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Fetal Intra-Abdominal Cysts - Accuracy of Prenatal Ultrasound Diagnosis

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Abstract

Intra-abdominal cysts are commonly seen on prenatal ultrasounds. They are derived from different organ systems. Differentials include renal, hepatic, mesenteric, ovarian cysts, choledochal cysts and many others. Postnatal course may vary from asymptomatic lesions to life threatening conditions. Thus the need for prenatal diagnosis which helps in predicting the clinical outcome and formulating the perinatal management. The objective of our study was to determine the accuracy of prenatal ultrasound in identifying fetal intra adbominal cysts and it's correlation with postnatal radioimaging. We concluded that indeed prenatal ultrasound is effective tool to predict the occurrence and nature of intra abdominal cysts. Ultrasound is freely available as compared to Fetal MRI and is having high level of accuracy. With advances in ultrasound diagnosis, Fetal medicine centres are better equipped to manage these cases. Antental diagnosis of fetal intrabdominal cysts helps in preparation of the parents, involvement of neonatology and related disciplines; thereby optimizing the perinatal outcome.

Keywords: Intra-Abdominal; Hepatic; Cysts; Radio Imaging; Postnatal Scan

Introduction

Intra-abdominal cysts are commonly seen on prenatal ultrasound. They can have origin from various organs. Thus the many differentials include renal, hepatic, mesenteric, ovarian, choledochal cysts and many others [1,2]. Intra-abdominal cysts originating from urogenital and gastrointestinal malformations are the most common [3,4]. Adrenal cysts, splenic cysts, hydrocolpos, urachal cysts and chylous ascites are seen less frequently [1,2].

Likely diagnosis may be established depending on size, shape, location and fetal sex. This aids in predicting the clinical outcome and formulating the perinatal management. Postnatal course may vary from asymptomatic lesions to life threatening conditions. Thus, the need for prenatal detection. In literature, it has been reported prenatal ultrasound can have upto 70% accuracy in diagnosis of fetal intra-abdominal cysts [1,5].

The objective of our study was to determine the accuracy of prenatal ultrasound in identifying fetal intra- abdominal cysts and it's correlation with postnatal radio imaging.

Material and Methods

The study involved the retrospective analysis of 36 patients who attended the fetal medicine clinic of a Tertiary Care Hospital in Oman from 2016 to 2022. The prenatal ultrasound in these cases showed fetal intraabdominal cysts. Characteristics like size, shape, consistency, location (depending on abdominal quadrant and proximity to other

organs) were described for each of these cysts and likely diagnosis was made on prenatal scan. Where ever possible these findings were correlated with postnatal scan. All cases had detailed anomaly scan by Fetal Medicine Consultant on Philips IU22 machine.

Results

Out of 36 cases (Table 1) with prenatal diagnosis of fetal intraabdominal cysts, 34 delivered in our hospital, 2 delivered elsewhere and hence were lost for follow up. Mean maternal age was 31.5 years. A female preponderance was noted amongst the fetuses, constituting 21 out of the 36 cases and amounting to 58%. The most common gestational age at diagnosis was 31 weeks. Maximum cases were diagnosed between the gestational ages 27- 33 weeks. Most of them delivered beyond 37 weeks. Only 7 babies were born preterm. 12 out of the 34 babies were delivered abdominally giving a caesarean section rate of 35.2 %. However, it was noted that the diagnosis of fetal intraabdominal cyst did not contribute towards the indications of the caesarean sections. Smallest cyst to be picked up measured 0.6 x0.9 cm whereas largest was 3.5 x 2.6 cm in diameter.

Case	Maternal age yrs, parity	Gestational age in wks at diagnosis	USG Localization	Cyst diameter (cm)	Additional findings	Antenatal diagnosis	Delivery, fetal outcome	Postnatal diagnosis	Outcome
1	24 Primi	38	Unilocular right side of bladder	1.9 x 1.7x 1.3	-	D/D Omental cyst, duplication cyst, mesenchymal cyst, mesenteric cyst Female fetus		-	Delivered in other hospital
2	31 G4P3	31	Intra-abdominal cyst between Intraumbilical vein and gall bladder	1.2 x 1.1	-	D/D Omental / peritoneal / GIT	NSD at 39 weeks, girl, 2600 grams	Hepatic cyst 1.3 x 0.8 cm in left lobe of liver	Referred to Pediatrics surgery
3	26 Primi	27	Intra-abdominal cyst below right kidney	1.2	-	Fetal intraabdominal cyst	NSD at 38+ weeks, boy, 3140 grams	Well defined Anechoic cystic area 5.6 x 3.4 x 2.1 cm inferior to pelvis and anterior to urinary bladder D/D lymphangioma / duplication cyst	Referred to Pediatrics surgery
4	30 G2P1	27	Intra-abdominal cyst anterior and below kidney	2.6 x 3.0	-	Fetal intraabdominal cyst	NSD at 38+ week, boy, 2100 grams	Cyst abutting left kidney along lower pole and medial aspect	No intervention required
5	29 G7P4	30	Cyst at the right side of the bladder	3.0 x 2.5	-	Ovarian cyst	NSD at 37+ week, girl, 2800 grams	Unilocular cyst in right lumbar region scalloping inferior surface of liver / gall bladder On CT scan right ovarian cyst	Referred to Pediatrics surgery

