# SOLACI DAILY

*The Official Newspaper of SOLACI Congress*

YEAR I . NUM. 02
Thursday
12th August, 2010
Buenos Aires
República Argentina


# SOLACI – CACI 2010 Opening Ceremony


With the attendance of a massive audience, SOLACI - CACI 2010 opening ceremony, was chair by Dr Oscar Mendiz, Congress President, who was accompanied by SOLACI President, Dr Darío Echeverri; CACI President, Dr Rubén Piraino; the Spanish Society of Cardiology President Dr Carlos Macaya; and Argentinean Society of Cardiology and Argentinean Federation of Cardiology representatives.

During the ceremony which was coordinated by the famous radio announcer Maria Isabel Sanchez, and after the Argentinean National Anthem was sang, Dr. Echeverry an Dr. Piraino addressed the audience. After that Dr Mendiz declared officially opened *(Cont. Page 3)*

## SOLACI President Interview

Dr. Darío Echeverri

### Dr. Darío Echeverri

**- Dr. Echeverri, how do you assess your first year as President of SOLACI?**

I think it has been a good year, although it has not been easy. I received the Society with Information (Web), Education (ProEducar) and Congress and Conference Offices, which had clear administrative structures and goals, but in a time characterized by great restrictions and worldwide economic difficulties in sectors that affected the health sector.

That is why a considerable part of my work as President of SOLACI has been focused on rationalizing money, promoting synergic action among the different Offices for the achievement of better results; fulfilling SOLACI's Mission and Vision; working on common *(Cont. Page 3)*

## CACI President Interview

### Dr. Rubén Piraino

**- Mr. Piraino, what can you tell us about your year as head of the Argentine College of Interventional Cardioangiologists (CACI)?**

The management objectives of this Board of Directors are to continue to add to what previous administrations have achieved. If there is something remarkable about all previous CACI Boards of Directors is that none of them has aimed at starting their administrations from scratch, on the contrary, they have added new things to what was already being done

**- How does the CACI receive each join event with SOLACI?**

SOLACI represents our most *(Cont. Page 5)*

Dr. Rubén Piraino

**SOLACY DAILY**
Year One / Number Two
Thursday, 12th August, 2010

**Director**
*Oscar Mendiz, MD*
**Chief Editor**
*José Alvarez, MD*
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**Managing Editor**
*Eugenia Gesualdi, Edelman*
*Justiniano Vila, Edelman*
**Congress General Organizer**
*Alejandro Londero*
**Contact:** congreso@solaci.org

*(Cont. of "SOLACI – CACI 2010 Opening Ceremony")*

...the XVI SOLACI Congress, XX CACI Congress and XX Nurses and XXX Technicians Congress Opening lecture was given by Prof Gregg Stone was co-director of Cardiovascular Research Foundation and Director of one of the biggest and more famous Interventional Cardiologist meeting, the TCT and co-director of Interventional Cardiology at Columbia University in NYC, USA. During his presentation he talks about "A Personalized Approach to the Treatment of Acute Coronary Syndromes: Balancing Ischemia versus. Bleeding" he pointed out how we can better approach each particular patient and how can decrease the risk of bleeding what can bring fatal complications.

After official presentation SOLACI 2010 attendees enjoyed listening tango songs by the famous Tango singer Raul Lavie; one of the most famous tango singer in activity how kindly accepted to share his voice with meeting attendees.

After enjoying the classical music from Buenos Aires, everybody enjoyed a cocktail offeredd at the exhibit.

*(Cont. of "SOLACI President Interview")*

...goals with the industry, such as increasing cardiovascular interventions in Latin America, developing a supportive action program with the population in need (SOL Program), strengthening international relationships (TCT-CRF, EuroPCR and SCAI), attracting international members from Spain, Portugal, Puerto Rico and the United States to our Society. By the end of this first year, after six months of hard work and after analyzing the survey's results, I hope to start executing an internal Strategic Plan aimed at organizing the Society and directing its efforts to achieving common interests for the benefit of its members in the short, medium and long terms.

**- You have been an active member of the Society for many years, what do you think about its development through time?**

SOLACI has given me the opportunity to grow, both personally and professionally. Its evolution has been a positive one. It has not only influenced me, but it has also allowed me to generate ideas and projects for the Society. It has been a very interesting exchange.

