European Journal of Medical and Health Sciences
www.ejmed.org

Fetal Megacystic Spontaneus Resolution: A Case Report

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ABSTRACT

About 1 in 1500 pregnancies have fetal megacystis discovered during the first trimester ultrasound. Because of obstructive or non-obstructive factors, the fetal bladder may appear enlarged. In this case we report a 37-year-old woman, with a history of two vaginal deliveries, and this is her third pregnancy. From the previous examination, it was found that there was an intra-abdominal cyst measuring 1.53 x 1.23 cm since 13 weeks of antenatal care and suspected LUTO dd/ Ovarian Cyst dd/ Abdominal Cyst. And was re- evaluated one month later and there were no intra-abdominal cysts found. Resolution before the 23rd week of gestation consistently had a positive outcome, whereas 3/8 (38%) of cases where resolution occurred after the 23rd week had urological sequelae requiring postpartum surgical treatment. Length of the bladder In foetal megacystis, resolution and outcome can be predicted using LBD and GA at regression. These factors ought to help in adjusting the prognosis and figuring out the frequency of follow-up scans.

Keywords: Fetal megacystic, intraabdominal cyst, LUTO.

Submitted : January 13, 2023

Published : March 5, 2023

ISSN: 2593-8339

DOI: 10.24018/ejmed.2023.5.2.1659

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I. Introduction

About 1 in 1500 pregnancies have fetal megacystis discovered during the first trimester ultrasound [1]. Because of obstructive or non-obstructive factors, the fetal bladder may appear enlarged [2]. In the first instance, a lower urinary tract obstruction (LUTO) or obstruction of the bladder outlet causes an increase in hydronephrosis, increased renal parenchymal echogenicity, and oligohydramnios beginning in the second trimester [3]. Poor postnatal renal function and high perinatal mortality are both associated with this condition [4]. Unusual conditions like the megacystis-microcolon-intestinal hypoperistalsis syndrome, which is uncommon, are among the non-obstructive causes [5]. Megacystis does not always progress as the pregnancy progresses, and earlier research has even documented instances of spontaneous resolution of the condition while pregnant (Table 1). Prenatal counseling for fetal megacystis is difficult because of the condition's variable etiology, evolution, and prognosis [6].

TABLE I: Spontaneous resolution of fetal megacystis reported in the literature

Reference	Postnatal diagnosis
Early Resolution	
Reference [7]	No urological sequele
Reference [8]	No urological sequele
Reference [9]	No urological sequele
Late resolution	
Reference [10]	Anterior urethral valves
Reference [11]	Megacystis-megaureter that doesn't reflux or obstruct
Reference [12]	No urological sequelae (n = 1); associated congenital anomalies (n = 1)
Reference [13]	Partial PUV (n = 1); partial PUV + associated congenital anomalies (n = 1)

Studies without data excluding data on postnatal outcome; most studies did not mention bladder dimension. Each study is only given the first author. The gestational age at resolution was not disclosed. A posterior urethral valve is a PUV.

According to previous studies that exclusively examined

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possibility of spontaneous resolution in megacystis cases discovered throughout the first trimester, At the time of diagnosis, the prenatal diagnostic examination can be directed by the longitudinal bladder diameter (LBD), which can also be used to forecast the prognosis [14]. However, data on antenatal megacystis resolution and resolution and postnatal outcome forecasting, is limited, particularly in cases discovered later in pregnancy [15]. As a result, the goal of this research was to look into identify prognostic indicators for impromptu resolution and the postnatal outcome after resolution, as well as the natural course of foetal megacystis from the time of diagnosis in utero to the postnatal outcome [16].

In this case we report a 37-year-old woman, with a history of two vaginal deliveries, and this is her third pregnancy. From the previous examination, it was found that there was an intra-abdominal cyst measuring 1.53 x 1.23 cm since 13 weeks of antenatal care and suspected LUTO dd/Ovarian Cyst dd/ Abdominal Cyst. And was re- evaluated one month later and there were no intra-abdominal cysts found.

II. Case Report

In this case, the patient was a 37-year-old woman who had previously had two vaginal births and was pregnant for the third time. Where the patient is a referral from an obstetrician to a fetomaternal specialist with suspicion of having cysts in the baby's stomach. Based on the results of the examination from a fetomaternal specialist, a single pregnancy was diagnosed with a gestational age of 12 weeks 4 days with suspicion of LUTO (or lower urinary tract obstruction (LUTO)) and ovarian cyst on 06 October 2022 with ultrasound examination results as follows : a live single fetus with crown size rump length (CRL) 6.15 cm according to gestational age 12 weeks 4 days, with a baby's heart rate 182x/minute, both baby kidneys appear normal according to size. a cyst was found in the baby's abdomen measuring 1.53 cm x 1.23 cm. with the results of the NT (Nucal translucency) 3.30 mm examination, where this examination is an examination carried out by ultrasound at 11 to 14 weeks of gestation by measuring the accumulation of fluid under the skin on the back of the neck of the fetus. On an NT examination, the value is described as normal if the results are less than 3.5 mm, indicating a low risk of Down syndrome in the foetus, and another examination is the measurement of the nasal bone with the result of 2.13 cm. Based on the results of the ultrasound examination on October 6, 2022 above, the fetomaternal specialist referred the patient back to the central hospital for pregnancy monitoring with the team and a SIDIC meeting was held to discuss confirming the results of the examination, collaboration with the team and next steps.

