Scholars Journal of Applied Medical Sciences (SJAMS)
Abbreviated Key Title: Sch. J. App. Med. Sci.
ISSN 2320-6691 (Online)
ISSN 2347-954X (Print)
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A Unit of Scholars Academic and Scientific Society, India
www.saspublishers.com

Surgery

Conjoined Twins - A Tertiary Care Centre Experience

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Case Report

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Article History
Received: 02.04.2018
Accepted: 10.04.2018
Published: 30.04.2018

DOI:
10.36347/sjams.2018.v06i04.018

Abstract: Conjoined twins are rare congenital group of anomalies with very few reported data from the developing countries. To review incidence and management of conjoined twins/ heteropagus twins and its surgical management at our institute. All the conjoined twin patients who presented to us from January 2015 to March 2017, medical record reviewed including management and follow up in the study. A total of 4 patients were included in the study. Three patients (75%) were of heteropagus / parasitic twins, and two (50%) were successfully operated with uneventful post-operative period while the third was succumbed due to non-salvageable cardiac anomaly. One case (25%) was of symmetrical conjoined twin who expired before surgical intervention.
Keywords: Conjoined twins, heteropagus twins, surgical management.

INTRODUCTION

Conjoined twins can be subdivided into Symmetric conjoined twins and Heteropagus or parasitic twins. The exact etiology of the conjoined twins is unknown due to uncertainty between fission and fusion theories. Twins are always joined homologously – chest to chest, pelvis to pelvis, and are always of same sex, the union occurs at sites where ectoderm is absent or programmed to disrupt or fuse [1].

Heteropagus or parasitic twins is a grossly defective fetus with fetal parts attached externally with or without internal connections to a relatively normal twin in one of the same eight areas in which symmetrical twins are unite.

They are usually composed of externally attached supernumerary limbs but may also contain viscera or visceral parts and only rarely a beating heart or intact brain. Fetus in fetu is fetiform mass enclosed within the body of the auto site usually the abdominal cavity rarely within the brain with grossly recognizable fetal parts including an axial skeleton attached to the auto site by a pedicle containing few large blood vessels. Its growth rate is similar to the host within which it is discovered [2].

AIM

To review the incidence and management of conjoined twins with special emphasis on rare heteropagus / parasitic twins and its successful surgical management in our institute

MATERIALS AND METHODS

A study was conducted at our institute from January 2014 to march 2017. All the conjoined twin patient presenting to us were considered in the study, age at presentation, presenting symptoms, treatment plan with operative procedure and outcome were recorded.

CASE DESCRIPTION

Case 1

At day one of life, female baby was admitted with fused abdomen, rudimentary face and head. No antenatal supervision or diagnosis was made. Radiological investigations revealed fetus in fetu with no viability of attached fetus with normal host. ECHO showed atrial septal defect. Surgical separation of heteropagus twins was done and the defect was closed

successfully. Postoperative period was uneventful and child was discharged on 10th day with all stitches removed.