6	33 G4P3	25	Intraumblical cyst between umblical vein and gall bladder	3.4 x 2.4		Fetal intraabdominal cyst	CS at 36+ weeks, girl, 2000 grams	Intraabdominal cystic lesion with septation at right hypochondrium, close to liver and gall bladder fossa	Referred to Pediatrics surgery
7	35 G4p2	28, 34	Bladder outlet obstruction with cystic spaces around both kidneys		Renal dysplasia, anhydramnios	Bilatral urinomas with bladder outlet obstruction	3.1 kg, male, nvd,	Bilateral enlarged kidneys with hydronephrosis and hydrureter, empty bladder	Neonatal death immediately after birth
8	43 G8P6A1	31	Intraabdominal cyst between intrahepatic and umblical vein	1.2 x 1.2		Liver cyst	CS at 38+ weeks, girl, 2700 grams	1.4 x 1 cm simple hepatic cyst in left lobe	Referred to Pediatrics surgery
9	44 G6P4	31	Left to midline above the level of bladder ovarian origin	1.6 x 1.9		Ovarian cyst	NSD at 38+ week, girl, 2900 grams	Normal study	
10	42 G7P5A1	28	Cyst posterior to stomach bubble and below the diaphragm	1 X 0.8		Repeat scan no cyst seen.	CS at 37+ weeks, girl, 2200 grams		
11	38 G5P4	26	Intraabdominal cyst between gall bladder and umblical vein	0.9		Liver cyst	CS at 37+ week, girl, 4300 grams	Simple hepatic cyst 0.5 x 0.5 cm and 1.1 x 1.1 cm	Referred to Pediatrics surgery
12	27 Primigravida	29	Small clear cyst to right of spine below right kidney			Fetal intraabdominal cyst	NSD at 38+ weeks, boy, 3100 grams	Solitary abdominal cyst D/D mesenteric cyst / duplication cyst	Referred to Pediatrics surgery
13	33 G6P4	29	Umblical cyst	1.9 x 2.5		Umblical varix	CS at 34+ week, boy, 2080 grams	Portal vein and hepatic vein normal.	
14	28 G2P1	29	Diverticulum? Partial duplication of gall bladder			Gall bladder diverticulum	NSD at 38+ week, girl, 2200 grams	Normal study	

15	29 G3P2	35	Cystic structure on side of spine. Fluid collection around right kidney, bladder distended	6 x 6		Urinoma/ bladder outlet obstruction	NSD at 35+ weeks ,boy, 3200 grams	Bilateral hydronephrosis grade 2 &4. Large perinephric collection could represent subcapsular urinoma. Urinary bladder distended. Significant dilatation of bladder neck and posterior urethra. Bladder outlet obstruction	Referred to Pediatrics surgery
16	39 Primigravida	31	Umblical vein verix	1.4		Umblical vein varix	CS at 37+ week, girl, 2500 grams	Portal vein and hepatic vein normal.	
17	28 G2P1	27 And 31	Elongated cystic area in lower abdomen behind bladder Rpt scan at 31 wks. rectal dilatation		Right kidney pelvic dilatation 1.6cm, Anal atresia	Dilated rectum Mega ureter	NSD at 37 weeks ,boy, 3770 grams	right mild to moderate hydrone phrouretosis with dilated right ureter upto distal aspect demonstrating abrupt narrowing in right iliac fossa.. possibly congenital mega ureter/ vesicoureteric reflex to be considered. Dilated rectum with anechoic lumen	Referred to Pediatrics surgery
18	24 Primi	37	Irregular cyst on the right side in anterior part of liver	2.5 x 2		Irregular intrahepatic cyst	NSD at 38+ weeks, boy , 2640 grams	Thin walled cystic lesion with internal sepatation 2.2 x 1.4 cm in right lobe of liver... hepatic cyst	Referred to Pediatrics surgery
19	24 G2P1	32	Small cystic area in abdomen near the gall bladder	1.5		Origin from liver/ gall bladder	CS at 35+ weeks, twin boy, 1700 grams	Gall bladder twisted with septate(normal variant)	

20	32 Primi	31	Cyst to the left of bladder. The septum echogenic area seen at 31 wks not seen at 36 wks	4 x 4		Ovarian cyst	NSD at 37+ week, girl, 3250 grams	2.5 x 2.3 cm thin walled cyst no internal septate of solid nodule seen in abdominal cavity. No clear relation with abdominopelvic viscera, lying close to small bowel along right posterior lateral wall of urinary bladder. It is seen separate from small ovary and uterus. D/D solitary abdominal cyst/ duplication cyst/ mesenteric cyst	Referred to Pediatrics surgery
21	40 G5P3	27	Intraabdominal cyst close to stomach bubble medially/ below the diaphragm.	1.5 x 1 x 1	Muscular Ventricular septal defect	D/D duplication cyst/ extra pulmonary CCAM/ mesenteric cyst / omental cyst / liver cyst	CS at 37+ week, girl, 3250 grams	Normal study	
22	34 G2P1	30 34 wks	Intra abdominal cyst closed to stomach bubble. Between umblicalvein and gall bladder no communication between cyst and stomach bubble.	2.5 x 2 3.7 x 2.6 x 4	Mild Tricuspid regurgitation	Fetal intraabdominal cyst			Delivered in other hospital
23	34 G6P3	30	Cystic, solid, echogenic mass above left kidney and below diaphragm	2 x 2		D/D adrenal hemorrhage/ adrenal tumor, extra pulmonary sequestration / CCAM	CS at 30+ weeks, girl, 1330 grams	Multicystic hyperechoic left adrenal lesion ?. hematoma and neuroblastoma. ?? Extra lobar subdiaphragmatic pulmonary sequesteration	Referred to Pediatrics surgery For further onvestigations and managment

