

**ANAESTHESIA FOR A CASE OF RHEUMATIC HEART DISEASE
WITH PROSTHETIC VALVE AND DERANGED COAGULATION
PROFILE POSTED FOR EMERGENCY CRANIOTOMY.**

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ABSTRACT

Management of prosthetic valve patient coming for non-cardiac surgery requires thorough assessment of coagulation profile, cardiac status, bleeding tendencies and thrombosis peri operatively. We present anaesthetic management of a patient with history of rheumatic heart disease with replaced mechanical prosthetic mitral valve on warfarin therapy presented with severe occipital headache with spontaneous subdural hematoma in right parieto-occipital region for emergency craniotomy.

Keywords: Heart valve disease, Prosthesis, altered co-augulation, Craniotomy, Anaesthesia.

INTRODUCTION

The most feared and lethal complication of oral anticoagulation therapy is Intracranial haemorrhage. Anticoagulation increases the risk of intracranial haemorrhage by 7-10 folds. With most of the bleeds being intracerebral hematomas (60% being fatal) and subdural hematomas. The Predictors of bleed being patient age, intensity of anticoagulation therapy, hypertension, prior bleeding episodes. Bleeding evolves spontaneously over 12-24hrs and emergency reversal of anticoagulation is crucial with evacuation of the bleed.^[1]

CASE REPORT

A 22yrs old female with history of rheumatic heart disease post mitral valve replacement on warfarin therapy came with complaints of severe headache and vomiting since two days which was insidious in onset with no history of trauma or fall. Physical examination revealed she was pale weighing 50 kgs with pulse of 80 beats per minute, blood pressure of 120/70 mm hg, respiratory rate of 14 breathes per minute. Her systemic examination showed pupils to be reactive with anisocoria. No focal neurological deficits were seen. Cardiac evaluation showed to have normal heart sounds with valvular clicks. ECHO showed Ejection fraction of 56%, normally functioning valves, no para valvular leaks and absence of any clots or vegetation. Blood investigations showed hemoglobin of 8.1 g%, Hematocrit: 26.2%, WBC: 12.200/ μ l, Platelets: 2.62 lakhs, PT: test > 100 sec, control- 13.5 sec, Aptt: test > 100 sec, control- 33.8 sec, with B +ve Blood group. INR values could not be assessed. Blood urea 20mg/dl, Serum creatinine: 0.56mg/dl, Serum sodium: 140 meq/l, Serum potassium: 4.1 meq/l. CT brain plain showed right occipito-parietal SDH with midline shift to left (0.9cm).

Tablet warfarin was stopped immediately, inj vit K was given IV. Patient was transfused One unit of packed cells and six units of fresh frozen plasma. Repeat coagulation profile was requested and patient was shifted to surgery with four units of fresh frozen plasma and one unit of packed red blood cells reserved for transfusion during surgery. Repeat Pt showed test: 25 sec, control: 13.5sec, Aptt: test: 39.3sec, control: 33.5sec, INR: 2.38.

Two 18G IV cannula secured in right upper limb and left upper limb. Infective endocarditis prophylaxis was given using injection ampicillin 2gm IV. Patient was operated under general anaesthesia. Patient was transfused four units of fresh frozen plasma and one unit of packed cell intraoperatively. Patient was hemodynamically stable. Intra-op blood loss was approximately 350-400ml. After patient attained spontaneous breathing efforts reversal with inj Neostigmine 0.05mg/kg and inj. Glycopyrollate 0.01mg/kg was given. Patient was extubated successfully and shifted to ICU for observation. No neurological deficits were seen in the post op period.

On Postop day 1: patient was stable, repeat CT showed no bleed. Repeat Hb: 9 gm%, Hematocrit: 28%, PT: test: 28sec, control: 13.5 sec; APTT: test: 40sec, control: 33.5sec; INR: 2.07. Serial monitoring of coagulation profile was done. Once the PT and INR values were stabilized patient was restarted on inj. low molecular weight heparin sc. Patient was observed for any incidence of bleeding. Once INR values were stabilized Inj. Low molecular weight

heparin was stopped and patient was started on tablet warfarin. PT and INR values were assessed for 2 days and patient discharged with advice to get regular checks of coagulation profile.

DISCUSSION

Patients with mechanical prosthetic valves on anticoagulant therapy present a tricky situation to anaesthesiologists in view of discontinuing the therapy and exposing the patient to significant threat of thromboembolism and valve dysfunction perioperatively.^[2] All patients with mechanical prosthetic valves (new generation prosthetic valves) should receive anticoagulation therapy for life long and maintain a target INR between 2.5-3.5.^[3] In cases of emergency surgeries with deranged coagulation profile, the effects of anticoagulants should be reversed using fresh frozen plasma and vitamin K with immediate intervention surgeries. Once in the post op period risk of restarting anticoagulants should be considered and started first with intravenous heparin, then to subcutaneous heparin or low molecular weight heparin and finally to oral anticoagulant therapy. Heparin should be continued till the INR is stabilized and then patient should be started on warfarin with regular screening of coagulation profile.^[4]

CONCLUSION

We conclude that in patient with prosthetic heart valves on oral anticoagulation therapy with intracranial hemorrhage a thorough screening of complete blood count, coagulation profile, cardiac status should be done prior to surgery. Immediate correction of coagulopathy to be initiated. After appropriate treatment is given cautious initiation of anticoagulants should be done initially with short acting injectables with regular screening of coagulation profile. Later conversion to oral anticoagulants should be done at appropriate time.

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