affected by statin treatment (i.e. slow-twitch muscles), as well as in the control animals. Rodents given GGOH showed no evidence of impaired left ventricular pump function or electrophysiology. Furthermore, relaxation responses in isolated conduit and resistance arteries were either maintained or improved by GGOH administration. Hence, this in vivo study has provided evidence that GGOH administration can prevent statin-induced muscle damage without causing adverse cardiovascular effects. As such, the effectiveness of this compound in managing SAMS warrants further investigation.

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Adverse Cardiovascular Events in Patients with Rheumatic Conditions and Biologic Therapy Interruption
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Background: Recent studies in patients with rheumatologic conditions support the importance of inflammation in the development of atherosclerosis. Moreover, targeting inflammation upstream with biological agents for atherosclerosis progression has become the focus of intense research. Whilst biologics suppress inflammation, they increase serious infection (SI) risk. We hypothesised that biologic therapy interruption due to SI in patients would lead to rebound inflammation and more major adverse cardiovascular events (MACE) compared to those with no interruption.

Methods: We retrospectively analysed a cohort of 265 patients above the age 18 who received biologics for rheumatoid arthritis; ankylosing spondylitis; and psoriatic arthritis with regular follow-ups. Patient characteristics, biologic therapy interruptions, SIs and MACE (non-fatal MI, non-fatal stroke and cardiovascular death) were captured in detail. Patients were categorised into 3 groups for analysis: (1) pause AND SI, (2) pause AND no SI, and (3) no pause.

Results: Baseline characteristics were similar between the groups. A total of 357 pauses in biologic therapy was noted among 152 patients, of which 39 (11%) were observed in 25 patients due to SI. A significantly higher rate of MACE was observed in the group who paused for SI compared to others (Figure). Also, whilst pausing biologic therapy due to SI was associated with an increased incremental odds of experiencing MACE [OR 4.08 (95% CI 1.21–13.74), p = 0.023], pausing biologics for other reasons was not [OR 1.17 (95% CI 0.41–3.29), p = 0.77].

Conclusions: In rheumatic patients, biologic therapy interruption due to SI leads to increased MACEs.

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Antithrombotic Therapy and Bleeding Outcomes in Atrial Fibrillation Patients after PCI: Insights from the CADOSA Registry
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Background: Management of atrial fibrillation (AF) in patients who have PCI is difficult. To prevent thromboembolic events (TEE), Triple Therapy (oral anticoagulation [OAC]+Dual Antiplatelet Therapy [DAPT]) is gold standard but confers a high bleeding risk.

Method: Using the Coronary Angiogram Database of South Australia (CADOSA), 205 AF patients undergoing PCI in 2015–16 were identified. One-year outcomes were compared between patients prescribed (1) Dual Therapy (OAC+1 antiplatelet), or (2) DAPT at discharge against Triple Therapy (OAC+DAPT). The primary endpoint was bleeding (as per International Society on Thrombosis and Haemostasis) and the secondary endpoint was TEE (MI, stroke and systemic embolism).

Results: At discharge, 60% of patients were prescribed DAPT (72 ± 11 yrs, 30% female), 32% Triple Therapy (76 ± 10 yrs, 29% female) and 8% Dual Therapy (76 ± 18 yrs, 24% female).
Abstracts

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Background: Dobutamine stress echocardiography (DSE) is a commonly used diagnostic stress test for the assessment of various cardiac pathologies on patients unable to perform exercise. Unlike exercise, there is no reliable subjective termination end-point such as fatigue to rely on. Consequently, DSES are often concluded at a predetermined age predicted maximal heart rate (APMHR) such as 85%, however the validity of this practice is undefined. The aim of this study was to assess the performance of models for dual therapy in this scenario so that further investigation in larger studies is warranted.

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Are Rate Pressure Product and Age Predicted Maximum Heart Rate Predictors of Future Cardiovascular Events During Dobutamine Stress Echocardiography?

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Background: Dobutamine stress echocardiography (DSE) is commonly used diagnostic stress test for the assessment of various cardiac pathologies on patients unable to perform exercise. Unlike exercise, there is no reliable subjective termination end-point such as fatigue to rely on. Consequently, DSES are often concluded at a predetermined age predicted maximal heart rate (APMHR) such as 85%, however the validity of this practice is undefined. The aim of this study was to assess the performance of models for dual therapy in this scenario so that further investigation in larger studies is warranted.

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Artificial Intelligence Methods for Real-Time Pharmacovigilance Monitoring to Predict Adverse Cardiac Events

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Background: Machine learning methods have previously been applied in pharmacovigilance monitoring, but have focused on natural language processing of text data. Our aim was to apply artificial intelligence methods to linked administrative data to predict major adverse cardiac events from medications at the population level. Our goal was to see if we could detect the increased risk of cardiovascular events and death from rofecoxib that led to its withdrawal from the market in 2004.

Methods: We identified, from Pharmaceutical Benefits Scheme data, patients in Western Australia who were supplied with Cox-2 inhibitors between 01-01-2003 and 31-12-2004. Using linked hospital admissions and death data, patients who died or were admitted within 30 days after the first supply were excluded. Variables from the linked data were used as inputs, and acute coronary syndrome (ACS) admissions or death within one year after the first supply were outcomes. We applied artificial neural networks, decision trees and random forests to build models, and measure and optimise their performance.

Results: There were 42,695 patients in the cohort, and 2,695 died or were admitted for ACS during follow-up. The multi-layer neural network model yielded the best predictive performance with an area under the receiver operating characteristic curve of 0.73.

Conclusion: Machine learning models applied to linked administrative data have the potential to be used in real-time pharmacovigilance monitoring. Further work is required to optimise the models to improve predictive performance, but our analysis shows that such models would have detected rofecoxib as a drug for close monitoring.

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