24	22 G3P2	33	Clear intra abdominal cyst near to right of bladder	3.5 x 2.6 x 2.4		Ovarian cyst	NSD at 40+ week, girl, 3800 grams	D/D ovarian cyst/ duplication cyst/ mesenteric cyst t	
25	24 G2P1	30	Clear cyst near to bladder	2 x 1.7		Ovarian cyst	NSD at 39+ week, girl, 3240 grams	Normal study	
26	24 G2P0	36	Clear cyst with thin septa right side of abdomen	3.5 x 3 x 3 cm		Ovarian cyst	NSD at 38+ week, girl, 3120 grams	Right adenexal simple, clear thin walled cyst mostly follicular cyst 1.1 1.2 x 1.5 cm	
27	39 G6P4	31	Clear cyst behind the bladder. Pelvic region	1.2 x 1.2		36 weeks no cyst seen	NSD at 38+ weeks, girl, 2700 grams		
28	35 G5P2	31	Intra abdominal cyst irregular with septations At 35 weeks seen again.	3		Fetal intraabdominal cyst	NSD at 39+ weeks, girl, 3600 grams	Multiseptatic cyst seen in right hypochondrium. Bowel/ mesenteric / pancreatic cyst	Referred to Pediatrics surgery
29	44 G4P3	31	Cyst left to midline above bladder At 33 weeks left of bladder with daughter cyst(1.3 x 1.2 cm)	1.6 x 1.9 2.3 x 2.1		Ovarian cyst	NSD at 38+ weeks, girl, 3900 grams	Normal study	
30	37 G4P3	24 31	Intra abdominal cyst medial to stomach bubble	0.6 0.9		Hepatic cyst	NSD at 39+ weeks, girl, 2600 grams	Septatic hepatic cyst around 1.3 x 0.6 cm in left lobe of liver	Referred to Pediatrics surgery
31	31 G2P1	27 34	Cyst anterior and below left kidney Another small cyst either separate or communicating with this.	2.6 x 3		D/D duplication cyst/ mesenteric cyst / omental cyst	NSD at 38+ weeks, boy, 2100 grams	1.6 x 1.6 cm cyst abutting left lower pole of left kidney	Referred to Pediatrics surgery

32	37 G4p2	22 28 34	Iac ant very close to left kidney.one big cyst with two daughter cysts	3x4 cm		Renal cysts/ non functioning moiety of kidney	NSD at 38+ weeks,male , 4200 grams	3 thin wall unilocular cysts from lower pole of left kidney 2.2x2.6,0.9x0.7,0.5x 0.3.	Referred to Pediatrics surgery
33	25 G3P2	25	Intraabdominal cyst on right of bladder. No bowel dilatation	3 x 2		Fetal intraabdominal cyst	NSD at 39+ week, boy, 3600 grams	Normal study	
34	27 Primi	32	Intra abdominal cyst	1.5 x 1.7		Hepatic cyst	CS at 34+ weeks, girl, 2000 grams	Simple hepatic cyst 1.9 x 1.4 cm	Referred to Pediatrics surgery
35	27 Primigravida	29	Clear cyst on right of spine below right kidney At 36 weeks right kidney inferior pole	1 1		Fetal intraabdominal cyst	NSD at 38+ weeks, boy, 3100 grams	Large anechoic cyst 5.6 x 3.4 x 2.1 cm in abdomen on right side extending to pelvis anterior to bladder. Lymphangioma / duplication cyst	Referred to Pediatrics surgery
36	40 G2p1	27	Small cystic area above bladder between two supvesical arteries	7mm		Urachal cyst	Lscs male 38 weeks ,2800 gms	Urachal cyst	

Table 1: Differential Diagnoses of various prenatal intrabdominal cyst with Outcome at birth.

Spontaneous resolution of the intra-abdominal cyst was seen in 2 cases prenatally <5.8%>. Postnatal scan was unremarkable in 6 cases. In the remaining 26 cases, there was good correlation between pre and postnatal ultrasound findings giving ultrasound accuracy of 81.25 % (26/32 cases).

In our series we had 6 liver cysts (Figures 5 A,B), 2 urinomas (Figures 3 A,B), 1 renal cyst (Figure 6), 1 urachal cyst (Figure 8), 1 dilated rectum< secondary to anal atresia >(Figure 2) and 1case with suprarenal mass (Figure 1).