Then the next day on October 7, 2022 the patient came to the referral center hospital recommended by a fetomaternal specialist. The case will be discussed with the fetomaternal team. Fetomaternal team arranged the management for the patient to continue the multivitamin for pregnancy, routine ultrasound check (the next is on November 2, 2022), planned for the Pig Tail Catheter Insertion.

At 16 weeks 5 day, the spontaneous resolution of megacyst was occurred. Fetus still live and bladder looked normal.

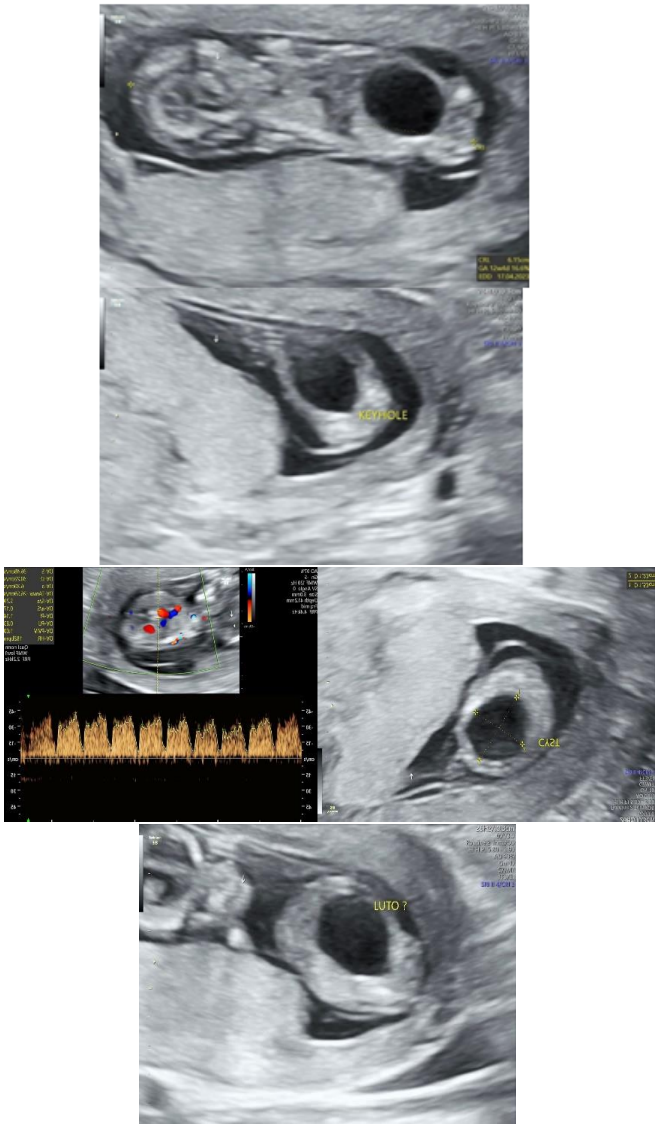

Fig. 1. Images at 13 weeks pregnancy there was a megacystic.

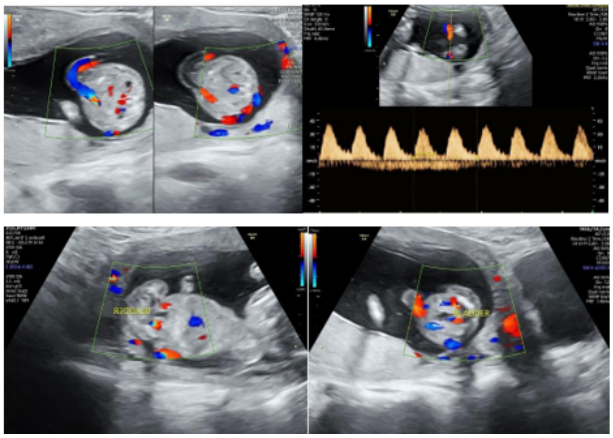

Fig. 2. Spontaneous megacystic resolution at 16 weeks 5 days pregnancy.

III. Discussion

In total, 284 foetal megacystis cases were available for research (93 early megacystis found before the 18th week, 191 late megacystis found at or after the 18th week). Prior to delivery, spontaneous resolution was finished in 58 (20%) cases. 1989 Newman LBD was once able to predict spontaneous decisions in cases of early megacystis (sensitivity, 80%; specificity, 79%; AUC, 0.84); and GA at

regression was once able to predict postpartum outcomes across the board, with a most advantageous trim at 23 weeks. (sensitivity, 100%; specificity, 82%; AUC, 0.91) [17].

Resolution before the 23rd week of gestation consistently had a positive outcome, whereas 3/8 (38%) of cases where resolution occurred after the 23rd week had urological sequelae requiring postpartum surgical treatment [18]. Spontaneous decision has been linked to urological issues in the crew with late megacystis. These issues range from mild postpartum hydronephrosis in infants to resolution before 23 weeks to more serious urological anomalies requiring postpartum surgery in those with resolution later in pregnancy.

This lends support to the theory that earlier megacystis resolution frequently involves a paraphysiological bladder growth that goes away without any repercussions early in pregnancy, whereas later resolution (after the 23rd week of gestation) should indicate a pathological condition with urological sequelae [19], [20].

IV. Conclusion

Length of the bladder in foetal megacystis, resolution and outcome can be predicted using LBD and GA at regression. These factors ought to help in adjusting the prognosis and figuring out the frequency of follow-up scans.

Conflict of Interest

Authors declare that they do not have any conflict of interest.

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