**- What are your views on the Congresses organized by SOLACI? Their development has been remarkable, what do you think about that?**

These congresses have become the "body and soul" of the Society. Thanks to my predecessors great efforts and to the creation of an Office exclusively devoted to the organization of these congresses during Dr. Alexander Abizaid's administration, today we can say that our Congress is very well positioned at the international level and attracts the world's main opinion leaders, more than 2,000 assistants and the unconditional support of leading business companies, showing its current importance at the academic and scientific levels.

**- What is your opinion about the joint sessions held with other Societies?**

Even though SOLACI is a members Society and not a Confederation, it is necessary to strengthen the joint activities carried out with different local Societies in Latin America, the United States, Europe and Asia. In response to that sentiment, the Board of Directors I preside has created a SOLACI's International Committee, precisely to reinforce its relationships with other international scientific societies.

**- Do you think Conferences are enough for SOLACI to establish its presence in countries which are not seats of the Congress?**

One of the greatest legacies left by Dr. Daniel Berrocal's administration is SOLACI's Conferences. Precisely, they were aimed at meeting the continuous education and scientific knowledge needs of members in countries where the Congress was not held. Their results are highly successful and well appraised by members.

Therefore, we are working to increase our presence there by strengthening relationships with local societies, emphasizing the role of member representatives, taking part in local congresses and trying to increase and improve educational activities (ProEducar), Registration and, hopefully in the future, clinical research project led by SOLACI's members.

**- What are your plans for SOLACI 2011 in Santiago de Chile?**

It is one of the Board of Directors' greatest challenges. Together with the Advisory Council we fully trust in Santiago de Chile's capacities and the commitment of the Scientific and Organizing Committees led by Dr. Gaston Doussalliant.

**- Is there anything else you would like to say to people attending the Congress in Buenos Aires?**

On behalf of the Board of Directors and the Advisory Council I would like transmit all its members a message of confidence in and optimism for the results. We will continue working hard to make SOLACI a stronger and more solid society. Teamwork and active member participation will help fulfill our Vision.

## Thursday Schedule 12/08

| Thursday August 12th | 01. Pacífico | 02. Atlántico | 03. Buen Ayre A+B | 05. Buen Ayre C Nurses & Technicians | 06. Pacaro II Congenital & Structural Heart Disease I | 07. Sauce | 10. 1°Floor Hall |
|---|---|---|---|---|---|---|---|
| 08:00 - 09:00 | Live Case | Pediatric Live Cases | Abstracts Session II | Clinical Research | | | |
| 09:15 - 10:30 | TCT@SOLACI. Live Cases | Abdominal Aortic Aneurysm & Live in a Box Case | Interventions for Clinical Cardiologists II | The Cathlab I | Hybrid Approach for Hypoplastic Left Heart Syndrome (09:30 - 11:00) | Edited Cases Session I | Best Posters Session |
| 10:30 - 12:00 | | Interventions for Clinical Cardiologists III | Abstracts Session III | The Cathlab II | Right Ventricular Outflow Tract Interventions (11:30 13:00) - Key-Note Lecture (13:30) | Edited Cases Session II | |
| 12:00 - 13:30 | The Future of Interventional Cardiology (Lunch Simposium Sponsored by Medtronic) | BSCI Contribution to the New Era of PCI. (Lunch Simposium Sponsored by Boston Scientific) | | | | | |
| 14:00 - 15:30 | Live Cases | Interventions for Clinical Cardiologists IV | Preventing Cardioembolic Stroke | Paediatrics | 13:30 - Key-Note Lecture | | |
| 15:30 - 16:00 | SOLACI 2011 Presentation - Tribute to Industry Representatives | | | | State of the Art Interventional Cardiology (15:15 - 16:45) - Closing Conference (17:15) | | |
| 16:00 - 18:00 | Percutaneous Valvular Treatment, Live Case | Interventions for Clinical Cardiologists V | WIN@SOLACI: Advances in Pharmacologic Therapies | Radiological Protection | | | |
| 18:30 - 20:30 | Innovations in Drug Eluting Stents and Future Technologies | Update on Clinical Outcomes | | | | | |

## Not all LIMUS are the same and in Diabetic population the differences are even more accentuated

Dr. Dayse Repsold

In 1975, Rapamycin was first isolated from a soil microorganism Streptomyces hygroscopius, and was classified as an immunosuppressive drug with anti-proliferative and anti-inflammatory characteristics. Cypher, was the first stent to utilize this drug, also known as Sirolimus, creating the concept of the Drug Eluting Stent.