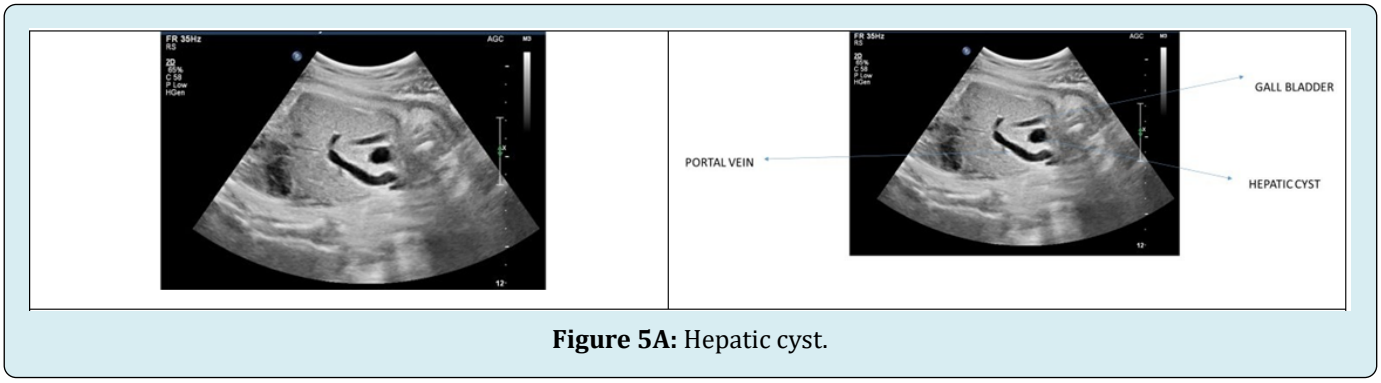

Figure 5A: Hepatic cyst.

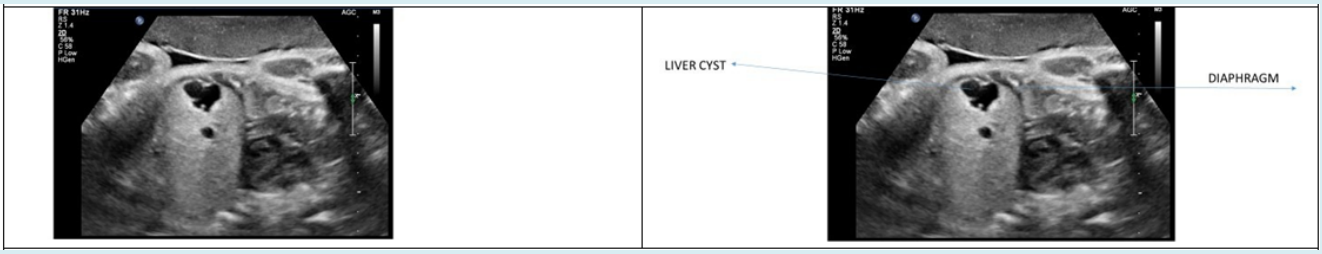

Figure 5B: Irregular hepatic cyst.

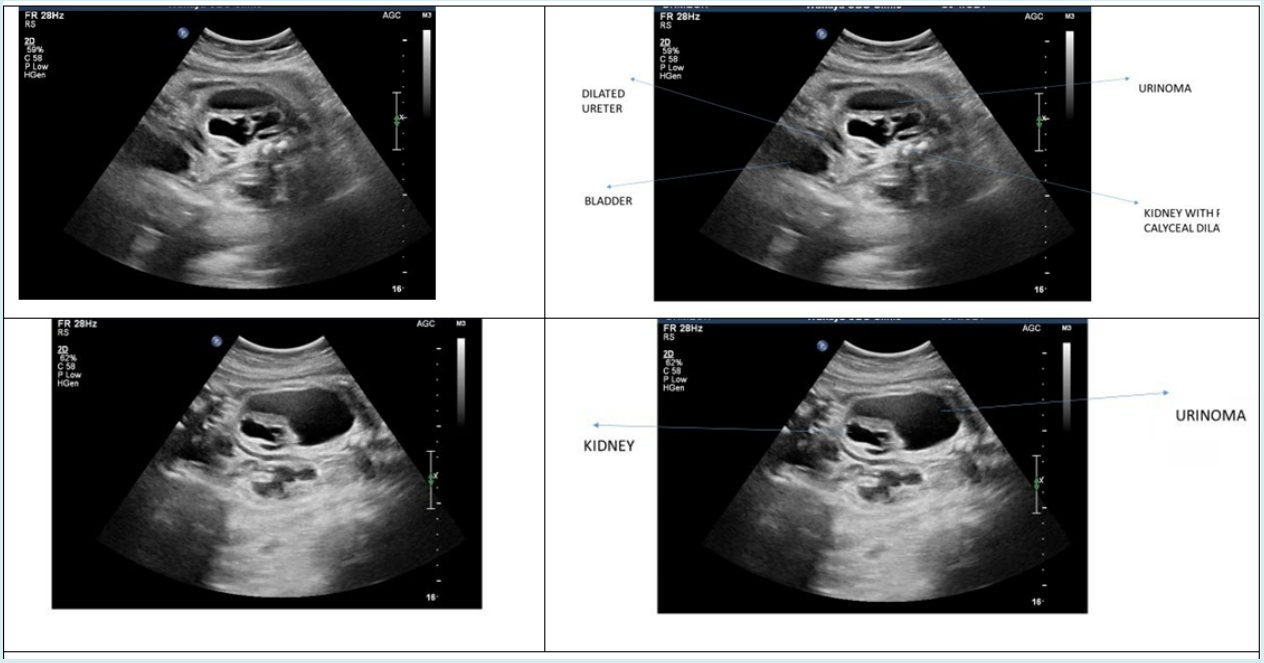

Figure 3A: Unilateral Urinoma.

