistry in India and post graduate training at the University of Toronto, Canada. Followed by a post doctoral fellowship in the esteemed laboratory of Dr. Charles. C. Sweeley in Michigan ,USA. He joined the faculty at the Johns Hopkins University and rose to the rank of Professor. He also served as the Director of the Atherosclerosis and Vascular Biology program in Singapore for Johns Hopkins Singapore. Dr. Chatterjee has published over 150 papers, book chapters, review articles commentaries in peer reviewed journals and has been awarded numerous world -wide patents for his discoveries. And serves in the Science advisory board and thought leader for Biotech/Pharma companies. He has received international and national awards for his contributions to Science such as the American Heart Association "Allstar" award, "Ranbaxy International award" for Medical research from the President of India, United nations award for disseminating new knowledge and advising young scientists in developing countries, Mizutani award, Japan. Outstanding scientist, Gov Paris Glendenning*

## Abstract

### Prevention and Interference of Atherosclerotic Heart Disease-New Insights and Directions

**Subroto Chatterjee.**  
**Professor of Medicine and Pediatrics-Cardiology Division**  
**Director Sphingolipid Signaling laboratory**  
**Johns Hopkins University**

The primary treatment of deep vein thrombosis (DVT) is systemic anticoagulation, which reduces the risk of propagation of thrombus, pulmonary embolism (PE) and the recurrence of venous thrombosis. Argatroban is a synthetic direct thrombin inhibitor that does not require antithrombin to provide effective anticoagulation. In the present study, we examined the effects of argatroban on patients with lower extremity DVT and evaluated the efficacy and safety of argatroban therapy in DVT patients. We considered 189 consecutive DVT patients documented by clinical scores and duplex ultrasonography, who were randomly divided into the following three groups: 63 patients were given subcutaneous injection of low-molecular-weight heparin (LMWH) (group A), 63 patients were given continuous intravenous argatroban (group B) and 63 patients were given LMWH and argatroban (group C). Statistically significant differences in circumference at the calf and thigh levels were found in group A and C or group B and C on day 14 ( $p < 0.05$ ). When comparing day 0 and day 14, significant differences were determined in each group for the differences in circumference of the two legs at the thigh and calf levels ( $p < 0.01$  or  $p < 0.001$ ). Study on degree of thrombus regression showed the advantage of group C over group A or group B by chi-squared test. Argatroban have demonstrated promise of greater efficacy with less bleeding risk in DVT treatment. We suggest that anticoagulation with argatroban is a useful option in patients with DVT alone or combined with LMWH.

## Biography

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## Biography

*Tianhua Zhang has completed his PhD at the age of 28 years from Harbin Medical University. He is the associate chief doctor of vascular surgery. He has published more than 15 papers in reputed journals and has been serving as an editorial board member of repute.*

## Abstract

### Effects of argatroban on patients with lower extremity deep vein thrombosis

**Tianhua Zhang**

**Second Affiliated Hospital of Harbin Medical University**

The primary treatment of deep vein thrombosis (DVT) is systemic anticoagulation, which reduces the risk of propagation of thrombus, pulmonary embolism (PE) and the recurrence of venous thrombosis. Argatroban is a synthetic direct thrombin inhibitor that does not require antithrombin to provide effective anticoagulation. In the present study, we examined the effects of argatroban on patients with lower extremity DVT and evaluated the efficacy and safety of argatroban therapy in DVT patients. We considered 189 consecutive DVT patients documented by clinical scores and duplex ultrasonography, who were randomly divided into the following three groups: 63 patients were given subcutaneous injection of low-molecular-weight heparin (LMWH) (group A), 63 patients were given continuous intravenous argatroban (group B) and 63 patients were given LMWH and argatroban (group C). Statistically significant differences in circumference at the calf and thigh levels were found in group A and C or group B and C on day 14 ( $p < 0.05$ ). When comparing day 0 and day 14, significant differences were determined in each group for the differences in circumference of the two legs at the thigh and calf levels ( $p < 0.01$  or  $p < 0.001$ ). Study on degree of thrombus regression showed the advantage of group C over group A or group B by chi-squared test. Argatroban have demonstrated promise of greater efficacy with less bleeding risk in DVT treatment. We suggest that anticoagulation with argatroban is a useful option in patients with DVT alone or combined with LMWH.