Many years after, a large number of DES was launched, on which the drug derived or is a synthetic reproduction of Sirolimus. Today we have an enormous amount of information and evidence-based clinical randomized controlled studies directly comparing different pharmacological stents each other, which have clearly demonstrated the differences between them. The difference is even greater the more complex the disease to be treated, such as in small vessels and diabetic patients. The relative performance of the CYPHERTM stent versus others DES in patients with diabetes showed that SES reduces re-intervention rates in patients with diabetes mellitus as showed the results from the Meta-Analysis of 05 Randomized Trials comparing SES vs PES in Patients with Coronary Artery Disease and Diabetes Mellitus.

The Western Denmark Heart Registry evaluated safety and effectiveness of SES and ZES in 944 patients with diabetes mellitus treated with either ZES (N= 342) and SES (N= 602) and followed for up to 27 months. The endpoints death and late myocardial infarction (late MI: >30 days) were ascertained from national medical databases, while data on target lesion revascularization (TLR), in-stent restenosis (ISR), and definite stent thrombosis were obtained from the Western Denmark Heart Registry and confirmed by review of the angiograms. The registry concluded that diabetic patients treated with ZES stent had two-fold higher TLR and ISR than ZES treated patient without diabetes, whereas the SES group had similar TLR and ISR rates in patients with and without diabetes mellitus. In those with diabetes, ZES patients had a 3-fold and 6-fold increase in TLR and ISR respectively, compared with SES treatment.

Based on Spirit IV and Compare there is parity between Xience V and Taxus Liberté in DM patients. The latest trial comparing these two DES in diabetic population, presented at Euro PCR 2010, Spirit V Diabetic RCT, in 324 patients is not powered to analyze any clinical endpoint.

As conclusion, in patients with Diabetes Mellitus undergoing coronary stent implantation, CYPHER sirolimus-eluting stent (SES) are associated with superior efficacy and similar safety compared to Taxus paclitaxel-eluting stent (PES) and with significantly lower risk of TLR and ISR compared to Endeavor zotarolimus-eluting stent (ZES). Xience V just showed parity with Taxus in diabetic population.

*(Cont. of "SOLACI President Interview")*

...they are the protagonists. Since this is a Latin American congress, Latin Americans must have the leading role, by having the opportunity of expressing their ideas, showing their experiences and being able to discuss their points of view with other colleagues. In addition, their papers are presented in an important academic environment, and could be published in one of the major Journals.

**- What is your opinion about interventions in Argentina, regarding the number of procedures and their practice level?**

One of the main policies that we are developing in this administration aims at increasing the number of procedures in Argentina. We have implemented a strong penetration policy in the two societies of cardiology of our country, the Argentine Federation of Cardiology (FAC) and the Argentine Society of Cardiology (SAC), in order to widely spread our practices in the field of Clinical Cardiology.

**-CACI has one of the few university programs in the world aimed at training specialists. What is your opinion on this matter?**

The Hemodynamics Specialist and General Angiography University Program is jointly developed by the CACI and the University of Buenos Aires (UBA). It is a matter for great pride for our College because it is one of the first of its kind in the world and because of the excellence in the academic level.

**- This year the CACI has relaunched its magazine, what can you tell us about this?**

The Magazine is the official dissemination instrument of the Argentine College of Interventional Cardioangiologists. It is an autonomous entity, but not autarchic. This means that it has independence of criteria, but within the scope of the policy of the College, which is represented by each Board of Directors. The success of a magazine lies in its content; therefore, we want to stimulate it. And I allow myself to use these lines, to encourage all interventional cardiologists to send their papers to our magazine.

**- What other project do you have in store for the rest of the year?**

There are both new projects, and those already in progress, to be continued through time. For example, the UBA-CACI Specialist University Program, the Specialist Degree granted by the National Ministry of Health, which in its resolution makes special emphasis on the fact that the CACI is the only authorized certification entity.Among the new undertakings (which are already a reality )I would like to mention three: the Congress Office, the Procedures, Devices and Drugs Registration Office, and the Area of Equipment, Rooms and Services

**- Is there anything else you would like to talk to us about?**

I would like to congratulate the people working on the initiative of having a Congress Newspaper, which provides the opportunity of reaching a massive audience and I would also like to let them know that we understand the effort this implies. There is, however, an event that has deeply touched us all. Therefore, I would like to pay a special tribute to our late José Gabay, Vice-President of CACI, Treasurer of the SOLACI Congress, Editor of SOLACI's Pro Educar, Deputy Chief of the Interventional Cardiology Service of the Italian Hospital of Buenos Aires, and above all an exceptional human being and friend.

