

Case Report

An Unusual Case of Hyperbilirubinaemia Post Mitral Valve Replacement Surgery in a Tertiary Care Centre

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Seven cases of MVR have been performed in this newly opened tertiary Care Centre till now. We present an unusual case of a 52 year old female who underwent MVR and developed hyperbilirubinaemia on 2nd postoperative day. This laso revertd the next day without any permanant sequelae. Our patient was asymptomatic through the process.

Keywords: Hyperbilirubinaemia, Post mitral valve replacement surgery

INTRODUCTION

Postoperative hyperbilirubinemia after cardiac surgery using cardiopulmonary bypass is a relatively infrequent event but may result in significantly increased adverse outcomes. The preoperative identification of patients at an increased risk for developing postoperative hyperbilirubinemia may allow heightened vigilance during the perioperative period and earlier diagnosis and intervention, possibly improving outcome. Hyperbilirubinemia was reported in early studies to occur in about 10% of patients after cardiac surgery. More recent studies estimate the incidence of postoperative hyperbilirubinemia to be more than 20% or even as high as 51% and may be associated with a mortality up to 25%.

CASE REPORT

A 52-year-old woman, a known case of rheumatic heart disease with severe mitral stenosis, was admitted for mitral valve replacement surgery. On the 2nd post-operative day, she developed jaundice, which peaked in the evening of the same day. The patient's clinical examination was inconsistent with the total bilirubin of 11.7 mg/dl in the morning, and it increased to 13.5 mg/dl in the evening. Her abdominal examination was normal, no signs of circulatory failure was noted. The bilirubin levels dropped drastically on the 3rd post-operative day to 9.8 mg/dl in the morning and 2.7 mg/dl in the evening. Alkaline phosphatase levels were normal. The viral markers were normal. The USG abdomen

did not reveal any dilatation in the intra- and extra-hepatic biliary system.

DISCUSSION

Hyperbilirubinaemia has been reported in several studies in the early post-operative period after cardiac surgery with a varying incidence between 10% and 40%.^[1-3] Post-operative hyperbilirubinaemia remains a serious concern, despite marked improvement in cardiopulmonary bypass (CPB) strategies giving worse post-operative outcomes.^[4,5] If liver dysfunction is an effect of CPB-associated factors that is, haemolysis, hypoperfusion, or systemic inflammatory response, it remains to be asserted.^[1,6,7] Many studies were done for identifying the incidence of post-operative jaundice, following cardiac surgery. While transient moderate hyperbilirubinaemia is usually associated with a favourable outcome, late occurring ascending hyperbilirubinaemia was associated with higher mortality and morbidity.^[8] The incidence of post-operative jaundice after valvular replacement/reconstruction^[9] is 17.5%. According to some studies in post-operative hyperbilirubinaemia, 70% of the increase of total bilirubin was on the 1st post-operative day which was from an increase in unconjugated bilirubin.^[1] The significant risk factors being, the number of valves replaced, pre-operative right atrial pressure, and pre-operative total bilirubin concentration; these in combination correctly predict the occurrence of post-operative hyperbilirubinaemia

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Laboratory parameters								
	25-06	29-06	29-06	30-06	30-06	01-07	02-07	03-07
Hb	12.2	13.6		12.8				
TLC	9800	38,000		29,600		20,260	11,210	12,630
Urea	16	36		32				
Creat	0.8	1.1		1.0				
Na	139	138		140				
K	4.2	3.7		3.9				
INR	1.1	2.17						
T.Bil	0.3	11.7	19.5	9.8	2.7	5.1	2.5	2.1
Direct	0.2	7.3	13.5	6.2	2.6	3.2	1.8	1.9
Indirect	0.1	4.4	6.2	3.6	0.1	1.9	1.7	0.2
SGOT	18	89	83	62	53	41	46	72
SGPT	13	23	21	22	29	21	32	66
Protein	7.9	6.8	6.5	6.0	5.1	5.1	6.4	7.5
Albumin	4.1	3.6	3.4	3.4	3.0	3.2	3.1	4.3
Globulin	3.8	3.2	3.1	2.6	2.1	1.9	3.3	3.2
Alkaline phosphatase	89	82	88	103	144	114	87	101
Ammonia			35.1					

in 80% of the patients and this is associated with a high rate of in-hospital mortality. In patients with heart failure and liver dysfunction, meticulous operative measures are needed to reduce the CPB time and transfusions.^[10] The pathogenesis of liver dysfunction after cardiac surgery is multifactorial. Varghese *et al.* stated that alterations in hepatic blood flow are a major factor in the pathogenesis of post-operative hepatic function dysfunction.^[11] Collins *et al.* postulated that failure of the canalicular excretion of bilirubin was the main cause of conjugated hyperbilirubinaemia.^[2]

Out of the total 121 cardiac surgeries in our centre and seven MVR surgeries, this was the only unusual case where we found a sudden raise in total bilirubin on the 2nd post-operative day with a sharp dip the following day. The patient was asymptomatic throughout.

CONCLUSION

Post-operative hyperbilirubinaemia remains a serious concern, despite marked improvement in CPB strategies with poor outcomes. Efforts to reduce the cardiopulmonary bypass time and transfusions specifically in patients with heart failure or liver dysfunction along with meticulous post-operative management are required. This was a rare case, which had an unusual presentation, with a good outcome.

Declaration of patient consent

Consent of Legally authorised Representative has been taken.

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Conflicts of interest

There are no conflicts of interest.

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