



The Surgery After Stenting registry (SAS):
a multicentre registry of consecutive patients
undergoing cardiac and non-cardiac surgery
or operative endoscopic/endovascular
procedures after implantation of a coronary stent

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Potential conflicts of interest

Speaker's name: Roberta Rossini

I have the following potential conflicts of interest to report:

Honorarium: ASTRAZENECA, DAIICHI SANKYO and ELI-LILLY

Institutional grant/research support: BAYER
HEALTHCARE PHARMACEUTICALS, DAIICHI SANKYO
and ELI-LILLY, PFIZER



Background and Aims

- **Background:** In patients treated with coronary stents, early and late surgery occurs in a considerable proportion raising the dilemma on the appropriate management of antiplatelet therapy.
- **Aim:** To assess the feasibility and clinical impact of expert consensus recommendations on perioperative management of antiplatelet therapy in patients with coronary stents undergoing surgery.



Methods

- Multicenter, prospective, national observational registry of consecutive patients with prior coronary stenting undergoing any type of surgery at 19 centers in Italy (NCT01997242).
- A national consensus document was developed by cardiologists, surgeons, and anesthesiologists with the aim of defining the optimal antiplatelet regimen in the perioperative phase of the vast majority of surgical procedures.



The Expert Consensus Document

EXPERIMENTAL RESEARCH

EuroIntervention 2014;10:0-0

Perioperative management of antiplatelet therapy in patients with coronary stents undergoing cardiac and non-cardiac surgery: a consensus document from Italian cardiological, surgical and anaesthesiological societies

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The authors' affiliation and also the accompanying supplementary data can be found in the online version of this paper at the following website:
http://www.pcronline.com/eurointervention/72nd_issue/222

The Consensus Document: Example (General Surgery)

		Thrombotic risk		
		Low risk	Intermediate risk	High risk
Surgical risk	Low risk	<p>ASA: continue</p> <p>P2Y₁₂ receptor inhibitors: - Discontinue 5 days before - Resume within 24-72 hours, with a loading dose</p>	<p>Elective surgery: postpone</p> <p>Non-deferrable surgery: ASA: continue P2Y₁₂ receptor inhibitors: continue</p>	<p>Elective surgery: postpone</p> <p>Non-deferrable surgery: ASA: continue P2Y₁₂ receptor inhibitors: continue</p>
	Intermediate risk	<p>ASA: continue</p> <p>P2Y₁₂ receptor inhibitors: - Discontinue 5 days before - Resume within 24-72 hours, with a loading dose</p>	<p>Elective surgery: postpone</p> <p>Non-deferrable surgery: ASA: continue P2Y₁₂ receptor inhibitors: - Discontinue 5 days before - Resume within 24-72 hours, with a loading dose</p>	<p>Elective surgery: postpone</p> <p>Non deferrable surgery: ASA: continue P2Y₁₂ receptor inhibitors: -Discontinue 5 days before -Resume within 24-72 hours, with a loading dose Bridge therapy with GPI</p>
	High risk	<p>ASA: continue</p> <p>P2Y₁₂ receptor inhibitors: - Discontinue 5 days before - Resume within 24-72 hours, with a loading dose</p>	<p>Elective surgery: postpone</p> <p>Non-deferrable surgery: ASA: continue P2Y₁₂ receptor inhibitors: - Discontinue 5 days before - Resume within 24-72 hours, with a loading dose</p>	<p>Elective surgery: postpone</p> <p>Non deferrable surgery: ASA: continue P2Y₁₂ receptor inhibitors: -Discontinue 5 days before -Resume within 24-72 hours, with a loading dose Bridge therapy with GPI</p>

The cardiologist defines the ischemic risk

The surgeon defines the bleeding risk

Consensus Document Key points



- Maintain aspirin in the vast majority of patients
- Postpone surgery, whenever possible, in patients at high/intermediate thrombotic risk
- Discontinue P2Y₁₂ inhibitor in selected patients after 6 month in low-risk PCI undergoing high hemorrhagic risk surgery
- Use bridge therapy with GPI in selected patients undergoing high hemorrhagic risk surgery

“Stent and Surgery” iOS-Android Application

<https://itunes.apple.com/us/app/stent-surgery/id551350096?mt=8>





Study End-points

- **Primary end-points:**
 - Composite of death, myocardial infarction (MI), probable/definite stent thrombosis and Bleeding Academic Research Consortium (BARC) grade ≥ 3 bleeding during the index surgical admission.
- **Secondary Endpoints:**
 - Composite of death, myocardial infarction and probable/definite stent thrombosis at 30 days
 - Bleeding Academic Research Consortium (BARC) grade >3 bleeding within 30 days of index surgical admission/procedure

Antithrombotic therapy



Aspirin

Aspirin ongoing at home before admission?