# Transmission of Live Cases, an Exiting Educational Activity

After the welcome messages of Dr. Darío Echeverri, SOLACI's President, and Dr. Rubén Piraíno, CACI's President, the transmission of live cases begun. This is the most interactive activity and the one which offers the greatest educational content.


In a first session, coordinated from the Pacífico Conference Room by Dr. Hugo Londero, a case was presented about a patient with tandem lesions in the anterior descending artery, which involved the origin of a well developing diagonal branch. A interesting discussion was generated in the panel about the different treatment strategies to use for the bifurcation lesions, a chapter of the speciality which is still the source of thorough clinical research with dedicated devices "that so far have not shown better results than conventional techniques", according to what Dr. E. Souza said.

Afterwards, in the second transmission of the morning, with the participation of Dr. César Morís de la Tassa, from the Asturias Central University Hospital, the audience could see the placement of an aortic valve in an 81-year-old, symptomatic patient, with previous by-pass surgery. During the partial liberation of the valve, the valve moved from its annular position towards the ascending aorta, for which it was necessary to recapture the device in the iliac artery, after which it could be placed in the correct position without further problems. This was an excellent example of complications that may arise, and how to treat them.

Finally, two coronary cases: one with lesion in the ostium of the left main coronary artery, and another case with severe and complex three-vessel lesions in a high surgical risk patient, set the basis for the use of different imaging (intravascular ultrasound, tomography) and therapeutic (cutting-balloon, Rotablator) devices, and the discussion about their indications.

## What do you think about SOLACI – CACI 2010?

**Dr. Silvia Makhoul**
(Clinical Cardiologist of the Hospital Británico de Buenos Aires)
*"It is very important for the integration of cardiologic pathologies related to interventionism."*

**Dr. Juan M. Telayna**
(Interventional Cardiologist)
*"By showing new developments in the area, the aim is to share the knowledge with Clinical Cardiology"*

**Dr. Alejandro Hita**
(Chief of Cardiology of the Austral University Hospital)
*"It is focused on the fact that clinical and interventional cardiology are one thing."*

**Patricia Chombi**
(Nurse)
*"It fosters personal growth and development which benefit the patient."*

## José Manuel Gabay, M.D.: In Memoriam

José Manuel Gabay, M.D.: 6/3/63 – 6/25/10

For all of us who knew José and have shared with him numerous activities in the last few years, his early and tragic death has been the cause of grief and tremendous emptiness. A deep reaching wound, that has left its mark and that only time will be able to heal so that we can enjoy the memories of the good times we spent together.

Among his responsibilities within the scope of this congress, he had organized and executed live cases; therefore, the question I made that fateful Friday afternoon ("Where is José?"), while we were watching the end of a World Cup match so as to start with the live case meeting organized in the Italian Hospital, does not make sense any more; and it does not make any sense either to ask fate about why he had not stayed to share that activity with us. For all this and much more, on behalf of the 2010 SOLACI-CACI Congress, I would like to say a prayer in his memory and share with you a phrase that the gauchos of the Argentine Pampas use to say goodbye to a friend: "See you soon, brother."

*Oscar Mendiz, M.D.*
*President SOLACI-CACI 2010*



# The Year in Coronary Heart Disease

The last year in coronary heart disease has been very exciting on many fronts including accumulation of data on expanded subsets of patients, close identification of specific technological developments and the introduction of new evolving concepts.

By David R. Holmes, Jr., M.D.

David R. Holmes, Jr., M.D.

**1.** Pharmacogenomic testing has been the source of great interest. This has resulted from information initially related to clopidogrel metabolism. As is well known, clopidogrel is a pro drug which must be converted after gastrointestinal absorption to the active metabolite. This line of investigation was initially stimulated by the core issue of stent thrombosis which, while infrequent, is associated with major morbidity and mortality. In an initial series of investigations, it was identified that there is genetic variation in cytochrome metabolism which then affects the activity of clopidogrel. Accordingly, there are some patients, who on regular dose clopidogrel (75 mg) do not receive the benefit of optimal antiplatelet effect.

There is increasing information on the pharmacogenomics of this field which led to the FDA boxed warning earlier this year. This, in turn, led to considerable confusion and controversy but there are major implications for the field. This whole issue is being studied in several ongoing or planned clinical trials.

At present, pharmacogenomic testing can be used to identify patients at risk of having suboptimal response to clopidogrel administration. This is complicated by the fact that there is no point of care testing and we do not have large scale data on devising patient care algorithms based upon this data. In patients who are nonresponders, either because of an event on standard dose clopidogrel or who may be at very high risk for an event, several strategies are available including the use of alternative agents; for example, prasugrel or ticagrelor, or increasing the dose of clopidogrel to 150 mgm, or finally adding a third drug such as cilostazol.