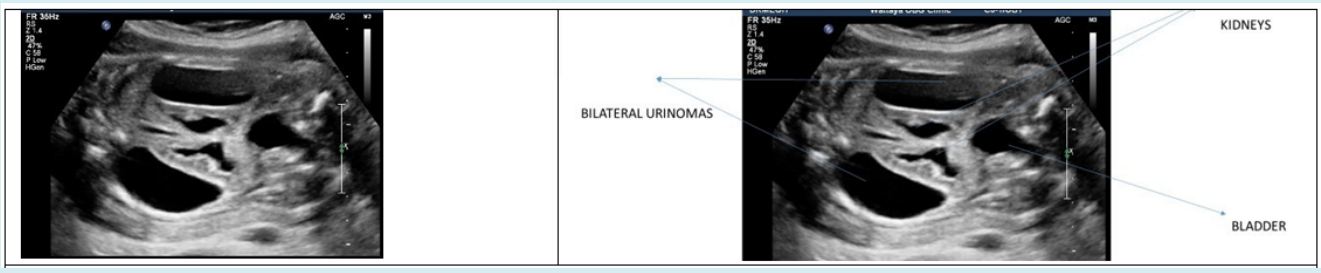

Figure 3B: Bilateral Urinomas.

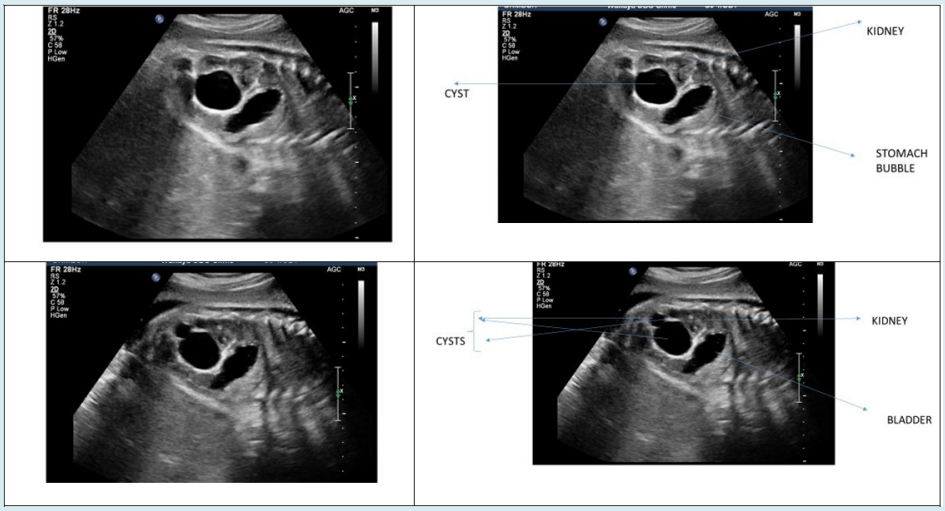

Figure 6: Renal cysts.

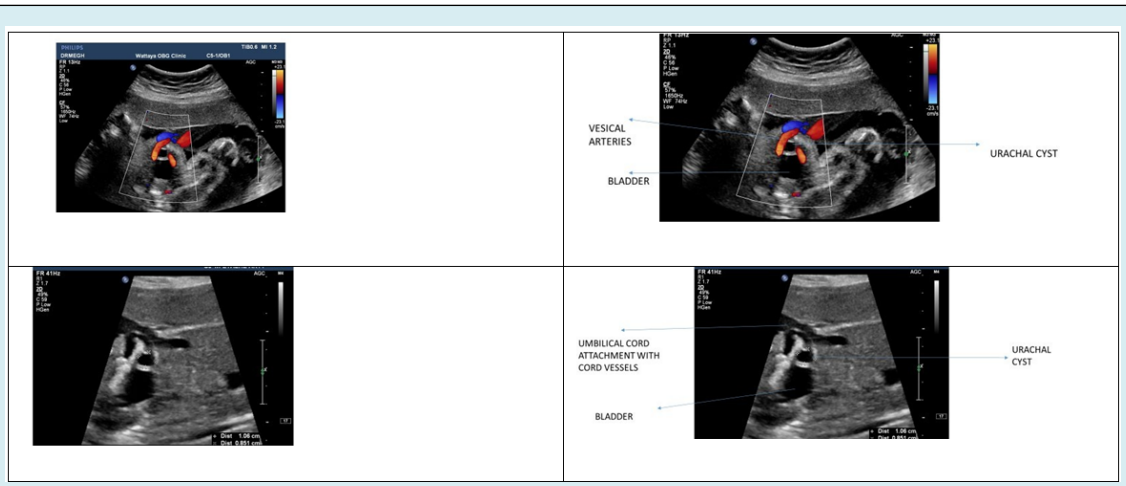

Figure 8: Urachal cysts.

