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BMH Medical Journal 2016;3(4):110-112 **Case Report**

Thoracoscopic Window Pericardiectomy For Pyopericardium In An Infant

VK Gopi, PR Babu, Shaji Thomas John, TP Joseph

Baby Memorial Hospital, Kozhikode, Kerala, India. PIN: 673004

Address for Correspondence: Dr VK Gopi, Department of Pediatric Surgery, Baby Memorial Hospital, Kozhikkode, Kerala, India. Email: gopivk99@gmail.com.

Abstract

Purpose: To report the feasibility and effectiveness of thoracoscopic window pericardiectomy for pyopericardium in children.

Material and methods: Nine month old male infant presented with abscess neck and continued to be sick and further evaluation made the diagnosis of pyopericardium and underwent thoracoscopic window pericardiectomy.

Result: Thoracoscopic window pericardiectomy was found to be effective and follow up was done for a period of six years.

Conclusion: In a very sick infant, the concern is whether the baby will withstand a major operative procedure or not. Thoracoscopy has got a definite role in such situations.

Keywords: Pyopericardium, thoracoscopic window pericardiectomy.

Introduction

Pyopericardium is a life threatening, serious surgical emergency in children. It is a rapidly progressive disease leading to death, if not treated in early stages [1]. Repeated pericardiocentesis, tube drainage, instillation of streptokinase or urokinase, subxiphoid window pericardiectomy drainage and thoracotomy window pericardiectomy drainage were the treatment options for pyopericardium. Another more feasible option is thoracoscopy. Thoracoscopy has established itself as an alternative to open thoracotomy for the management of many pleural and pulmonary disorders in adults and children [2-3]. But thoracoscopic surgery on pericardium is rarely reported in infants. It gives excellent view of pericardium. Pericardial resection can be done with ease. Pericardial lavage can be done under vision till the cavity is cleared of all the purulent materials. Drainage tube can be properly placed under vision. Since it is a minimally invasive procedure, body response to trauma is minimal and recovery is fast.

Material and methods

A nine month old male infant was admitted for abscess neck. He had polymorphonuclear leukocytosis and high ESR. Even after drainage of abscess, infant continued to be sick and lethargic. On further evaluation, x-ray of the chest showed cardiomegaly and Echocardiogram was suggestive of pyopericardium. Surgical management of pyopericardium was done by Video Assisted Thoracoscopy. The follow up period of the case is six years.

Procedure

After preoperative stabilization with IV fluids, parenteral antibiotics and analgesics the infant was taken up for thoracoscopic window pericardiectomy. With patient under general anaesthesia, three port thoracoscopy was done through left thoracic cavity. Patient was kept in supine posture with folded towel beneath chest on left side. Carbon dioxide insufflation was kept ready but there was no requirement to use it because of sufficient vision. Pericardial cavity was aspirated with No 20 G intravenous cannula under vision and aspirated around 50 ml of thick yellowish pus. Then proceeded with incision of pericardial sac and resection was done till phrenic nerves were seen on both sides. Minor bleeding was controlled with bipolar diathermy. The procedure was completed with drainage of left pleural cavity using No 16 suction catheter. Oral feeds were started after 4 hours. Pus culture grew Staphylococcus aureus sensitive to Amikacin, Cloxacillin and Vancomycin. He was treated with Amikacin and Vancomycin. Drainage catheter was removed on 5th postoperative day. Catheter tip was sterile on culture. Repeat X-ray chest and echocardiogram were normal. He had uneventful recovery. He was on regular follow up for the last 6 years and he is asymptomatic and doing well.

Discussion

Accumulation of pus in pericardial cavity is the result of severe sepsis by bacteria and fungi. In the post antibiotic era, Staphylococcus aureus is the commonest organism [4-5]. The mode of spread is either by hematogenous or by direct spread from pulmonary infection. Usual foci of infection are neumonia, osteomyelitis,s eptic arthritis and pyomyositis.

In the present case even after effectively treating the abscess, features of sepsis like fever clinical, lethargy and toxic appearance were continuing and further evaluation picked up cardiomegaly on X-ray and pyopericardium on echocardiogram.

Pyopericardium if not treated in time, proceeds to complications like cardiac tamponade, septicaemia and constrictive pericarditis. Pyopericardium carries considerable morbidity and even mortality. Timely diagnosis assumes prime importance in pyopericardium. Unsettled sepsis irrespective of effective management is an indicator to pyopericardium.

Various treatment modalities are available, but window pericardiectomy is the most effective. Recurrence following pericardial resection varies between 3 to 18% [6]. Santos and Frater have suggested that increasing the pericardial resection to the size of 4cm x 4 cm leads to lower incidence of recurrence [7]. But size varies according to age and in our case phrenic nerve to phrenic nerve extent of pericardium was resected to avoid the chance of constrictive pericarditis in the future. Median sternotomy and left thoracotomy are the surgical options in open operation. Minimally invasive surgery is advanatageous in reducing tissue response to trauma and for rapid recovery especially in the very sick infants. Video Assisted Thoracoscopic Surgery is found to be very effective and advisable.

Conclusion

Thoracoscopic window pericardiectomy is an advisable surgical procedure for pyopericardium in

children. Post operative pain is minimal and recovery is rapid when compared to open operation. In very sick infants who are unable to withstand a major operative procedure, thoracoscopy is an effective and feasible alternative Reduced hospital stay and impressive cosmesis are additional attractions of Thoracoscopic partial pericardiectomy.

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