**2.** Another area of great interest is that of the effective bleeding on early and intermediate outcome after PCI. This bleeding is usually vascular access bleeding and relates to the transfemoral access site. It is associated with increased morbidity and even mortality. Whether this bleeding is a marker for co-morbid conditions or whether it is the transfusion itself that has deleterious consequences remains unknown.

Because most bleeding is related to vascular access, there has been great enthusiasm for transradial approaches. Although in the United States, only approximately 2% of PCI procedures are performed using radial access, elsewhere, worldwide in many countries, this has become the dominant strategy favored by patients as well as physicians alike. While this approach can be somewhat more demanding with somewhat more radiation exposure, interest in it grows. This remains a fertile field for investigation.

**3.** The application of PCI in patients with complex left main coronary artery and multivessel disease has been the focus of recent trials, particularly most recently the SYNTAX trial which was published in 2009. Follow-up continues in this group of patient. At one year, there was a high incidence of MACE rate in the PCI group compared with the coronary bypass graft surgical group but this was driven by the higher need for target vessel revascularization in the PCI group. There was a lower risk of stroke. One of the more important findings from this study for both left main coronary artery disease as well as multivessel disease patients was the fact that depending upon the SYNTAX Score, which is a measurement of complexity of angiographic disease, patients could be categorized into 3 terciles – low, medium and high. In the patients with low SYNTAX scores or even intermediate SYNTAX scores, MACE rates were very similar at both 1 and 2 years. It was not until the group of patients with the most complex disease, namely the highest tercile that MACE rates increased in the PCI patients compared to coronary bypass graft surgical patients. Recently, in the past several months, an important initiative has been undertaken and now published. That initiative is based upon the fact that the SYNTAX score was an angiographic score, but there are other co-morbid conditions that relate to baseline clinical care characteristics. There have been recent publications dealing with the additive value of clinical conditions to the SYNTAX score and a series of papers have evaluated the EURO Score in combination with the SYNTAX Score. This combination of clinical, as well as angiographic factors, adds significantly additional information to the ability to discriminate and identify patients who can be very well treated by PCI vs. those who are better suited for coronary bypass graft surgery.

# UBA-CACI: 20 years of experience in trainning and recertifiying specialists

By Marcelo Ruda Vega, M.D.

In Argentina there is a formal TRAINING AND CERTIFICATION system in place since 1990, jointly organized by the School of Medicine of the University of Buenos Aires –UBA– and the Argentine College of Interventional Cardioangiologists –CACI–, which is the 3-year Hemodynamics, General Angiography and Interventional Cardiology Specialists University Program.

**Part 1 - OBJECTIVES**

- Complete theoretical and practical training in cardiac catheterization in adults, diagnose total body angiography, including the coronary, peripheral, splanchnic and cerebrovascular territories.
- Complete theoretical and practical training in Interventional Cardiology, peripheral, renal and splanchnic interventions.
- Guidance on pediatric diagnostic and interventional catheterization and Interventional Neuroradiology.

**RESULTS :** after its seventh cycle, which ended in June 2008, the Program has been completed by 186 specialists who practice their profession throughout the country, from Formosa to Tierra del Fuego, in every Province where there is a Hemodynamics Laboratory. Also, there are graduates from Latin America (Bolivia, Colombia, Chile, Costa Rica, Ecuador, Mexico, Peru) and from Europe (Spain, Bulgaria). There was an even distribution of students attending practical training given in Hemodynamics Laboratories located in the City of Buenos Aires, in the Great Buenos Aires area and in the provinces, and there were 31 foreign students. The 8th graduating class, June 2008-May 2011, is composed by 59 Argentine students and 7 students from Bolivia, Brazil, Cuba, Ecuador, Peru and Venezuela.

Also, in 2004 these institutions, UBA-CACI, started an UPDATE AND RECERTIFICATION system called Update Program on Interventional Cardioangiology, which lasts one year. If the Program is completed successfully, recertification is granted for 9 years. This is a one-year theoretical and practical course on therapeutic catheterizations designed for Hemodynamics and Angiography Specialists who have actively worked with certification issued by the CACI (or equivalent certifications from abroad) performing diagnostic studies, and with experience in therapeutic procedures.