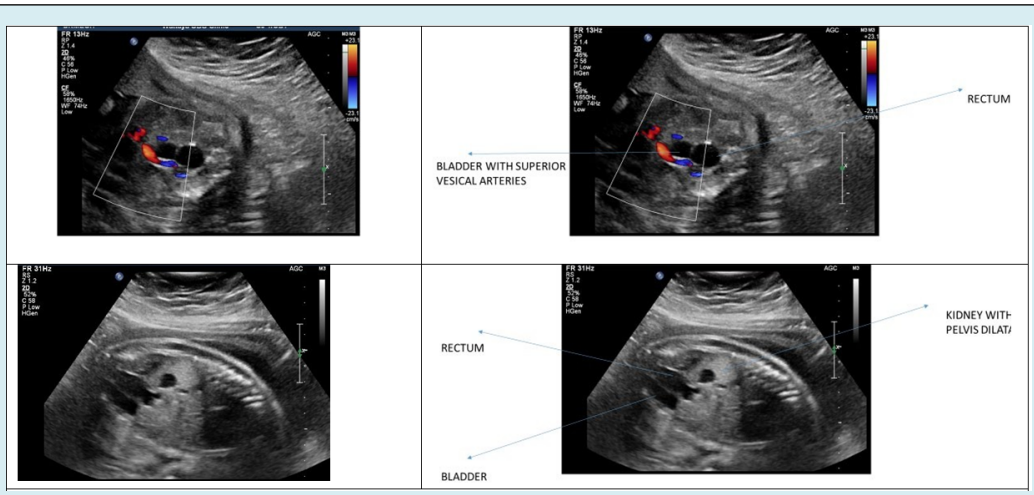

Figure 2: Dilated rectum, renal pelvis dilatation.

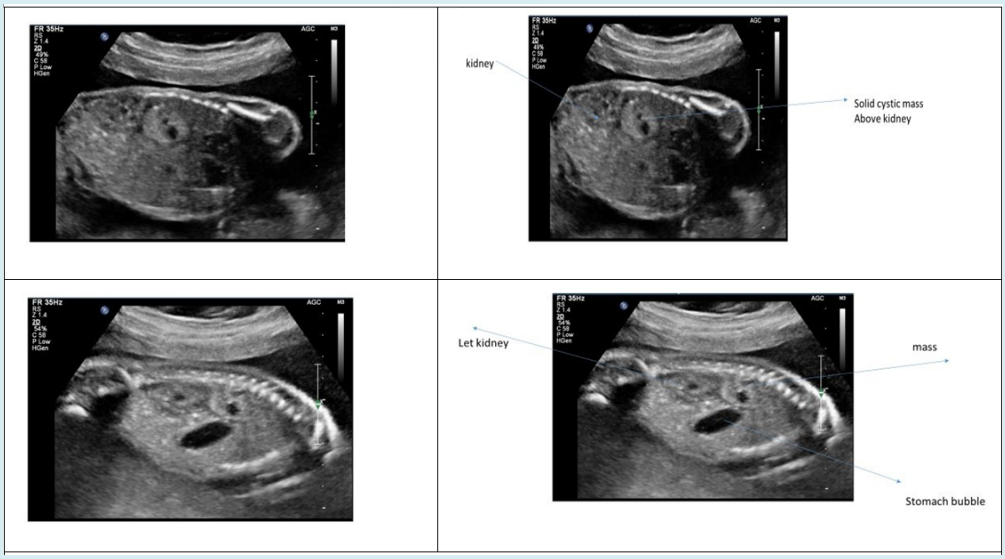

Figure 1: Suprarenal mass.

The case with suprarenal mass carried the same diagnosis postnatally. Prenatal differentials for the mass included adrenal hemorrhage/ neuroblastoma/extrapulmonary CCAM. Postnatal ultrasound also gave similar differentials for the same mass and the neonate was referred to pediatric surgeons for further investigations and management. MRI done sometime later confirmed the presence of left involuted adrenal hemorrhage, luckily entailing conservative management only.

There were 2 cases of umbilical varix (Figure 7) but in both there was no dilatation of portal vein or hepatic vein.

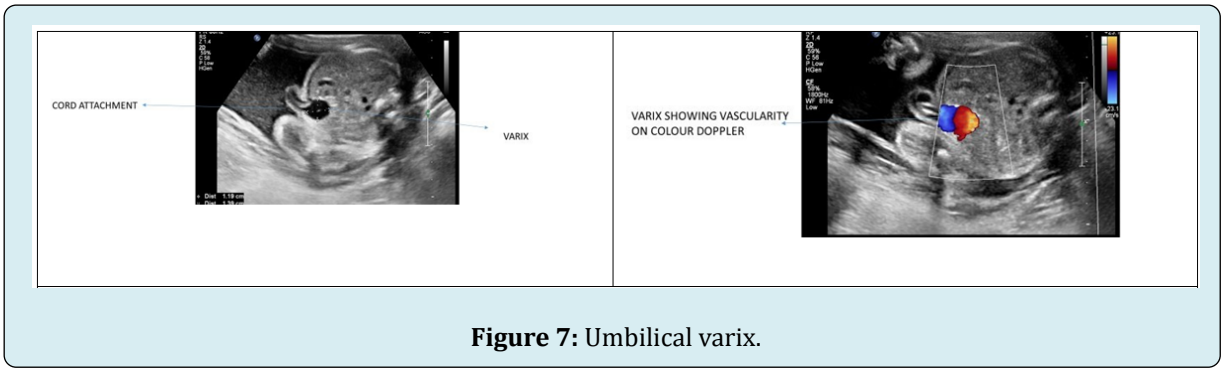

Figure 7: Umbilical varix.

We had 7 cases with prenatal diagnosis of ovarian cysts (Figure 4). 3 were confirmed postnatally as ovarian cysts and 1 case was assigned to be solitary abdominal cyst. Postnatal ultrasound did not reveal any specific finding in the remaining 3 cases.

