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GIANT HYDRONEPHROSIS IN LATE PREGNANCY - A RARE CASE

Obstetrics & Gynaecology

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ABSTRACT

Giant hydronephrosis with a concomitant advanced pregnancy is uncommon. Clinically a giant ovarian cyst, multi-fetal pregnancy with polyhydramnios, pregnancy with ascites is the likely differential diagnosis. Ultrasound and MRI help in differentiating these conditions. Here, a primigravida mother presented at the emergency with pain abdomen and PROM with a hugely distended abdomen at 35 weeks (from her LMP). After admission, her ultrasound revealed huge hydronephrosis of left kidney (32cmX22 cm) with gross cortical thinning along with grade 3 hydronephrosis of right kidney and a viable foetus of EFW of 1540gms. She underwent an emergency laparotomy and a healthy girl baby of 1600gms born by caesarean section and a left-sided nephrectomy was performed in the same sitting. The preterm baby was shifted to SNCU and handed over to the mother on 7th postpartum day. The mother was discharged on the 10th postpartum day in good health with a follow-up advice after 2 weeks.

KEYWORDS

Giant hydronephrosis, Cortical thinning, Nephrectomy

INTRODUCTION

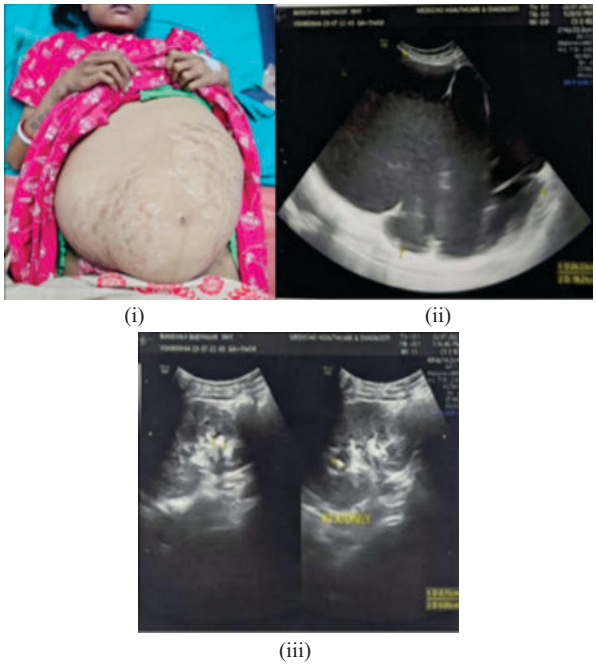
Sterling first defined giant hydronephrosis (GH) as gigantic dilatation of the pelvicalyceal junction that occupies a large part of the abdominal cavity or dilatation of the renal system that is filled with more than 1 L of urine [1,2]. The radiological definition of giant hydronephrosis is that it spans to the hemi-abdomen across the midline and spans at least five vertebral bodies [3]. Giant hydronephrosis is a rare finding during pregnancy as most of the patients are diagnosed and treated earlier in their life [3]. The management of this case was difficult as the mother presented at emergency with dual complications - huge abdominal distension and preterm PROM for more than 18 hours.

Case Report

A 22 - year-old primigravida attended the obstetric emergency with pain abdomen for last 2 weeks and dribbling P/V due to prelabour premature rupture of membranes for last 18hours. Her period of gestation was 34 weeks 3 days calculated from her LMP. The pain was exacerbated by movement. She was with a left lateral decubitus and denied any symptom of urinary frequency or dysuria but with a significant oliguria. She perceived good fetal movement as well.

Her first trimester ultrasound stated single live fetus with gestational age 10 weeks 3 days and right-sided nephrolithiasis. A huge cystic SOL (26.23cmx9.213cm) with internal septations over the left side of abdomen with non-visualization of left kidney, likely gross hydronephrosis of left kidney due to pelvi-ureteric junction obstruction. She was on tab. tamsulosin (0.4mg) OD and antispasmodic medication for the last 2 months along with antenatal checkup by her local physician. She had no other significant past medical or surgical history.

On examination at the emergency room, she was conscious, alert and co-operative. She was underweight (BMI 18.1) and had a mild pallor. Her BP was 110/80 mm Hg, pulse rate 130/min and her temperature was normal. Abdominal examination showed a huge lump in the left hemiabdomen extending from left hypochondrium to left supra-pubic area along with a prominent bulge in the left loin. The lump was cystic in nature, fixed and tender on palpation. There was no rebound tenderness. The uterus corresponded to about 32 weeks size and was pushed to the right hemiabdomen. The uterus was relaxed and fetal heart rate was 144 bpm. A gentle per-vaginal examination showed os allowing just tip of the index finger, cervix tubular and directed to the maternal right thigh. There was an acute angle between the uterus and the cervix. Dribbling of amniotic fluid was present. The mother was shifted to HDU obstetrics unit for thorough evaluation and decision making. In HDU, the mother was kept nil-per-mouth and put on intravenous fluid, prophylactic IV antibiotics, IV proton pump inhibitors and antiemetics. Foley's catheterization was done to record urine output. Blood was sent for routine examination and urine for RE and ME. Transabdominal ultrasound scan was performed in the radiology department of the institute and revealed a viable single intrauterine fetus of 32 weeks maturity; placenta anterior; liquor average; the uterus pushed to the right by a huge cyst of about 32cmx22cm size. The cyst was multiloculated, multiseptated and hypoechoic with no solid component. The outline of the cyst was discrete and there was no Doppler uptake. The left kidney could not be visualised. There was grade III hydronephrosis of the right kidney. MRI of the abdomen could not be done as the patient refused due to severe pain in the left flank.



