

Thoracoscopic Repair of Congenital Diaphragmatic Hernia of a Child for the First Time in Afghanistan: A Case Report

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Abstract: *Congenital Diaphragmatic hernia management is challenging in any country, but even more so in developing countries. Recently, in many pediatric surgical centers, introduction of minimal invasive surgeries like laparoscopic and thoracoscopic as new and safe procedures, are happening. These methods are used in pediatric surgeries less than in adult surgeries due to risks and benefits of the methods. According to literature reviews, we find that Congenital hernia repair by thoracoscopic has not only cosmetically a benefit, however, it is also safer and it makes the procedure a lot easier than open surgery.*

Keywords: Thoracoscopic, Diaphragmatic hernia, Gas insufflation, Pediatric Surgery, respiratory distress

1. Introduction

Congenital diaphragmatic hernia (CDH) is birth defect in diaphragm. The diaphragm is a tendon muscular sheet which separates chest cavity from the abdominal cavity. In CDH, either in left or right side, there is a defect through which abdominal viscera primarily intestine herniate to the chest compromising ventilation and lung development. The management and treatment of CDH remains a challenge. The incidence has been reported high as 1 in 2000 births. Approximately 80% CDH are in left side and bilateral defects are rare. The morbidity and mortality associated with CDH is due to pulmonary hypoplasia and pulmonary vascular hypertension. The typical clinical presentation of CDH is respiratory distress. Open surgery is classic operative approach which now in modern centers converted to thoracoscopic or laparoscopic approach. Survival rates for CDH vary between institutions and range from 25- 83 %. These benefits were proposed by a paper in Portugal (1). Crisis also reported 51 patients subjected to thoracoscopic approach with shorter hospital stay, lesser need for mechanical ventilation and resumption of early feeding (2). Tyson AF. compared Thoracoscopic with open surgery, found out that Thoracoscopic procedure has similar outcomes compared to open approach but it has better cosmetic results (3).

2. Case Presentation

An 18-month old boy, born at term presented with prolonged cough and difficulty breathing, who is not improving with conventional therapy and antibiotics. On examination, the patient was found to have mild respiratory distress and decreased air entry to the left lung on auscultation. Review of system was unremarkable. Blood tests were within reference range and chest X-ray showed multiple gas filled bowel loops in the left hemi thorax. CT chest confirmed the diagnosis of left sided CHD. The parents were offered both open and thoracoscopic approaches. They chose the thoracoscopic approach. Following general anesthesia with the patient on right lateral position with the left chest up, 3 ports are made, one for telescope and two for the

instruments. The stomach, small and large bowels and spleen were seen in the left hemi thorax. After insufflation of air to the chest, the viscera reduced readily to the abdominal cavity. The defect closed with 2/0 proline suture and chest tube placed. The chest tube removed on post-operative day 3, and the patient discharge home on stable condition. He was followed up on post-operative day 7 in outpatient clinic with satisfactory condition and the suture removed.

3. Discussion

Although, the goal of both open and thoracoscopic procedures is to reduce abdominal viscera and to close the diaphragmatic defect. However, the thoracoscopic approach has superiority over open approach owing to several factors such as less pain, early recovery and minimal scar. Furthermore, in the case of CDH, the thoracoscopic repair eliminates the risk of post-operative ileus and adhesions.

4. Conclusion

Thoracoscopic approach for Diaphragmatic hernia is a safe, cosmetic and easier procedure with less post-operative complications.

References

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