

Cystic Hygroma Is Particularly Concerning When Identified During The First Trimester.

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ABSTRACT

Cystic hygroma is a congenital condition marked by benign cysts resulting from lymphatic system abnormalities, comprising approximately 6% of all benign lesions in infancy or early childhood. This case report details a 24-year-old G3A1E1 woman with a history of induced abortion and ectopic pregnancy, diagnosed with fetal cystic hygroma at 12 weeks and 4 days of gestation. Obstetric ultrasonography identified a single, viable, intrauterine fetus exhibiting a distinct thin-walled cystic lesion with many internal septations located in the occipital region, spreading to the thorax, alongside a nuchal translucency measurement of 9 mm. The patient received counseling for medical termination of pregnancy and then underwent an induced abortion. Cystic hygroma, particularly when identified in the first trimester, is frequently linked to chromosomal anomalies and adverse prognoses. Research indicates that the overall survival rate for embryonic cystic hygroma is 10%, and the prognosis remains uncertain until the fetus reaches 26 weeks of gestation. Early identification of cystic hygroma using prenatal ultrasonography facilitates prompt intervention and informed decision-making. This example illustrates the importance of early prenatal screening and detection of fetal defects, as well as the necessity for a multidisciplinary approach in addressing intricate obstetric cases. Additional genetic counseling and testing could be advantageous for the patient in strategizing future pregnancies.

Keywords: Cystic Hygroma, Congenital Anomaly, Ectopic Gestation.

INTRODUCTION

Cystic hygroma is a congenital condition characterized by benign cysts resulting from lymphatic system malformation, constituting approximately 6% of all benign lesions in infancy or early childhood. These cysts typically develop toward the end of the first trimester and into the second trimester, with their incidence diminishing as pregnancy progresses. These anomalies predominantly present in the fetal cervical area and are significantly associated with chromosomal abnormalities and other congenital malformation syndromes, with research suggesting prevalence rates as high as 78%. The estimated prevalence of cystic hygroma is roughly 1 in 6000 pregnancies. Given that cystic hygromas are frequently linked to many abnormalities and disorders, early diagnosis during prenatal care is crucial. Early identification assists healthcare personnel in comprehending the prognosis, planning the suitable delivery strategy, and establishing optimal postoperative care for both mother and infant. Consequently, detection usually occurs during early infancy or via prenatal ultrasound screening. Prenatal diagnosis of cystic hygroma via ultrasound relies on identifying bilateral, predominantly symmetrical cystic formations in the occipital region. Cystic hygroma may dissolve throughout pregnancy; however, this outcome is not associated with the fetal karyotype. Conversely, if the illness advances to hydrops fetalis, the prognosis deteriorates. Research indicates that the thickness of cystic hygroma correlates with prognosis.

RESEARCH ELABORATIONS

A 24-year-old G3A1E1, with a history of one medically assisted abortion and a laparoscopic salpingectomy for ectopic pregnancy, presented to the outpatient department with a positive result from a home pregnancy test at 12 weeks and 4 days of gestation. She reported supplementary symptoms of vomiting occurring 3–4 times and a non-productive cough for the past two days. The patient has a history of two pregnancies: the first resulted in a medically supervised induced abortion, and the second was an ectopic pregnancy that necessitated a right laparoscopic salpingectomy performed in December 2023 under medical supervision. During the comprehensive physical examination, there was no pallor observed; pulse rate was 76 bpm, blood pressure measured at 110/80 mmHg, the cardiovascular system revealed S1 and S2 heart

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sounds, and the respiratory system exhibited bilateral vesicular breath sounds. The complete blood count and thyroid profile are normal, viral serology is negative, and the blood type is O positive. A comprehensive urine examination was conducted, revealing negative results for protein and glucose, whereas ketone bodies were detected in the urine. Serological tests, including VDRL (Venereal Disease Research Laboratory), HIV, and HBsAg, yielded normal results. The abdominal examination showed that the uterus was 12 weeks old.