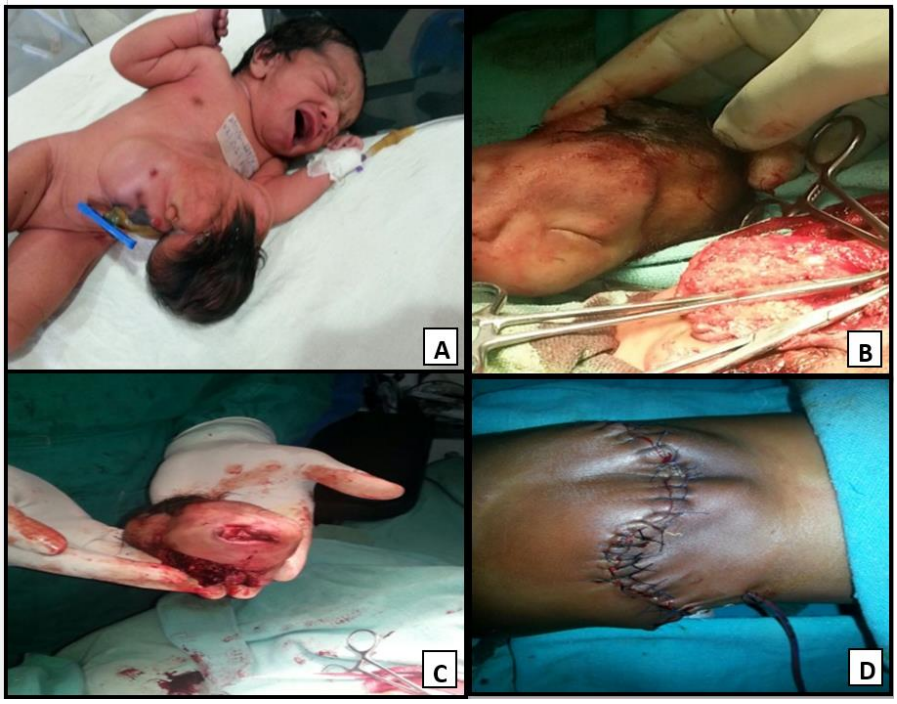

Fig-I A: Heteropagus twin preoperative picture, B. Intraoperative picture, C. Excised specimen with rudimentary cephalic parts, D. Postoperative picture

Case 2

Three days old female baby was admitted with swelling over back of size around 12 × 12 cm with finger like projections with hyper pigmented area and rudimentary genitals. Lower limb parts were nonfunctional type without sensory or motor function. Radiological investigations suggested that the parasite's spine was connected to the spinal column of the baby but only bony connection was seen, no spinal canal or neural tissue connection seen. No other significant finding seen on investigations. Surgical resection of the rudimentary part was done and the spinal canal was closed successfully. No significant postoperative complications and the baby were discharged on 7th day.

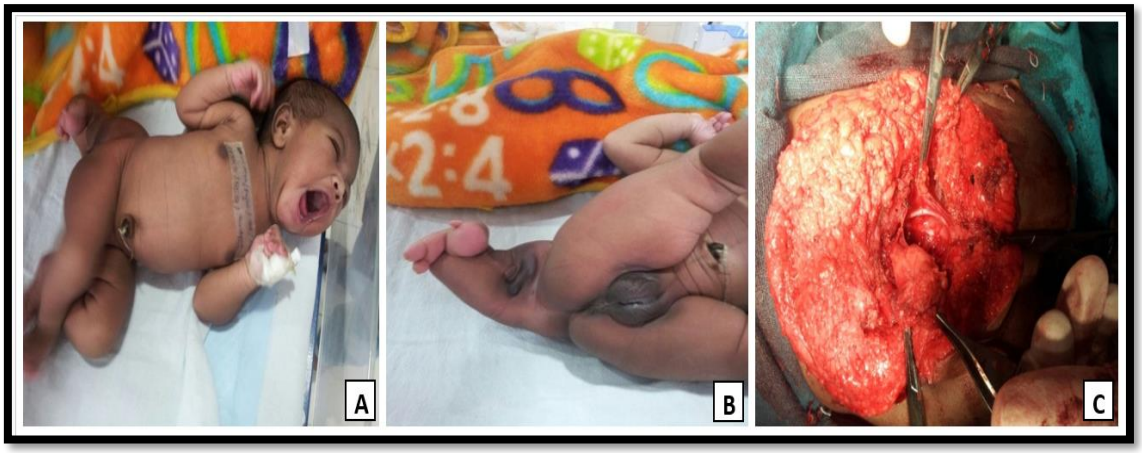

Fig-II A: New born with parasite twin at back, B. Close view showing caudal parts with rudimentary genitalia, C. Intraoperative picture

Case 3

One month old baby was admitted with swelling over the lumbosacral region of size 15 × 10 cm with rudimentary lower limbs, finger like projections and rudimentary face. Lower limbs, external genitalia and anal opening of baby were normal. Investigations revealed severe atrio-ventricular canal defect and the parasite anomaly were attached to the sacral region of the baby. Surgical management was planned but

postponed due to cardiac anomaly but the patient was succumbing due to severe cardiac anomalies.