**Part 2 - OBJECTIVES**

- Fast update on therapeutic catheterizations of the different vascular sectors through centers with wide experience in each territory. After completing the Program, graduates are recertified to perform catheterization procedures for 9 years, with a revalidation of background at 5 years.

**RESULTS:** between July 2004 and June 2011, 90 Interventional Cardiologists will complete 4 Annual Update Programs obtaining recertification for the speciality. Their professional practice places were uniformly distributed throughout the country.

**EDUCATIONAL PROJECT ORIGINALITY**

The name of the Program, Hemodynamics, General Angiography and Interventional Cardioangiology, is in itself a clear definition of the scope intended for the course. Indeed, in 1989 when we presented the project for the creation of the Program to the University of Buenos Aires we believed it must include full knowledge of total body angiography and that therapeutic catheterizations must include from coronary, carotid, renal and peripheral angioplasties to embolization of malformations or tumors. The syllabus always included these topics and was focused on interpreting the scopes of the speciality just as it is practiced in Argentina. The latest programs of major international TCT, PCR or SOLACI congresses certify that the path chosen 20 years ago was the right one.

There is no other Medical Speciality in our country that has a structured Certification system for young professionals who start with a University Specialist Program and the voluntary Recertification of specialists which is granted for nine years (revalidated at 5 years) through a one-year Update Program. As far as we know, other countries don not have comprehensive national Training and Recertification programs that include all of their Interventional Cardioangiologists.

**TECHNOLOGY IN EDUCATION**

Virtual reality simulators have reached a level of technological excellence that makes them suitable for training in different diagnostic and therapeutic techniques. The CACI's new central office has comfortable facilities which have been especially designed for interventionists to work with two simulators: one for training in the use of the radial pathway and another one for peripheral, renal, carotid and coronary angioplasty. This will enable professors to compare training abilities and skills among novel and expert specialists. We do not mean that we can see the irreplaceable personalized practical education given by the expert in the Laboratory, but learning times will be significantly reduced. Another close application will be using simulators as a complement of the professional evaluation needed for granting certificates and recertification.

Last but not least, these Educational Programs have been developed by CACI's Education Committee, in which I have worked with members of the permanent staff: Doctors Hugo F. Londero, Alejandro Cherro, Ernesto Torresani, Guillermo Migliaro, Guillermo Martino and Juan F. Arellano. Also, the Chiefs of Service (Associate Directors) who are responsible for supervising practical activities and more than 300 invited professors regularly giving theoretical classes.

# Gene therapy: where are we and were are we going?

By J. Alberto Crottogini, MD, PhD*

Alberto Crottogini, MD

Ischemic heart disease (IHD) remains the major cause of morbidity and mortality worldwide. For patients not amenable for conventional revascularization, and remaining symptomatic despite optimal medical treatment, therapeutic angiogenesis has been proposed as an option. Gene transfer-mediated angiogenesis consists of promoting the growth of capillaries and arterioles by intracoronary or intramyocardial injection of genes coding for angiogenic growth factors.

Early studies on animal models of IHD as well as on small groups of patients yielded promising results. However, randomized, double-blind, placebo-controlled trials on larger patient populations exhibited little, if any, benefit. In the Euroinject Trial, in which 0.5 mg of a plasmid encoding vascular endothelial growth factor (VEGF) was injected intramyocardially, no differences other than a better local linear myocardial shortening were observed between placebo- and VEGF treated groups at 3 months follow up. Neither did a fourfold higher dose of plasmid-VEGF, as used in the NORTHERN trial, result in significantly different anginal symptoms, myocardial perfusion or treadmill walking time either at 3 or 6 months follow up. In the AGENT trial, in which intracoronary adenovirus-mediated fibroblast growth factor 4 was employed, a non-significant tendency for reduced anginal symptoms and myocardial ischemic burden was observed.

One of the main reasons for these discouraging results is the notable placebo effect observed in this kind of trials. Intriguingly, the placebo effect is much stronger in men than in women, as shown by the pooled analysis of the 532 patients included in the AGENT trial.

The placebo effect is just one of the problems that gene therapy research faces at present. Another one is the dose to be used. In an uncontrolled, open-label study on intramyocardial transfer of a plasmid-VEGF developed by Bio Sidus (Buenos Aires, Argentina), we have observed that doses duplicating those employed in the NORTHERN trial are safe and improve symptoms, myocardial perfusion and stress ejection fraction. However, the lack of a placebo group precludes us from drawing firm conclusions.