(i) (ii)

(iii)

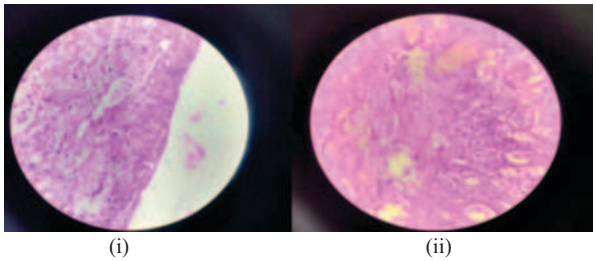
Fig. 1. (i) Preoperative image of patient (ii) USG plate showing huge

hydronephrotic kidney (iii) USG showing right kidney

In the afternoon of the same day, a multidisciplinary team was formed consisting of obstetricians, surgeons, anaesthesiologists and ICU technicians. Her blood report showed haemoglobin 8 gm%, urea 50 mg%, creatinine 1.4 mg%. Her urine examination revealed albumin (+), pus cell 15-20/hpf and few RBCs. Her vitals remained almost the same as on admission but the urine output was 100 ml in the last 8 hours. The decision for emergency LSCS was undertaken by the obstetricians in the presence of the expert medical team to save the baby.

The mother was put on the OT table 12hours after admission, in presence of the medical team. The abdomen was opened by right paramedian longitudinal incision. The lower pole of uterus could not be revealed due to the huge cyst. After making a stab incision on the cyst wall, about 5-6 L of urine was aspirated by the suction cannula. Then the baby was delivered by lower segment caesarean section on 06/01/24 at 11:17 PM. A healthy girl baby was born weighing 1600gm with a good APGAR score but was shifted immediately to NICU as preterm baby. The placenta was removed and the wound of the caesarean section was repaired in 2 layers as usual. Then the surgical management of the cyst was handed over to the general surgeons. Left sided nephrectomy was done after extensive dissection and adhesiolysis, hemostasis achieved, peritoneal toileting done. The abdomen was closed keeping an intraperitoneal drain.

Intraoperatively, the patient was transfused 2 units of PRBC and 4 units of FFP along with crystalloids. The mother was shifted to the HDU obstetrics unit in an intubated state and was extubated after 2 hours when her vitals became stable. Her post-operative period was uneventful; Hb%, urea and creatinine returned to normal within 4 days. The baby was discharged from NICU on 7th postoperative day. The mother was discharged on 10th postoperative day with an advice of follow up after 2 weeks. Histopathology report shows features of hydronephrosis and hydroureter; compressed kidney tissue seen in one section; no evidence of malignancy seen.



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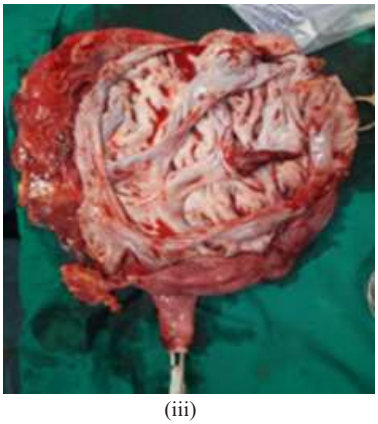

(iii)

Fig.2. (i) Cut section of left hydronephrosed kidney (ii) Histopathological slide showing (10x) renal pelvis with flattened epithelia (iii) Histopathological slide showing (40x) sclerosis of the glomeruli with atrophic tubules and inflammatory cell infiltrate

DISCUSSION

To date, there are only few reported cases of giant hydronephrosis during the pregnancy in the literature. In this case, the most likely cause of Giant Hydronephrosis is congenital obstruction of the ureteropelvic junction that was not detected before pregnancy. In routine practice, identifying both the kidneys in all cases of abdominal mass in pregnancy has enabled us to diagnose this rare pathology. Nephrectomy is the mainstay of treatment for Giant Hydronephrosis. Intervention during pregnancy depends on severity of the disease, function of the contralateral kidney and complications secondary to this pathology. Our patient was managed by nephrectomy at the same sitting of caesarean section with the availability of the expertise of a multidisciplinary team. This decision was taken because of gross loss of function of left kidney due to massive dilatation of pelvicalyceal system with thinned out cortex, limited resources in this peripheral medical college and poor follow up of the patient residing in a remote village.

CONCLUSION

In all the previously reported cases the management of giant hydronephrosis during pregnancy was done by conservative approach or by serial decompression until the puerperium was over. Nephrectomy was done at a separate sitting after the end of puerperium. This case was managed by nephrectomy along with a caesarean section which is probably a first and rare management to be reported for future reference.

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