

# Thrombotic and Haemorrhagic Complications in Patients with Mechanical Heart Valve Prostheses Attending the Singapore General Hospital Anticoagulation Clinic

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## Abstract

**Introduction:** This study evaluated the intensity of anticoagulation required for prevention of thromboembolic episodes with minimal haemorrhagic complications in patients with mechanical heart valve prostheses. **Materials and Methods:** The incidence of thrombotic and haemorrhagic events was retrospectively assessed in a series of 143 patients attending the anticoagulation clinic over a period of 67 months. Risk factors for haemostatic events were also analysed. **Results:** All embolic events occurred when the International Normalised Ratio (INR) was less than 2.2, suggesting an INR of 2.5 to 3.0 should be adequate for thromboembolic prophylaxis. Risk factors for embolic events were atrial fibrillation, mitral valve prosthesis and a previous thromboembolic event. Most embolic events involved the central nervous system with resultant permanent residual disability. Most major bleeding episodes occurred in the presence of underlying pathological states such as peptic ulcers or fibroids and were not related to the intensities of anticoagulation. There was no mortality or long-term morbidity associated with bleeding episodes. **Conclusions:** In agreement with recent data from other centres, a moderate intensity of anticoagulation of INR 2.5 to 3.0 is now recommended. Hence, with this lowered intensity of anticoagulation and better patient education, we hope that thrombotic as well as haemorrhagic complications will be reduced in future.

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**Key words:** Mechanical heart valves, Optimal INR

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