No
Peri-operatively maintained
Stopped pre-intervention

Pre-procedure Stop Date

Post-procedure Restart Date

Loading dose

Yes
No

Antiplatelets

Antiplatelets ongoing at home before admission?

No
Peri-operatively maintained
Stopped pre-intervention

Antiplatelets type

Clopidogrel
Ticlopidine
Prasugrel
Ticagrelor

LMWH

LMWH Taken?

Yes
No

Pre-Procedure Start Date

Post-procedure Stop Date

UFH

UFH Taken?

Yes
No

Pre-Procedure Start Date

Post-procedure Stop Date

Tirofiban

Tirofiban Taken?

Yes
No

Pre-procedure bolus?

Yes
No
Half dose

Eptifibatide

Eptifibatide Taken?

Cangrelor

Cangrelor Taken?

Consensus Document

Were consensus document recommendations followed with regard to perioperative antiplatelet therapy?



PROCEDURE

Risk Assessment

Type of procedure

- Cardiac surgery
- General surgery
- Oral and Maxillofacial Surgery
- Plastic surgery
- Thoracic surgery
- Vascular surgery
- Digestive Endoscopy
- Gynecology
- Neurosurgery
- Pneumonology
- Dentistry
- Ophthalmology
- Orthopedics
- Urology

Date of Procedure

Thrombotic risk

- Low
- Medium
- High

Entering type of procedure and evaluating the **TROMBOTIC RISK**

Cardiac Surgery

Cardiac surgery type

- Mitoracomia
- TAVI (approccio apicale)
- OPCAB
- CABG
- Sostituzione Valvolare
- Reintervento
- Endocarditi
- CABG in PCI fallita
- Dissezioni aortiche

Automatically get **HEMORRHAGIC RISK**

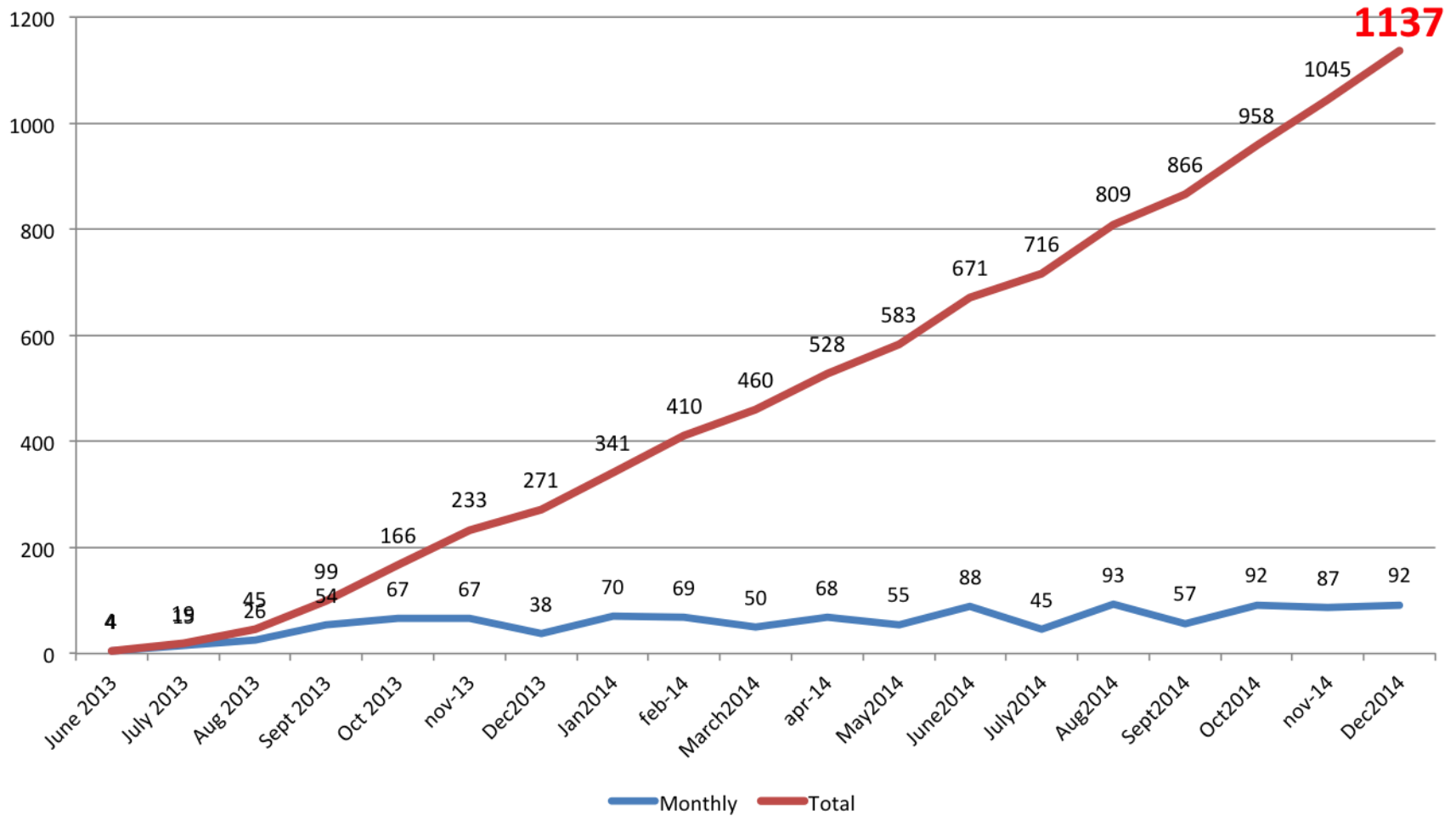
Hemorrhagic risk cardiac surgery: **LOW**