Other crucial issues such as vector optimization, appropriate administration strategies, treatment regime (single vs. repeated administration) and, most relevantly, the gene or combination of genes to be used deserve further investigation. The angiogenic process is the result of a complex cascade of events of which we know very little. Neither do we know which patient population would most probably benefit from angiogenic gene therapy.

Last, but not least, gene therapy may have a role to play in post-infarction heart failure. In large mammals, we as well as others have shown that the transfer of genes coding for mitogenic cytokines can not only promote proliferation of resident myocyte precursors, but also induce the adult cardiomyoctes to reenter the cell cycle and advance to mitosis. Such an approach to myocardial regeneration would insure physiologic electromechanical connection between new and resident cells, a fact not yet demonstrated for stem cell implantation.

In summary, gene therapy has a significant potential in IHD. The paucity of positive results in recent randomized trials, rather than discouraging its use, should stimulate the research on basic scientific and technical issues on which, at present, we have a fragmented knowledge.

*Chairman, Dept. of Physiology, Favaloro University*

# Complex SVG PCI in Acute Coronary Syndrome:

Utilization of laser ablation and intragraft glycoprotein IIb/IIIa inhibitors via ClearWay therapeutic infusion catheter to improve procedural safety

By Rajesh M. Dave, MD, FACC, FSCAI*

Saphenous vein graft (SVG) PCI is known to be associated with high risk of no reflow (8-15%) and periprocedural MI (up to 28%). This is largely due to a very high incidence of atherothromboembolism that occurs during SVG PCI. Due to vein graft degeneration, high atherosclerotic burden with soft plaque and thrombus is the norm. This sets the stage for distal embolization during SVG PCI, ultimately leading to poor outcome.

Several embolic protection devices have shown significant improvement in rates of distal embolization and improved procedural safety. However, these devices are not universally effective. In embolic protection device (EPD) trials, the major adverse cardiac events (MACE) rate still remains at 10%, which suggests persistent risk of micro-embolic showers occurring despite EPDs, producing myocardial damage.

It is well known that glycoprotein IIb/IIIa inhibitors reduce the overall MACE in acute coronary syndrome intervention. Published IV abciximab trials in SVG intervention have not shown to reduce periprocedural events or improve MACE. Conversely, a multi-center pilot trial of SVG PCI (n = 58), performed using Dis-

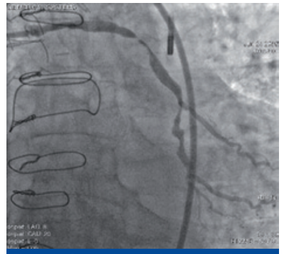


Figure 1 - Severe thrombotic stenosis of sequential saphenous vein grafts (SVG).

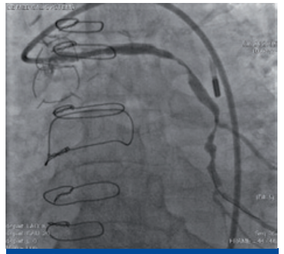


Figure 2 - Reduction in TIMI thrombus grade and lesion severity post ClearWay.

patch catheter-delivering intragraft abciximab, demonstrated statistically significant median percentage diameter stenosis reduction (69% to 45%, p = .0001), and improvement and reduction in thrombus grade (68% to 34%, p = .0001). In a similar study of SVG PCI, use of transluminal extraction coronary (TEC) atherectomy and intra-graft abciximab demonstrated excellent procedural safety with no evidence of embolization or no reflow.

Reduction in thrombus burden then reduces likelihood of distal embolization. High local concentration of glycoprotein IIb/IIIa inhibitors can be achieved with ClearWay-directed delivery. This approach should add great value to complex SVG PCI. In our single-center experience, we have seen very promising results with use of intra-graft abciximab delivered via the ClearWay catheter, in conjunction with EPD, mechanical thrombectomy or laser atherectomy. Together, this pharmaco-mechanical approach has produced excellent acute procedural outcomes in very complex, diffusely diseased thrombus containing vein graft PCI.

We describe a complex thrombotic saphenous vein graft (SVG) percutaneous coronary intervention (PCI) case resolved with the aid of laser atherectomy and ClearWay™ (Atrium Medical Corporation, Hudson, NH) local Abciximab delivery. The ClearWay therapeutic infusion catheter enables local drug delivery to reach approximately a 500-fold greater drug concentration versus systemic delivery. While the flow is occluded, the thrombus is contained and the drug is infused, maximizing the drug bioavailability at the site and enabling an enhanced therapeutic effect.

