Case Report

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Gynaecology & Obstetrics Case report
ISSN 2471-8165

2021
Vol.7 No.1:2

Prenatally Diagnosed Fetal Scrotal Hernia and Right Pelvical Kidney: A Case Report

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Abstract

Fetal inguinal hernias are rarely ante-natally diagnosed anomalies. We aimed to report a case diagnosed with fetal inguinal hernia at 36 gestational weeks which is missed in previous on ultrasonography. The ultrasoud revealed that fetal inguinal hernia included small bowel peristatlsisim in scrotum, and fetal right pelvic kidney. The other findings of fetus were normal. The diagnosis of fetal scrotal hernia was made according to previous study reported that the peristaltisim of bowel in the scrotum. The fetus deliverd vaginally at 39 gestational weeks. İn postpartum period the scrotal hernia was confirmed and surgical treatment was planned.

Keywords: Scrotal Hernia; Ultrasonography; Prenatal Diagnosis.

Received: January 11, 2020; **Accepted:** January 22, 2021; **Published:** January 29, 2021

Citation: Kahraman NC (2021) Prenatally Diagnosed Fetal Scrotal Hernia and Right Pelvical Kidney: A Case Report. Gynecol Obstet Case Rep Vol.7 No.1:2

Introduction

Inguinal hernias in children occur when processus vaginalis does not obliterate at the right time. During 7th to 8th months of pregnancy testes descend through internal channel into the scrotrum. Obliteration of processus vaginalis usually completes up until 2 years old [1]. If processus vaginalis is not obliterated this can cause inguinal hernias. Due to the level of obliteration and the size of the defect on the abdominal wall inguinal hernia and hydrocele may form. A large defect in processus vaginalis allows the passage of intestines through internal inguinal ring and inguinal hernia occurs. A small defect in processus vaginalis allows the passage of fluids and hydrocele occurs.

Congenital inguinal hernias are common in neonatals and infants with the incidence of 0.88-4.4% at birth [2]. Incidences are 3-4 times more in males than females. We present the case of fetal inguino-scrotral hernia diagnosed at 36 weeks of pregnancy at our clinic.

Case Presentation

A 30-year-old female, G2P1Y1, 36 weeks and 5 days due to last menstrual period was presented to our perinatology clinic for the first time. In the anamnesis of the current pregnancy, first and second trimester double and triple test presented nothing of importance. Second trimester fetal anomaly scanning ultrasound had not been done. In the ultrasound scan performed at our clinic a single male fetus with fetal heart beat positive consistent with 36 weeks was found to have a left scrotrum with regular contours ...cm to .. cm of size, inside intestinal peristalsizm was visible. In Doppler ultrasound there was no blood flow. With all these findings left scrotral hernia was considered. These finding was not present in right scrotrum. Left kidney localisation and renal pelvic anterior and posterior diameters were normal. However right kidney was not observed at the right location, it was positioned at the pelvic region. There was no hydronephrosis. There were no other exceptional ultrasound findings. The patient was advised regular clinical controls and referred to a pediatric surgeon. At 38 weeks of gestational age with spontaneous vaginal birth, a male baby with visible inguino-scrotral hernia, weighing 3245 mg, and 51 cm tall with an Apgar score of 9 and 10 at 1 and 5 minutes, respectively was delivered.

Discussion

Prevalence of inguinal hernia in new borns in 1-5%. 9-11% of these are premature borns. In premature new borns weighing 500-1000 mg this rate is 40% [1]. In sonographic examination, detection of scrotral mass leads to differential diagnosis. Mainly five situations are considered. Hydrocele, testicular torsion, tumours, meconium peritonitis and hernias are thought of. Hydrocele is the most common diagnosis. During the prenatal lifespan, peritoneal fluid that flows through the potent processus vaginalis leads to a hydrocele formation. The sonographic diagnosis of hydrocele can be made by imaging the fluid around the testis [3]. Testicular teratoma is the most common one among the testicular tumours. Prenatal diagnosis is rare. The

sonographical image is a testis-absent scrotal sac with a mass similar to ovarian dermoid cyst. It can be a fully cystic complex or a hypervascular solid mass. In prenatal diagnosis of testicular torsion [4-6], with coloured or power doppler ultrasound the lack of blood flow around the effected testis and enlarged heterogenous testis is observed [7]. In diagnosis of meconium peritonitis, linear calcification mostly in upper abdomen, rarely in scrotum can be observed with ultrasound. In our case of fetal inguino-scrotal hernia there were multiple sonographical images to support our diagnosis. Properties of scrotal hernias are regular scrotal contours, echogenic imaging in scrotum, dislocalization of testicular structures by the scrotal mass, and the lack of blood flow in the scrotal mass [8,9]. Our case included the most pathognomonic finding of inguino-scrotal hernia which is the visualization of intestinal peristalsism in scrotum. The sonographic findings can be detected in the later weeks of pregnancy. It is beneficial to do a scanning ultrasound in the latter weeks. The key factor in development of inguino-scrotal hernia is considered to be the pressure gradient between abdominal cavity and scrotum [3]. Increased intra-abdominal pressure allows the intestines to flow through abdominal walls into the scrotum. The defects on abdominal walls can also cause inguinal hernias.

The advanced sonographic equipment aids to detect fetal anomalies prenatally. The visualization of a scrotal mass on ultrasound can lead to detection of scrotal hernias as well as other broad spectrum of fetal anomalies. For definitive diagnosis of scrotal hernia intestinal peristalsism must be visualized on ultrasound. If intestinal peristalsism is not sufficient the sonography should be repeated in later weeks. A MRC scanning can be done to scrotal masses where intestinal peristalsism cannot be seen. In our case the intestinal peristalsism was visible so MRG scanning was not necessary.

Conclusion

Inguinal hernia is not a life threatening situation. If a diagnosis is made at the right time, it is beneficial for the family and the new born for precautions. Worries and what must be done can be discussed before birth and this decreases the maternal anxiety after birth. The time and the method of delivery are dependent on the obstetrical indications. The hernia repair operation is recommended to be done by a pediatric surgeon post-natally.

Conflict of Interest

The author declares that there is no conflict of interests.

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