Hemorrhagic risk cardiac surgery: **MEDIUM**

Hemorrhagic risk cardiac surgery: **HIGH**



SAS enrolment curve



The SAS Registry
Participating Centers



Participating Centers and Study Coordinators



Center	Investigators	N. patients
Ospedale Galliera, Genova	Maria Molfese, Paola Bernabò, Marco Falcidieno	165
Istituto Humanitas Rozzano	Maddalena Lettino, Giovanni Malanchini	165
Centro Cardiologico Monzino, IRCCS, Milano	Daniela Trabattoni	155
AO Papa Giovanni XXIII, Bergamo	Roberta Rossini, Giuseppe Musumeci, Elona Collaku, Paolo Canova	128
Azienda Ospedaliera Brotzu, Cagliari	Giampaolo Scorcu	64
Ospedale della Misericordia, Grosseto	Ugo Limbruno, Paolo Calabria	59
Ospedale Carlo Poma, Mantova	Corrado Lettieri	46
Ospedale Niguarda, Milano	Paola Colombo, Giuseppe Bruschi, Matteo Baroni	52
Ospedale Sacco, Milano	Emanuela Piccaluga	43
IRCCS Fondazione Policlinico S. Matteo, Pavia	Luigi Oltrona Visconti Marco Ferlini, Stefano De Servi	42
Arcispedale S. Maria Nuova, Reggio Emilia	Marco Ferri, Stefano Savonitto	40
Università di Padova, Padova	Giuseppe Tarantini, Alberto Barioli	37
Azienda Ospedaliera di Legnano, Legnano	Paola Martina	36
Ospedale Maggiore Policlinico Milano	Franco Gadda	29
Ospedale San Gerardo, Monza	Ivan Calchera	35
Azienda Ospedaliera di Cosenza Cosenza	Roberto Caporale	21
Azienda Ospedaliera della provincia di Lecco, Lecco	Luigi Piatti	11
Azienda Ospedaliero-Universitaria Parma	Alberto Menozzi, Daniela Lina	6
Ospedale Maggiore della Carità, Novara	Angelo Sante Bongo, Andrea Rognoni	3



Results will be presented tomorrow

Thursday 21st PM - Full Programme

14:40-16:40 ■ Hot line

ROOM

MAILLOT

Innovation hub

Antithrombotic strategies

Session comprising selected EuroPCR 2015 late-breaking trial submissions

Chairperson: P.G. Steg

Co-chairperson: D. Angiolillo

Panellists: B. Chevalier, K. Huber, U. Landmesser, R. Storey

16:22

› A multicentre registry of consecutive patients undergoing cardiac and non-cardiac surgery or operative endoscopic/ endovascular procedures after implantation of a coronary stent: the Surgery After Stenting registry (SAS) - *R. Rossini*

16:31

› Discussion and audience interaction