SWAN 2018

TRAUMA, CRITICAL CARE & EMERGENCY SURGERY CONFERENCE
27th & 28th July 2018
Sheraton on the Park
Sydney, Australia

SWAN2018 SCIENTIFIC PROGRAM

Friday 27th July 2018
A PREDICTION MODEL FOR FASCIAL CLOSURE IN THE OPEN ABDOMEN
Adam Cristaudo
DR ADAM CRISTAUDO. MBBS, MS (Surgical Outcomes), PhD Candidate
Accredited RACS SET Trainee, Trauma Department, Liverpool Hospital, NSW, 2170, Australia
Principal Investigator, Westmead Research Centre for Evaluation of Surgical Outcomes, Department of Surgery, The University of Sydney, Westmead Hospital, Westmead, NSW, 2145, Australia
A/PROF. KERRY HITOS. BSc, MMS, PhD
Director, Westmead Research Centre for Evaluation of Surgical Outcomes, Department of Surgery, The University of Sydney, Westmead Hospital, Westmead NSW, 2145, Australia
A/PROF. RONNY GUNNARSSON. MD, PhD
Former Associate Professor in General Practice and Rural Medicine, Cairns Clinical School, College of Medicine and Dentistry, James Cook University, QLD, 4870, Australia
A/PROF. ALAN DECOSTA. FRCS (I), FRACS
Associate Professor of Surgery, James Cook University, Cairns Clinical School, College of Medicine and Dentistry, James Cook University, QLD, 4870, Australia

Objective/Introduction
The use of the open abdomen (OA) technique is an important approach for managing intra-abdominal catastrophes. However, delays in definitive fascial closure (DFC) are associated with a high incidence of complications and poor outcomes. The aim of this study is to develop a multivariate prediction model for DFC in patients being managed with an OA.

Methods
A multicentre observational study was performed involving all patients managed with an OA admitted to Cairns, Townsville and Royal Brisbane & Women's Hospitals from 2000 to 2016. Prognostic factors were based on a recent systematic review.

Statistical analysis was performed using multivariate logistic regression with 28 prognostic factors for DFC.

Results
In total, 312 patients were managed with an OA. DFC occurred in 219 patients (70%). Median DFC time was 2 days (interquartile range: 3 days). Significant prognostic factors included Acute Physiology and Chronic Health Evaluation III score (odds ratio (OR): 0.97; 95% confidence interval (CI): 0.96, 0.98), respiratory failure (OR: 0.38; 95% CI: 0.16, 0.82), peritoneal contamination (OR: 0.22; 95% CI: 0.05, 0.98), total procedures (OR: 0.71; 95% CI: 0.63, 0.81) and year (OR: 1.1; 95% CI: 1.0, 1.2). A multivariate prediction model was developed to demonstrate a patient’s likelihood of DFC (receiver operator curve area under curve = 0.88, 95% CI: 0.83, 0.92)

Conclusion
Predictor variables were identified using clinical knowledge and statistical reasoning to develop a multivariate prediction model for DFC in patients being
managed with an OA. External validation of this model will allow for this to be readily used in clinical practice.

References