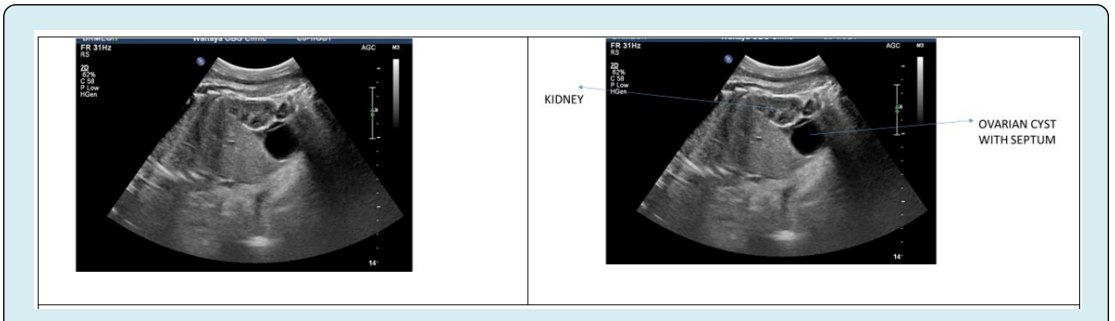

Figure 4: Ovarian cyst.

Amongst 14 cases of fetal abdominal cysts of nonspecific origin, 2 were lost for follow up and 2 resolved antenatally. Postnatally 6 were assigned to be solitary abdominal cysts occupying the same location as the prenatal scan, 2 were labelled as lymphangiomas/ duplications cysts. In the remaining 2 cases, no cysts were seen in postnatal ultrasound.

One case with prenatal gallbladder diverticulum was seen as normal variant in postnatal scan. Most of the cases in our series were managed conservatively in the neonatal life, apart from three cases. The case with anal atresia needed surgery soon following birth. Postnatal ultrasound in the case with unilateral urinoma showed bilateral hydronephrosis with large perinephric subcapsular urinoma on right side. Urinary bladder, bladder neck and posterior urethra were noted to be significantly dilated. The neonate was referred to paediatric surgeon for Bladder outlet obstruction and later underwent procedure for the same.

The other neonate with bilateral huge urinomas died immediately in postnatal period due to severe pulmonary hypoplasia and renal dysplasia. Our study shows 81.25 % accuracy between antenatal and postnatal ultrasound findings (Table 1). Most common in our study were liver cysts followed by ovarian cysts. The cysts that resolved spontaneously were the abdominal cysts of nonspecific origin.

Discussion

Incidence of fetal abdominal cyst is quoted around 1/1000 [6], mostly reported in female fetuses [6,7]. Usually diagnosed in second trimester or third trimester [7,8], nonetheless can be detected incidentally in the first trimester [6] as well.

Detection of fetal abdominal cyst is relatively easy but determining it's origin is difficult [7]. Fetal intraabdominal cyst may be nonspecific having different ultrasound characteristics, varied locations that makes exact diagnosis, origin and prognosis unclear [7].

When defining the cyst, we can gain clues to the organ of origin by it's location in the abdomen, the characteristic nature < solid, cystic, vascular, simple/complex, septate>, fetal gender and accompanying ultrasound findings such as presence of peristalsis in the cyst, presence of thick muscular wall, etc. These provide vital information for the diagnosis and management of the cyst [6,7].

They can regress or grow progressively until being operated in the postnatal period. The prenatal and postnatal diagnosis may be discordant in some cases. All this may further add to the dilemmas thereby complicating counselling and management plan [7].

The many differential diagnoses include cysts originating from gastrointestinal tract (mesenteric, omentum, intestinal duplication, hepatic, biliary cysts and meconium pseudo-cysts) and genitourinary tract (ovarian, renal, urachal and adrenal cyst) [9]. Additionally, extra-abdominal pulmonary, spinal or retroperitoneal lesions can also resemble fetal intraabdominal cyst [7,10].

Each of these Differentials have their Own Significance

Congenital hepatic cysts are rare [7]. In postnatal life, The incidence of congenital hepatic cyst is 2.5% and much less in prenatal life. Conversely, they were the commonest in our series. Once a hepatic cyst is diagnosed antenatally, perinatal surveillance should be undertaken to monitor the size of cyst and determine if surgery is necessary [11]. Symptoms depend on the size rather than the location of the cyst [12]. Ultrasound is most commonly used modality to monitor hepatic cyst [11,12]. Management is usually conservative with necessity of surgery only in cases with progressive enlargement, hemorrhage, torsion and infection [13].

Cysts originating from gastrointestinal tract and hepatobiliary system are the most difficult to diagnose [6]. Amongst the fetal intraabdominal cyst, the most frequent to be diagnosed are the ovarian [7]. In numerous studies and case reports, many of the fetuses underwent surgery postnatally for ovarian torsion, hemorrhage, however did well postnatally. Spontaneous resolution has also been noted in postnatal life [6].

Congenital renal cysts can also be identified on prenatal ultrasound. In the absence of associated anatomical or chromosomal abnormalities, the majority of cysts will resolve antenatally without any sequelae [14]. Postnatally their diagnosis may be revised as hydronephrosis, multicystic dysplastic kidney, adrenal gland mass or unilateral atrophic kidney [15]. Hence the importance of prenatal diagnosis and follow up of fetal renal cysts.

