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Case Report

Congenital abdominal cystic mass in newborn: A diagnostic dilemma?

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Abstract

Abdomen has been labeled as "Pandora's Box" in the clinical medicine, as the masses occupying inside the abdomen especially with nonspecific boundaries. Complications might occur during the normal delivery through birth canal because of such mass in abdomen .Even it is difficult to make a diagnosis on routine clinical examination in such cases and specifically in newborns and one can easily be bewildered.

Key words: Congenital, Cyst, Newborn.

Introduction

A pediatrician or a Neonatologist often encounters congenital malformations, anomalies and dysmorphism, while attending deliveries, many of them are more common, to which, one is acquainted to deal with accordingly. However, some of them are not routinely faced and such anomalies may have other differentials especially masses in the neonatal abdomen. A case with such presentation is being reported.

Case History

A 25 year old female delivered a full term female new born by vaginal route ,weighing 2.75 kg with moderate birth asphyxia . Antenatal history and other reports of mother were found to be normal. On First postnatal examination of the newborn a mass occupying almost at the right side of abdomen was found , which was soft and non tender, with no specific boundaries, no other associated congenital anomalies were detected on clinical examination. Routine blood investigations in the baby like, C.B.C., C.R.P., Serum urea, Serum Creatinine, Serum Bilirubin, Total proteins, Albumin: Globulin ratio, urine routine and microscopic examinations were found to be normal. However, Antenatal U.S.G. during third trimester showed a cystic mass measuring 4.5 cm×4.0 cm in right side of abdomen of Fetus (Fig. 1) . Postnatal X-ray abdomen showed a homogenous opacity in the right side of abdomen with small intestines pushed further to left (Fig.-2) and U.S.G. abdomen reported a cystic mass measuring 7.4cm ×6.9cm×4.5cm size, suggesting two differential diagnosis a mesenteric cyst or ovarian cyst . Further, C.T. scan of abdomen was done which reported a 7.8cm×6.0cm×6.0cm sized cystic, non enhancing fluid filled lesion predominantly on the right hypochondrium, right lumber extending to right iliac fossa (Fig.-3) with possibilities of Cystic ovarian mass, a mesenteric cyst ,and a Intestinal

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duplication cyst . A Surgical referral was done with an advice to get Serum T_3, β-HCG, LDH, α-fetoprotein levels (to exclude neoplastic mass) done, to reach a more conclusive diagnosis. Values of the tests were, Serum α-Fetoprotein 72,417 ng/ml (Range 4600-97000ng/ml on 5th day of life) being normal, whereas, LDH 861 U/L (Range100-190U/L) and β-HCG 8.51IU/ml (Range 0.0-5.0Miu/ml) levels were elevated in this case. Hence a diagnosis of Ovarian cyst was made, among the above said three possibilities. However a histological diagnosis could not be established as the newborn's relatives refused for biopsy or operation.

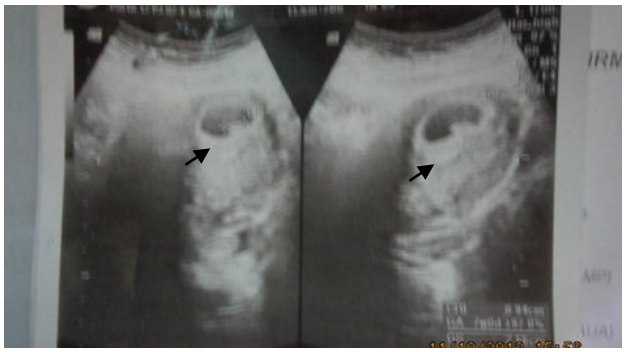

Fig:1 – Antenatal U.S.G of mother showing cystic mass in Abdomen

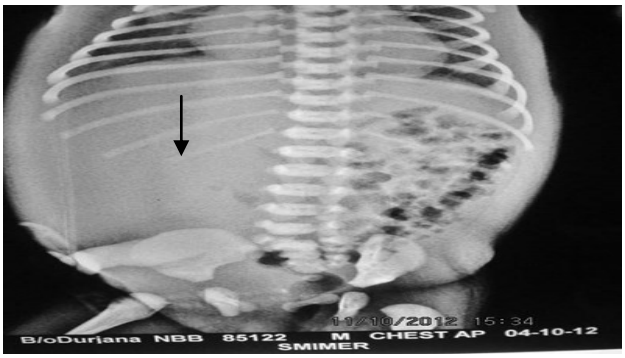

Fig:2 – X ray chest and abdomen showing homogenous opacity in the right side of abdomen, with intestines pushed towards left side.

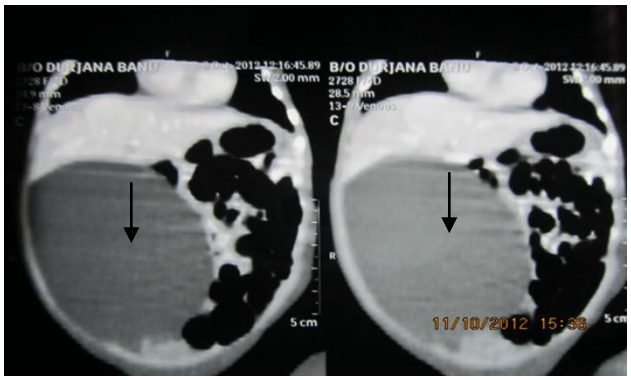

Fig:3 – C.T. Scan abdomen showing cystic non-enhancing lesion on right side of abdomen.

Discussion

Congenital Cystic masses in abdomen of newborns have a few differential diagnoses like Ovarian cyst, mesenteric cyst, Intestinal duplication cyst, Chylous cysts. A congenital ovarian cyst is a rare clinical entity. The first case of an ovarian cyst was reported in 1889 in a still born premature[1]. In 1942, Bulfamonte reported the first case of a successfully treated ovarian cyst during the neonatal period[2]. Although rare, it is the most common cause of intra abdominal cyst in the female fetal abdomen. These are benign, functional cysts which result from enlargement of normal follicles during third trimester or early neonatal period, they have excellent prognosis if the cyst is isolated, unilocular and unilateral, as in our case[3]. They may be classified as Non neoplastic (Simple, follicular, inclusion, para-ovarian or corpus leuteum) and neoplastic.

Non neoplastic lesions are classified based on the three primordia that contributes to the ovary: mesenchymal components of the urogenital ridge, germinal epithelium overlying the urogenital ridge and germ cells migrating to yolk sac. Increasing number of cysts are being detected by prenatal Ultrasonography[4]. The genesis of fetal /ovarian cysts is controversial. It results from fetal exposure to maternal gonadotrophins and is observed in newborns whose mothers have increasing levels of HCG (diabetes mellitus, Rh isoimmunisation, toxaemia)[5]. A precocious FSH peak between 20--30 weeks of gestation and abnormal HCG peak due to disorders of theca interna may also be contributory.

Prematurity and fetal hypothyroidism are also associated[6] with common complications includes torsion (50--78%), rupture, hemorrhage, compression of other viscera, autoamputation[3,4]. With increased use of prenatal ultrasonography, the detection rate for these cysts has increased considerably. Up to 34% of the foetuses may have antenatal detectable cysts[8]. Few case reports documenting neonatal ovarian cysts have been reported [1,8-10]. Out of the cases documented in the literature few were complicated cysts presenting with torsion [1]. The present study arises a diagnostic dilemma with congenital abdominal cystic mass in new-borns.

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