VOLUME - 9, ISSUE - 12, DECEMBER - 2020 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Anatomy

EMBRYOLOGICAL ABDOMINAL WALL ANOMALIES- GASTROSCHISIS & OMPHALOCELE

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ABSTRACT Gastroschisis and omphalocele are the two forms of abdominal wall defects due to embryological anomalies mostly seen during 5th -10th week of intrauterine life which is the hallmark of physiological umbilical hernia . These rare congenital abnormalities reflect the underlying genetic defects or can be a part of syndromes like Beckwith Weidemann syndrome, pentology of Cantrell or Limb bodywall complex. The present study reports two cases of the abdominal wall defects- gastroschisis & omphalocele. The still born fetuses present in the department of Anatomy were thoroughly examined. Two fetuses with gestational age between 30-32 weeks (measured basing on crown-rump length) were found to present with these anomalies. Both the malformed fetuses were females. One fetus exhibited omphalocele with a complete sac containing the loops of intestine. The umbilical cord has been found to emerge from the center of the sac. The other female fetus had coils of intestine along with the liver exposed. No other external anomalies have been detected. The present study reports two cases of still born fetuses showing gastroschisis and omphalocele.

KEYWORDS : Gastroschisis, omphalocele, embryological defects, fetuses

INTRODUCTION

Abdominal wall anomalies are one of the rare embryological defects occuring in the intrauterine life with a poor survival rate. Two forms of these defects are gastroschisis and omphalocele. Gastroschisis is the condition where the coils of intestine are herniated out of the anterior abdominal wall due to defect in the differentiation of the somatopleural mesenchyme[1]. Most commonly occurs on the right side with an incidence of 1 in 4000[2]. It may be seen in association with other syndromes like spinal and lower limb anomalies with two vessel short umbilical cord and severe oligohydramnios in primiparous[3]. A case report by Chaganti etal[4] depicts isolated presentation of gastroschisis in a 22 year female without any associated syndromes. It can be prenatally detected by ultrasonography[5]. Omphalocele is the congenital herniation with the membranous sac and umbilical cord attached to its center. The reported prevalence of omphalocele is 0.9—3.8 per 10,000 live births[6]. Rattan etal[7] concluded that the management of omphalocele still poses a challenge. The two types of abdominal wall defects have been reported in the present study.

MATERIALS & METHODS

The fetuses in the department of anatomy were routinely examined. Two fetuses were found to exhibit these anomalies. The gestational period was calculated using crown rump length. The two fetuses were inspected thouroughly for any other external malformations. Photographs were taken and reported.

RESULTS

The following pictures show gastroschisis and omphalocele.

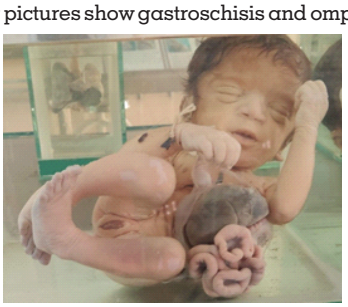

Fig: 1 : foetus showing gastroschisis

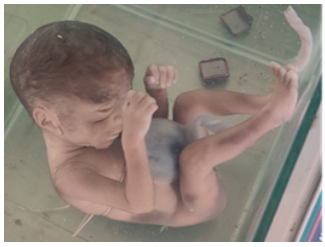

Fig 2: foetus with omphalocele

DISCUSSION

Abdominal wall defects occur due to faulty reduction of physiological herniation of gut at 10-12th week of intrauterine life mostly seen with omphalocele[8]. Though the mortality index is high, studies report that elective surgical interventions are the mainstay of treatment in neonates[9]. The abdominal wall defects are associated with a number of syndromes like Beckwith Weidemann syndrome, spinal deformities, prune belly syndrome, pentology of Cantrell, Limb body wall defects etc. A study by Stoll etal[10] reported the associated malformations in omphalocele as 74.4% and in gastroschisis as 16.6%. The present study reports two fetuses with gastroschisis and omphalocele. There were no associated anomalies.

CONCLUSION

The present study reports two still born female fetuses with the rare abdominal wall defects- gastroschisis and omphalocele.

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