Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company’s public news and information website.

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only biomarker that could predict UA (HR: 1.5 [95%CI:1.1-1.9, p=0.01] per SD increase) and MI (HR: 1.3 [95%CI:1.0-1.7, p=0.04]) within 2-yrs of follow up. NT-proBNP was only capable of predicting new HF (HR: 3.0 [95%CI: 1.9-4.9], p<0.0001) and MACE (HR: 1.5 [95%CI: 1.1-1.9, p=0.004]) per SD increase. Hs-TnI lost its predictive ability for new HF when suPAR and NT-proBNP were included in adjusted models.

Conclusion: In this acute chest pain cohort, suPAR concentrations are independent predictors of cardiovascular outcomes at 2-yrs. It could add value in the risk assessment of acute chest pain patients.

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Soluble Urokinase Plasminogen Activator Receptor (suPAR) Predicts Mortality in Patients With Acute Chest Pain

J. Chew-Harris *, S. Appleby, P. Adamson, R. Troughton, A.M. Richards, C. Pemberton

Christchurch Heart Institute, University of Otago, Christchurch, New Zealand

Background: suPAR is an inflammatory protein associated with cardiovascular disease burden. We describe the prognostic performance of suPAR to predict all-cause mortality in patients presenting with chest pain suspicious of acute myocardial infarction (AMI).

Method: suPAR (ViroGates), and standard cardiac markers hsTnI (Abbott) and NT-proBNP (Roche) concentrations were measured at presentation in 677 patients with the primary complaint of acute chest pain. Follow-up clinical data for outcomes were collected up to 5-years. Prognostic performances of biomarkers were assessed using receiver operator curve (ROC) area under the curve (AUC) and Cox-proportional hazards regression (SPSS v26 [IBM]).

Results: In this cohort, (median age: 64-yrs [IQR: 54-75], 38% female), 149/677 of patients had adjudicated STEMI (n=31) and NSTEMI (n=118). suPAR (AUC≥0.79) had comparable discrimination to that of NT-proBNP (AUC≥0.81) for the prediction of mortality within 2-yrs (n=47), 4-yrs (n=70) and 5-yrs (n=101) and was better than hsTnI (AUC≤0.70). Addition of suPAR improved the mortality ROC-curve of NT-proBNP (0.82 to 0.85) and for hsTnI (0.70 to 0.80) for 2-yr death prediction. The fully adjusted hazard ratio (HR) using Cox-models showed suPAR (HR: 1.5 per SD increase) and NT-proBNP (HR:2.6 per SD increase) to be the only independent biomarkers associated with death at 4- and 5-yrs (p<0.0001).

Conclusion: suPAR is a strong prognostic indicator of mortality and its usage alongside current cardiac biomarkers may assist the risk stratification of patients with acute chest pain.

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P47

Prognostic Performance of Soluble Urokinase Plasminogen Activator Receptor (suPAR) in Predicting Mortality in Asian and Western Patients With Acute Breathlessness

J. Chew-Harris *, S. Appleby, P. Adamson, R. Troughton, A.M. Richards, C. Pemberton

Christchurch Heart Institute, University of Otago, Christchurch, New Zealand

Background: suPAR is a pleiotropic receptor involved in vascular immune dysfunction, and increased concentrations reflect poor outcomes. The performance of suPAR to predict death in patients with undifferentiated breathlessness is unknown.

Method: Patients admitted with undifferentiated breathlessness were recruited in New Zealand (NZ) (n=612), and Singapore (n=483). Admission plasma samples were used for suPAR (ViroGates), NTproBNP (Roche) and hsTnT (Roche) measurements. Prognostic performance of all biomarkers for 1-yr mortality prediction was assessed using receiver operator characteristic curve (ROC) area under the curve (AUC) analysis and Cox regression analysis (standardised log-values) (SPSS v26 [IBM]).