Umbilical varix is seen on ultrasound as round / fusiform structure close to the bladder. Color Doppler helps in differentiating vascular anomalies from cord lesions. Diagnosis and surveillance is necessary as they may be associated with adverse outcomes including aneuploidies, structural defects, and still births.

Urachus is fibrous remnant of the allantois, forming a channel between the dome of bladder and umbilicus in the midline. Failure to obliterate portion of urachus leads to cyst

formation seen as anechoic structure In between umbilicus and bladder in midline. Most disappear after delivery. They might be associated with anomalies of gut [2].

Prenatal cystic solid adrenal mass could be simple cyst, hemangioma or neuroblastoma. Simple cysts frequently resolve spontaneously. Congenital cystic neuroblastoma usual presentation is as mixed solid and cystic mass possibly due to hemorrhage or necrosis of the tumor and can mimic adrenal hemorrhage. Adrenal neuroblastoma is most common neonatal malignancy and antenatal diagnosis improves prognosis [2]. In our series the adrenal mass was eventually confirmed to be benign left adrenal hemorrhage and involuted spontaneously.

Imperforate anus is relatively common with incidence of 1/1500 to 1/5000 newborns [16,17]. It may be isolated or can exist with other anomalies [18]. Prenatal diagnosis of imperforate anus is difficult. It is usually not diagnosed until after birth, Though can be picked up as early as 12 weeks of gestation [18]. On prenatal ultrasound, imperforate anus may appear as an intra-abdominal cyst [17], identical to our case. In our case, anal atresia with associated dilated rectum was seen as an elongated cystic structure seen behind the bladder. In this condition, at birth, immediate evaluation is necessary and important as decompressive surgery is necessary. Hence highlighting the role of antenatal diagnosis, prenatal counselling and management.

Antenatally diagnosed nonspecific fetal intra-abdominal cysts can have complicated management due to the varied nature of confirmed postnatal diagnoses like gut duplication, meconium pseudocyst, ovarian cyst, choledochal cyst, splenic cyst, Meckel's diverticulum, liver cyst, hydronephrosis, patent urachus and many such others [19]. Hence mandating postnatal surveillance.

Sometimes there can be prenatal spontaneous resolution of these intrabdominal cysts. In literature, the rate of prenatal spontaneous resolution of fetal intra-abdominal cysts has been reported between 19% and 34.7% [19,20]. Some reported upto 6% [5]. In our study we had 5.8 % rate of spontaneous resolution. Ultrasonographic features, predictive for spontaneous prenatal resolution of the cyst, are: small size, unilocular clear content and intra-parenchymal presence [5].

Commonly intrasplenic and intrahepatic cysts are known to resolve spontaneously. Spontaneous resolution is also reported for ovarian and mesenteric cysts. However adrenal lesions and gastrointestinal malformations are less likely to resolve spontaneously [5].

The finding of an intra-abdominal cyst may modify obstetric management and the site of delivery but rarely does it affect the time or mode of delivery. It helps in prenatal counselling and preparedness of prospective parents and multidisciplinary team [2,19].

If isolated finding, they are usually associated with good postnatal outcome [21]. When fetal abdominal cyst are identified at the lower abdomen with additional anomalies, families should be informed of the probable association of lower gastrointestinal tract obstruction [7].

Neonatal with intra-abdominal cysts usually have a favorable outcome, with various authors quoting a mortality rate lower than 17%, despite the high prevalence of surgical procedures [5,11,19,22]. In our series we had only 1 case with neonatal death (in fetus with renal dysplasia and pulmonary hypolplasia) giving perinatal mortality rate of 2.95%.

Prenatal ultrasound is universally and easily accessible (in contrast with prenatal MRI – which is not available readily) and yields sufficient amount of information as is necessary in giving the prognosis and aiding the management of such cases. Ultrasound is the preferred modality for diagnosis. MRI is less frequently used. However, can prove complementary when diagnosis is uncertain [23].

The etiology of fetal intra-abdominal cysts can be prenatally diagnosed in about 70% cases. Accuracy of ultrasound in identifying fetal intrabdominal cysts has been variedly quoted around 51.1% [24], 58.6% [6], 72.4% [1] and 74.6% [23].Our study reveals an accuracy rate as high as 81.25% in the identification of these cysts and their etiology.

Postnatal diagnosis is improving due to antenatal detection. Accurate prenatal diagnosis allows parent counseling and pre-delivery planning. Management of these lesions requires a specific planning to achieve diagnosis, treatment and follow-up. Anticipated antenatal diagnosis allows formulation of referral strategy to appropriate center with neonatal intensive care unit having availability of pediatric surgery services. This approach is helpful for early perinatal evaluation, facilitates admission to the neonatal intensive care unit, and immediate surgical treatment when indicated [5].

Conclusion

We concluded that indeed prenatal ultrasound is effective tool to predict the occurrence and nature of intra-abdominal cysts. Ultrasound is freely available as compared to Fetal MRI and is having good level of accuracy, as high as 81.25%. Antenatal diagnosis of fetal intrabdominal cysts helps in counseling, preparation of the parents, involving neonatology and related disciplines. This expedites the

postnatal diagnosis and management thereby optimizing the perinatal outcome. With advances in ultrasonography, fetal medicine centres are better equipped to manage these cases and provide the best suited care to the prospective parents and fetuses.

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