Conclusion:

A high level of Cystatin C at admission is a strong predictor of 120-days mortality. Mean cystatin C was 1.42 ± 0.11 mg/l. QCA after intracoronary Acetylcholine (Ach) infusion is used to evaluate of vasomotion within stented segment in a porcine coronary artery model. Coronary vasomotor dysfunction following stent implantation, which diameter changes of the stent was 1.3 fold increasing from its baseline level during Ach infusion. In counter to increasing of neointimal area, the minimal LA was reduced 30%. Following NTG injection, the NIA was returned to baseline level. The stent area (SA) from IVUS was obtained by subtracting the minimal LA from the maximal LA. The maximal NIA inside the stent was measured by the changes of luminal area (LA). From April 2010 to July 2012, 964 OHCA patients presented to the Emergency Department and 160 patients survived to admission. The overall OHCA survival-to-hospital-discharge rate was 2.0% in the first year and 5.1% in the year following the implementation of a protocol (p-value = 0.014).

Younger age (odds ratio = 0.66 per 10 years, p = 0.003) and a presenting rhythm of ventricular fibrillation/tachycardia (odds ratio = 7.13, p<0.001) were strong predictors of survival to discharge. The overall rate of implementation of therapeutic hypothermia was 25.8%. Prior to the implementation of a protocol in June 2011, only 8.8% of patients who survived to admission had therapeutic hypothermia. This rate increased significantly to 35.7% in the year following the implementation of a protocol (p-value = 0.003).

A greater proportion of the patients in the hypothermia group were discharged with good neurological outcome (15% versus 7.8%, p-value = 0.217), although the result was not statistically significant.

Conclusion: The presence of a protocol led to increasing use of therapeutic hypothermia for comatose OHCA patients in our intensive care units and may have contributed to an improvement in the outcomes of OHCA patients.

**Thrombosis**

Pretreatment of Synthetic Vascular Grafts With Heparin Before Implantation, A Simple Technique To Reduce The Risk of Thrombosis

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Background: Synthetic grafts are being widely used to bypass occluded vessels or to supply blood flow. Thrombosis of these grafts is a major complication. The clots are often formed during the first exposure of blood to the graft surface which later become a nidus for larger clots. We examined whether pretreatment of the graft with heparin prevents this initial clotting process.

Methods: A circuit was assembled to compare two sets of shunts in the same subject. This circuit simulated a systemic-pulmonary shunt with inflow cannula in the aorta, branching to 2 groups of study and control grafts, connected to an outflow cannula in the pulmonary artery. The study group was treated with heparin for 15 minutes prior to placement in the circuit. With installation of the circuit, the blood flowed from the aorta to a set of multiple branches all the same size and properties with the only difference being exposure to heparin.

Pressure was monitored proximal and distal to the branches to verify similar flow dynamics in each group. After 2 hours of simultaneous and equal flow in all branches the circulation was discontinued and the grafts were irrigated and sliced open to expose the inner surface. Digital images were taken in a standard technique coded for each graft for

**CRT-122**

Effectiveness Of Implementing A Therapeutic Hypothermia Protocol In Cardiac Arrest Patients: A Singapore Tertiary Center Experience

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Introduction: Out of hospital cardiac arrest (OHCA) is a major cause of unexpected deaths in Singapore with an OHCA survival-to-hospital-discharge rate of 2%. Therapeutic hypothermia is strongly recommended for comatose OHCA survivors. Despite this, worldwide implementation of therapeutic hypothermia has been slow.

Aims: We aim to evaluate the effectiveness of protocolizing therapeutic hypothermia in a large tertiary hospital and to describe the outcomes of OHCA following its implementation.

Methods: We evaluated 964 OHCA patients who presented to the Emergency Department from April 2010 to July 2012. A protocol for therapeutic hypothermia was implemented in June 2011. Data on patients’ demographics, initial rhythm of arrest, site of care, institution of therapeutic hypothermia, and neurological outcome on discharge were collected.

Results: From April 2010 to July 2012, 964 OHCA patients presented to the Emergency Department and 160 patients survived to admission. The overall OHCA survival-to-hospital-discharge rate was 2.0% in the first year and 5.1% in the year following the implementation of a protocol (p-value = 0.014).

Younger age (odds ratio = 0.66 per 10 years, p = 0.003) and a presenting rhythm of ventricular fibrillation/tachycardia (odds ratio = 7.13, p<0.001) were strong predictors of survival to discharge.

The overall rate of implementation of therapeutic hypothermia was 25.8%. Prior to the implementation of a protocol in June 2011, only 8.8% of patients who survived to admission had therapeutic hypothermia. This rate increased significantly to 35.7% in the year following the implementation of a protocol (p-value = 0.003).

A greater proportion of the patients in the hypothermia group were discharged with good neurological outcome (15% versus 7.8%, p-value = 0.217), although the result was not statistically significant.

Conclusion: The presence of a protocol led to increasing use of therapeutic hypothermia for comatose OHCA patients in our intensive care units and may have contributed to an improvement in the outcomes of OHCA patients.

**CRT-121**

Neointimal Contractility Inside Of Stent: IVUS Observation In a Porcine Coronary Model

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Aims: QCA after intracoronary Acetylcholine (Ach) infusion is used to evaluate of coronary vasoconotr dysfunction following stent implantation, which diameter changes of non-stented segment was observed. In this case study, IVUS was utilized to analyze the vasomotion within stented segment in a porcine coronary artery model.

Methods and Results: Everolimus-eluting stent (3.0x18mm) was implanted to RCA with TIMI III flow post stent implantation and at follow-up. Neointimal contraction and relaxation in response to Ach and NTG were demonstrated by IVUS (Figures), which measured by the changes of neointimal hyperplasia area (NIA), as well as luminal area (LA). The maximal NIA inside of the stent was 1.3 fold increasing from its baseline level during Ach infusion. In counter to increasing of neointimal area, the minimal LA was reduced 30%. Following NTG injection, the NIA was returned to baseline level. The stent area (SA) from IVUS was obtained by subtracting the minimal LA from the maximal LA. The maximal NIA inside the stent was measured by the changes of luminal area (LA). From April 2010 to July 2012, 964 OHCA patients presented to the Emergency Department and 160 patients survived to admission. The overall OHCA survival-to-hospital-discharge rate was 2.0% in the first year and 5.1% in the year following the implementation of a protocol (p-value = 0.014).

Younger age (odds ratio = 0.66 per 10 years, p = 0.003) and a presenting rhythm of ventricular fibrillation/tachycardia (odds ratio = 7.13, p<0.001) were strong predictors of survival to discharge.

The overall rate of implementation of therapeutic hypothermia was 25.8%. Prior to the implementation of a protocol in June 2011, only 8.8% of patients who survived to admission had therapeutic hypothermia. This rate increased significantly to 35.7% in the year following the implementation of a protocol (p-value = 0.003).

A greater proportion of the patients in the hypothermia group were discharged with good neurological outcome (15% versus 7.8%, p-value = 0.217), although the result was not statistically significant.

Conclusion: The presence of a protocol led to increasing use of therapeutic hypothermia for comatose OHCA patients in our intensive care units and may have contributed to an improvement in the outcomes of OHCA patients.

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