Results: ADHF was more common in NZ than Singapore (37% vs 25%, p<0.0001) in concordance with higher median age (16-yrs older) and poorer kidney function. In both cohorts, median suPAR was higher in those who died vs survivors (p<0.0001). For the Singapore cohort, suPAR (AUC=0.85) discriminated mortality (n=30) better than hsTnT (AUC=0.78) and NT-proBNP (AUC=0.79). For the NZ cohort, suPAR (AUC=0.71) was similar to hs-TnT (AUC=0.73) and NT-proBNP (AUC=0.69) for death prediction (n=113). In Cox-models for combined ADHF patients, suPAR was associated with all-cause mortality (n=66/343) with a hazard ratio (HR): 1.7 (95%CI: 1.3-2.3) per SD increase (p<0.0001). Hs-TnT concentrations were also capable of predicting death (HR:1.5 [95%CI:1.1-2.0, p=0.01]), whereas NT-proBNP could not predict mortality for patients with ADHF.

Conclusion: The inclusion of suPAR may add value to risk stratification models in acutely dyspnoeic patients.

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The Effects of the COVID-19 Pandemic on Adult Cardiac Surgery Activity and Outcomes in New Zealand

A. Mekhail *

Wellington Hospital, Wellington, New Zealand

Background: Across the world, cardio-surgical activity took a decline during the COVID-19 pandemic to allow treatment for the surge of coronavirus patients. During this time mortality rates for cardiac surgery had a significant increase in multiple cardiac centres. This was thought to be due to the proportionately larger number of acute/emergent cases, later presentations, and exceedingly high mortality
rates for surgical patients infected with coronavirus. There is also concern that all deferred cases will increase mortality and morbidity for these patients in the future. New Zealand has had a unique experience with COVID-19 in that the lockdown was short-lived and the number of positive cases was far lower than much of the world. The objective of this study is to look at any changes in cardio-surgical activity and mortality in New Zealand during the COVID-19 pandemic.

**Method:** Data from the New Zealand Ministry of Health showing all adult cardiac surgery cases from January 2019 till January 2021 was gathered. As the lockdown in New Zealand was initiated on 25 March 2020, data from the monthly breakdown of cardio-surgical cases for April 2020 and May 2020 was compared against April 2019 and May 2019.

**Results:** No significant change was seen in Case volume between the 2019 and the 2020 group. Additionally, there was no change in proportion of elective cases or mortality in the 2020 group.

**Conclusion:** The trend of lower cardio-surgical activity with increased mortality seen around the world was not found in the New Zealand population.

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**Cortex Application (Electronic Notes and Data Platform) Impact in the Cardiology Department, Canterbury District Health Board**

A. Nankivell *

**Canterbury District Health Board, Christchurch, New Zealand**

**Background:** Canterbury District Health Board has been transitioning from paper-based clinical notes to an electronic system. The Cortex application and data platform has been developed by a local company, Sense Medical, in conjunction with clinicians. Cortex is used for documenting clinical notes and replacing paper-based workflow with electronic ordering and communication. Cortex was rolled out to the Cardiology Department in December 2020. We tailor-made digital forms and orders to aim to improve our documentation and communication within the department including the wards, coronary care unit and cardiology day unit.

**Method:** A working group consisting of members from various stakeholders was formed to coordinate the implementation of Cortex. Forms and orders were developed by the group. After Cortex was implemented, a survey was undertaken of users to gather feedback on their experiences. This was focused on ease of use and impact on documentation and communication.

**Results:** There were 56 respondents: 50% nurses, 21% Senior Medical Officers (SMOs) and 29% Resident Medical Officers (RMOs). The majority (85%) felt that Cortex had improved documentation and communication, with 73% reporting that post procedure instructions were clearer and more complete. Communication features were used by 75% of RMOs and 100% nurses working on the wards, with 89% reporting this had improved communication. Overall, 81% of respondents preferred Cortex. Access to hardware and connectivity issues were associated with lower levels of satisfaction.

**Conclusion:** Overall, Cortex has improved documentation and communication in our Department. Nurses based on the wards and RMOs reported the highest levels of satisfaction.

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