In summary, significant limitations still exist with currently available approaches and further refinement in thrombus management is needed to improve safety and outcome of these complex procedures. As shown in this procedure, where neither a proximal nor distal protection device was feasible, use of intra-graft Abciximab followed by laser atherectomy allowed safe completion of the PCI procedure. This may be explained with the achievement of higher drug concentrations at the site of thrombus due to utilization of the ClearWay therapeutic infusion balloon catheter, potentially leading to improved efficacy.

# Are Dual Antiplatelet Requirements the Same for all Drug-eluting Stents?

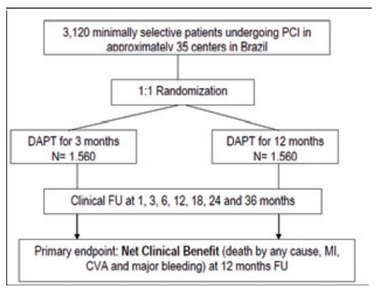
Long Term Safety Results of the Endeavor Zotarolimus-Eluting Stent May Permit Shorter Dual Antiplatelet Therapy Requirements

By Fausto Feres*

The routinary use of drug-eluting stents (DES) as the primary treatment for obstructive coronary artery diseases was called into question after a review in 2006 of the long-term follow-up data from early DES trials led to concerns about late stent thrombosis. Subsequently, guidelines were published recommending extending the duration of dual antiplatelet therapy (DAPT) to 12 months, albeit without the support of clinical trial evidence. Recently reported late outcomes from the DATE (Optimal Duration of Dual Antiplatelet Therapy After Implantation of the Endeavor Stent) trial, which evaluated the rate of death, myocardial infarction (MI), and stent thrombosis in patients treated with the Endeavor zotarolimus-eluting stent, and DAPT for only 3 months, challenged the guidelines, showing similar clinical results or even better when you include bleeding in patients with a short term therapy. The conclusions in this study point to the need for a larger, randomized trial.

**OPTIMIZE Study Design**

The Endeavor zotarolimus-eluting stent is currently being evaluated in the OPTIMIZE (Prospective, Multicenter, Randomized Clinical Evaluation of Clopidogrel Therapy Duration Following Percutaneous Treatment of Diseased Coronary Vessels with the Endeavor Zotarolimus-Eluting Stent in Patients from the "Real-World" Clinical Practice) study, a miltricenter, non-inferiority trial of 3200 patients randomized (1:1) to received 3 or 12 months of aspirin and clopidogrel following percutaneous coronary intervention (PCI) (Figure). The primary endpoint is net adverse cardiac and cerebral events (NACCE), a composite endpoint of death, MI, cerebral vascular accident (CVA), and major bleeding (according to the modified REPLACE-2 and GUSTO criteria) at 12 months post procedure. Follow-up for all patients is scheduled at 1, 3, 6, 12 and 18 months and yearly up to 3 years.




**Medication Regimen**

If the patient is not already taking clopidogrel prior to the procedure, a loading dose of 300 mg is recommended at least 24 hours pre-procedure. Similarly, if the patient is not already taking daily aspirin, a loading dose of 300-500mg at least 24 hours prior the procedure is recommended. During the procedure, use of intravenous heparin is given to maintain an activated clotting time >250 seconds (>200 seconds if glycoprotein IIb/IIIa receptor inhibitors were used). The use of glycoprotein IIb/IIIa and/or bivalirudin is left upon operator´s discretion. Postprocedure medications include aspirin (100-200mg daily) indefinitely and a thienopyridine (clopidogrel (75mg daily) based on the randomization scheme. An independent clinical events committee will classify (and adjudicate) all deaths, MI, target lesion – or target vessel revascularization, and stent thromboses.

**Summary**

The DATE and OPTIMIZE trials are the only two trials to test the use of DAPT for only 3 months. Even with these trial results, each patient's specific clinical profile needs to be considered when determining the appropriate DAPT strategy. Patients with more complex lesions, not tested in these trials may warrant a more conservative approach of prolonging DAPT to 6 or even 12 months. An important outcome of OPTIMIZE, will be to determine if specific DES types warrant specific DAPT requirements. The safety of the Endeavor stent has been consistently reported, with a low rate of stent thrombosis across the entire clinical program. While most of these trials were in patients with restricted inclusion criteria, the experience at our center with 100 "real-world' patients enrolled in the E-Five Registry, we reported no ST Events at 1 year. The potential benefits of a shorter required duration of DAPT use are multidimensional. Patient compliance is a universal problem, especially in patients requiring other surgical or dental procedures. In addition, prescribing thienopyridines can be cost prohibitive leading to under treatment.