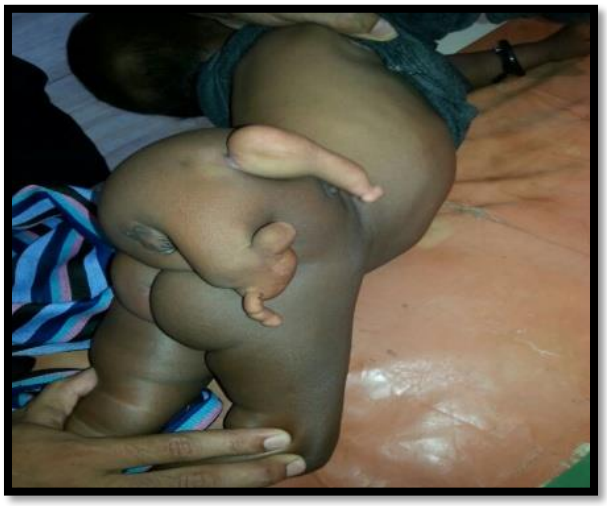

Fig-3: Heteropagus twin showing caudal parts of parasite twin

Case-4

One day baby was admitted with fully developed two head, neck, trunk, extremities and genitalia but fused thoracic and abdominal cavity (symmetrical conjoint twins). Baby was admitted with severe respiratory distress and shock, was resuscitated and kept on ventilator. Investigations revealed multiple cardiac anomalies. Baby could not be revived completely and expired 72 hours after admission.

Fig-4: Symmetrical conjoint twins (Thoracopagus) showing caudal parts of parasite twin

RESULTS

A total of 4 conjoined twins (3 heteropagus / parasitic and one symmetrical conjoined twins) were admitted, out of which two (50%) were successfully operated with uneventful postoperative period (both were heteropagus / parasitic twins). One heteropagus / parasitic twin could not be operated due to severe cardiac anomaly while the symmetrical conjoined twin expired before surgical intervention due to severe cardiorespiratory compromise.

DISCUSSION

The estimated incidence of heteropagus twins is much less than symmetrical twins 1: one million / births or less while that of symmetrical conjoined twins is around 1:50000 live births [3]. Conjoined twins are classified on the basis of the union site, with the suffix pagus meaning fixed or fastened. Prenatal identification of symmetrical conjoined twins can be achieved and delivery should be through elective cesarean section. Surgical management is challenging but successful outcome is possible through thorough preoperative planning.

Heteropagus twins originated from symmetrical twins one which suffered secondary damage as a consequence of vascular compromise [4]. Hypoplastic umbilical vessels have found in the

heteropagus twin and vascular connections from the autosite to the heteropagus twin may be found during surgical separation [5]. Heteropagus twin is generally identical to the auto site. Reports of less than 200 cases of heteropagus twins have appeared in the literature [6]. Prenatal identification has been documented on at least 7 occasions at gestational ages ranging from 9-28 weeks [7]. Delivery can be through normal vaginal route or cesarean section at 38 weeks. Preoperative imaging has been restricted to USG and MRI scans. Surgical procedure is usually straight forward and uncomplicated. The prognosis for auto site is generally excellent except for the cases of cardio pulmonary problems. The neonate withstood early surgery for heteropagus well with only minor wound related and cosmetic problems.

CONCLUSION

Successful and uneventful surgical separation of heteropagus twins was done in two cases while symmetrical conjoined twin expired before surgical intervention. Heteropagus twin is a rare anomaly. The results and prognosis for the auto site is excellent except for cases with severe cardio pulmonary problems, if surgery is well planned and done meticulously.

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