## Biography

*Nedaa Skeik has completed his MD from Istabul University, Internal Medicine residency at New York Medical College, and Vascular Medicine fellowship at Mayo Clinic, Rochester MN. He has published more than 40 peer-review papers in reputed journals and has been serving as an editorial board member of Annals of Vascular surgery. His other positions are as below.*

## Abstract

### The New Era of Anticoagulation

**Nedaa Skeik**

**Minneapolis Heart Institute, Minneapolis MN. 55407, USA**

Despite starting as a rat poison, warfarin has done a good job in reducing thromboembolic events in patients with atrial fibrillations, deep vein thrombosis, pulmonary embolism and mechanical heart valves. However, warfarin has multiple pitfalls affecting the initiation and adherence rate to this medication. Such pitfalls include requirement for bridging agents since it takes few days to reach therapeutic level in plasma, requirement for monitoring, frequent interactions with other medications and interpatient variability in regard to dosing. The introduction of target specific anticoagulants (DOACs) to the market has created a paradigm shift in the management of patients with non-valvular atrial fibrillation and venous thromboembolism. Based on the current data, DOACs have shown good efficacy and safety profile in compare to warfarin. However, lack of specific antidote and not being available for patients with mechanical valve creates limits their use to some extent.

## Biography

*De Vleeschauwer Ph has completed his PhD at the age of 25 years from the University of Leuven and postdoctoral studies from the Cologne University School of Medicine.. He has published more than 20 papers in reputed journals and has been serving as an editorial board member of "Annals of Vascular Surgery".*

## Abstract

### **Carotid Bifurcation Resection and Interposition of a Polytetrafluorethylene Graft (BRIG) for Carotid Disease : alternative to the CEA?**

**De Vleeschauwer**

**University of Leuven and postdoctoral studies from the Cologne University School of Medicine**

Carotid endarterectomy (CEA) is the gold standard for the treatment of carotid artery stenosis . CEA can be challenging, even technically impossible. An alternative technique is carotid bifurcation resection and interposition of a polytetrafluorethylene graft (BRIG).

In our Department of Vascular Surgery 130 BRIG procedures were performed between 2006 and 2015.

All procedures were performed by 1 surgeon.

The majority of procedures were for occlusive disease (98%) and 40% of the patients had a symptomatic stenosis. Procedure time and clamping time were significantly shorter in the BRIG group compared to the CEA group, performed by the same surgeon. A shunt was never used.

The 30-day mortality was 0,8%. The stroke rate was 1,5% (2 patients). These 2 patients had a minor stroke. One stroke was because of graft kinking which led to graft thrombosis. A thrombectomy and shortening of the graft was performed. In the second case , cerebral hypoperfusion was caused by a long clamping time combined with an incomplete circle of Willis ( absence of anterior and posterior communicating artery).

Mean follow-up time was > 30 months . Only 2 restenosis and 2 graft occlusions were observed.

The 2 restenosis occurred at the proximal anastomosis and none at the distal anastomosis. We hypothesize that this is due the lower peripheral resistance of the cerebral circulation.

A minor stroke occurred in both occlusions of the graft.

BRIG is a promising alternative option in the treatment of carotid artery disease.

Surgical technique is simplified. There is no need for an endarterectomy, distal intima fixation is no longer required and there is no thrombogenic surface left behind.

Our results of the BRIG technique in terms of mortality, morbidity and restenoses are better than the CEA.

In order to confirm these excellent results, prospective studies in a larger pop

## Glimpses of Previous Series



**\*\*For Available Speaker Slots\*\***

Contact: [vascularmedicine@conferenceseries.net](mailto:vascularmedicine@conferenceseries.net)

## Tourist Attractions



**\*\*For Available Speaker Slots\*\***

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