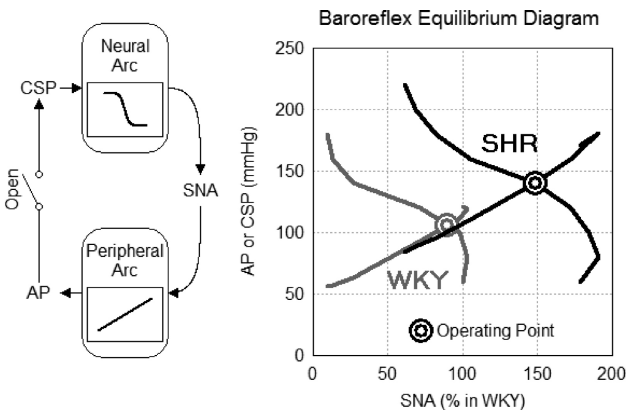

Results: Although slope and offset of the baroreflex peripheral arc (linear relation) were similar, the neural arc response (inverted sigmoid curve) range was attenuated in SHR ($71 \pm 2\%$ vs. $91 \pm 3\%$, $P < 0.01$). The operating-point AP was higher in SHR than in WKY (144 ± 6 mm Hg vs. 109 ± 5 mm Hg, $P < 0.01$).

Although NE was higher in SHR at baseline condition (403.1 pg/ml vs. 203.2 pg/ml, $P < 0.01$), AP response to phenylephrine was similar (linear relation), suggesting preserved peripheral response to sympathetic activity.

Conclusion: The baroreflex equilibrium diagram indicates that baroreflex regulation of SNA rather than the cardiovascular response to SNA plays a critical role in the development of hypertension in SHR.

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A Novel Recombinant CD39 Targeting Activated Platelets via a Fused Single-chain Antibody: Achieving Efficient Anti-coagulation While Minimising Bleeding Side Effects by Clot Directed Enrichment

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Introduction: CD39, an NTPDase with strong antithrombotic properties, has previously been shown to be protective in models of stroke, transplantations, pulmonary embolism and myocardial infarctions by hydrolysing/removing the platelet agonist ADP. However CD39's high potency comes at the cost of an increased bleeding risk. We hypothesise that targeting CD39 to activated platelets allows localised enrichment at the growing thrombus despite a low and safe systemic concentration.

Methods and results: CD39 was recombinantly fused to a single-chain antibody specific to activated platelets via selective binding to the active conformation of GPIIb/IIIa. The fusion construct was produced in Hek293 and purified using a His-tag chromatography step. Targeted-CD39 was significantly more effective at preventing platelet activation (flow cytometry) and platelet aggregation (aggregometry) with ADP and collagen as agonist than its non-targeted control (CD39 fused to a non-functional mutated single-chain antibody). Most importantly in a mouse model of ferric chloride-induced carotid artery thrombosis, targeted-CD39 was protective against vessel occlusion at a concentration at which the non-targeted-CD39 was ineffective ($p < 0.005$). At the same concentration no tail bleeding prolongation was observed for the targeted-CD39 while the ineffective non-targeted-CD39 showed a bleeding tendency ($p < 0.01$).

Conclusion: Targeting CD39 to its desired site of action enables administration of such a low concentration as to avoid the previously observed bleeding tendencies while still being a highly effective antithrombotic drug. Thus, enriching CD39 to activated platelets at growing thrombi prevents the previously limiting bleeding side effects and advances CD39 towards potential clinical use.

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Acute Pulmonary Embolism (PE)—Is Echocardiography Underutilised in Regional Australia

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Background: Echocardiography is recommended after acute pulmonary embolisms (PE) to risk stratify patients at risk of developing chronic thromboembolic pulmonary hypertension (CTEPH) and then at six to eight weeks if elevated pulmonary artery systolic pressure (PASP) is found initially. The true incidence of CTEPH is unknown but ranges from 0.01% to 3%. PASP >50 mm Hg and age >70 years are risk factors for CTEPH. CTEPH is insidious in onset and missed in many patients. It is potentially curable if diagnosed early.

Methods: A retrospective one year case note review was undertaken of all confirmed (CT pulmonary angiography proven) PE cases (66 patients) admitted in Ballarat Base Hospital. Clinical variables, management and echocardiography reports were reviewed.

Results: Mean age was 59 years. Forty-seven percent of patients had troponin measured at diagnosis (Males 48%, females 44%) those with elevated troponin I (>0.04 ng/L) had prolonged hospital stay compared to normal result (10 days versus 5.4 days). Sinus tachycardia was most common ECG finding (30.3%).S1Q3T3 pattern on ECG was found in six patients. Deep venous thrombosis (DVT) accompanying PE was confirmed in 33% (22) patients. Echocardiogram was done in 45% (30) patients, with three patients (10%) all aged <70 years having pulmonary artery systolic pressure >50 mm Hg. Thus 33 eligible patients did not have echocardiogram.

PE patients	Echo	No echo	PASP > 50 mm Hg
66	30	33	3