

ISSN: 2309-3234

TMSS MEDICAL COLLEGE JOURNAL

Volume 03, No. 1, July 2014



AN OFFICIAL PUBLICATION OF TMSS MEDICAL COLLEGE, BOGRA



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TMSS Medical College Journal

Vol. 3, No. 1, July 2014

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CASE REPORT**GENERAL ANAESTHESIA FOR PATEY'S MASTECTOMY WITH MODERATE HEART FAILURE AND BRADYCARDIA—A CASE REPORT.**JAHAN N¹, RAHMAN M A², MOLLAH M A W³, MONDOL C K⁴.

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ABSTRACT

Patients with a history of heart failure who undergo non-cardiac surgery under general anaesthesia are at increased risk of perioperative cardiac complications. Heart failure is a common problem in Bangladesh and due to some relative contraindication; general anaesthesia is used for this associated disease. This study correlates with the study of Sock Huang Koh et al and V Karapandzic et al. To ensure adequate oxygenation with easy maintenance of cardiac parameters and for good outcome, General anaesthesia is selected for this patient. The anaesthetic management of a patient with heart failure non-cardiac surgery is all ways a challenge to the anaesthesiologist, yet we do it successfully without invasive monitoring.

Key words: General anaesthesia, Patey's mastectomy, Heart failure

INTRODUCTION

Heart failure describes the clinical syndrome that develops when the heart can not maintain an adequate cardiac output or can do so only at the expense of an elevated filling pressure. Heart failure is frequently due to coronary artery disease, tends to affect elderly people and often leads to prolong disability. Significant heart disease develops the signs or symptoms of a low cardiac out, pulmonary congestion or systemic venous congestion. In mild to moderate forms of heart failure, cardiac output is adequate at rest and become inadequate when the metabolic demand increases during exercise or some other form of stress such as General anaesthesia¹. It occurs in 1-2 % of the population, rising to in the over 75 year of old age group, and is associated with increased mortality following anaesthesia. The commonest cause is ischemic heart disease. Other causes include hypertension, valvular heart disease and cardiomyopathies. One third of untreated patients with an ejection fraction of less than 40 % will die within a year².

CASE REPORT

A 60 years old woman was admitted to TMSS Medical college and Rafatullah community Hospital on 28.04.2014 with stage III carcinoma breast (right) with moderate heart failure with bradycardia. On examination, patient was moderately anaemic, mild dyspnic and had bradycardia. On complete blood count, patient was moderately anaemic. Random plasma glucose, serum creatinine was within normal limit. X-Ray chest was on normal study. ECG showed antero-septal old myocardial infarction and bradycardia. Echocardiogram revealed anterior, septal and basal hypokinesia. Left ventricular Ejection Fraction was 45%. Before giving General anaesthesia, treatment of heart failure was continued few days, anaemia was corrected. Fluid balance was maintained very carefully.

DISCUSSION

Patey's mastectomy (Modified radical mastectomy) means total mastectomy with axillary node dessection, but preservation of the pectoral muscles³.

The aim is to assess disease severity and myocardial contractility. Limited exercise tolerance, orthopnoea, and paroxysmal nocturnal dyspnoea are indicators of disease severity. Drug treatments may include ACE (angiotensin converting enzyme inhibitors), diuretics and nitrates. Maintenance of myocardial contractility includes particular inotropes may be needed to oppose the cardiodepressant action of anaesthetic agents².

The presence of heart failure has been described as the single most important risk factor for predicting perioperative cardiac morbidity and mortality. In the perioperative period, all precipitating factors for heart failure should be sought and aggressively treated before proceeding with elective surgery. Patient treated for heart failure usually on several medications that may affect anaesthetic management. It is generally accepted that diuretics may be discontinued on the day of surgery⁵. Maintaining beta blocker therapy is essential since many studies have shown that beta blockers reduce perioperative morbidity and mortality⁴. Death rate of general anaesthesia towards heart failure is 5.9%⁴.

Due to inhibition of the Renin-Angiotensin-aldosterone system, ACEIs may put patients at increased risk of intraoperative hypotension. Result of recent electrolyte, renal function and liver function tests and most recent ECG and echocardiogram should be evaluated⁵.

Sock Huang Koh et al and V Karapandzic et al monitor the patients with invasive monitor in Intensive care unit and our patient was monitored with non invasive patient monitor in postoperative ward.

The most commonly used classification is that of the New York Heart Association and based on the functional status of the patient at a particular time. There are four functional classes:

- Class I: Ordinary physical activity does not cause symptoms
- Class II: Symptoms occur with ordinary exertion
- Class III: Symptoms occur with less than ordinary exertion
- Class IV: Symptoms occur at rest⁴.

All types of general anaesthetics have been successfully used in patients with heart failure. However, drug does may need to be adjusted. Opioids seem to have a particularly beneficial effect in the heart failure patients because of their effect on the delta receptor, which inhibits

adrenergic activation. Positive pressure ventilation and positive end-expiratory pressure may be beneficial in decreasing pulmonary congestion and improving arterial oxygenation. Monitoring of ventricular filling and fluid status is a more challenging task. Fluid overload during the perioperative period may contribute to the development or worsening of heart failure⁴. subarachnoid and epidural anaesthesia causes profound hypotension and bradycardia⁶ (Both were existed in patient).

The patient was monitored with the noninvasive patient monitor during the surgery as well as in the immediate postoperative 72 hour period in the post operative ward which recorded blood pressure, heart rate, all kinds of ECG changes as well as partial oxygen saturation.

Electrocardiography was performed immediately after surgery, on postoperative days 1, 2, 7 and one day before discharge from hospital. The patient was observed by cardiologist everyday.

CONCLUSION

Though regional anaesthesia is suitable for heart failure patient, considering the site of operation and profound hypotension and bradycardia following regional anaesthesia, surgical intervention was done under General Anaesthesia and outcome was uneventful.

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