RESULTS AND DISCUSSIONS

Obstetric ultrasound indicated a single, viable, intrauterine fetus at 12 weeks and 0 days of gestation, with a crown-rump length of 5.2 cm and a nuchal translucency measurement of 9 mm. The examination revealed a well-defined, thin-walled cystic lesion with multiple internal septations located in the occipital region, extending to the thorax, without any apparent bony defect, suggestive of cystic hygroma. The patient received counseling for the medical termination of pregnancy, and upon obtaining agreement, she was administered four doses of MIFEPRISTONE and thereafter transferred to the labor room for spontaneous expulsion and curettage. A female infant weighing 100 grams was delivered alongside a placenta weighing 300 grams. The exterior anomaly was identified as cystic hygroma.

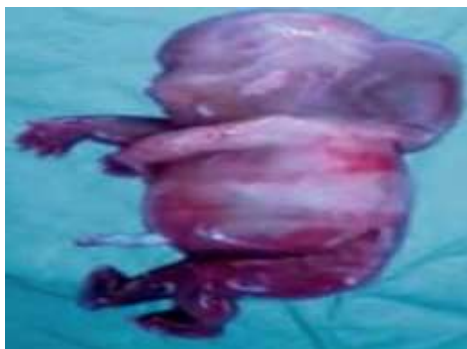


Fig.1: Illustration depicting cystic hygroma in a fetus Fig.2: Ultrasound showing depicting cystic hygroma

This instance underscores the significance of early prenatal screening and detection of congenital abnormalities. Particularly in the first trimester, chromosomal anomalies and adverse prognoses frequently link to cystic hygroma. The substantial nuchal translucency measurement (9 mm) in this example is a strong indicator of an underlying problem. The

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decision to terminate the pregnancy was based on the ultrasound findings and the patient's comprehensive counseling. Cystic hygroma, initially recognized, is a disorder impacting the lymphatic system, defined by the presence of one or many cysts inside the soft tissues. These cysts may vary in size from several millimeters to 80 mm and typically contain a clear or turbid fluid akin to lymph, constituting around 6% of all benign tumors in infancy [5]. A study on the first trimester diagnosis of cystic hygroma and its effects, conducted from 1990 to 1991, revealed aneuploidy in seven out of 22 fetuses.

A retrospective investigation of 57 occurrences of cystic hygroma identified between 11:00 and 19 weeks of gestation within a normal obstetric cohort of 24,808 women during a span of 12 years. In two perinatal diagnostic centers, results indicated 33 cases (57.9%) of aneuploidies, including Turner syndrome at 42.4% and eight cases of Down syndrome at 24.2%. Additionally, four cases (7.0%) presented with malformations, three of which involved significant cardiac defects. The study concludes that cystic hygroma serves as a critical ultrasound marker for various fetal pathologies, with a poor survival rate of 6.4% for fetuses with septate hygroma. The overall survival rate for fetal cystic hygroma is 10%. The prognosis remains ambiguous, irrespective of any influencing circumstances, until the fetus reaches 26 weeks of gestation; beyond this point, there is a 67% likelihood of eventual survival, with only 42% of those survivors regarded as entirely normal during follow-up evaluations. A study examining the characteristics and outcomes of fetal cystic hygroma detected in the first trimester reveals that fetal cystic hygroma is associated with a poor prognosis, which illustrates the importance of sonographic evaluation of fetal nuchal translucency thickness during gestation. Their study sought to ascertain the outcomes of fetuses diagnosed with cystic hygroma. In a study of 10-14 weeks of gestation, 72 fetuses exhibited cystic hygroma, with chromosomal abnormalities identified in 52.7% of cases (38 out of 72), including 14 cases, or 36.8%, of Down syndrome.

CONCLUSIONS

The early identification of cystic hygroma using prenatal ultrasound facilitated prompt intervention and informed decision-making in this instance. The effective medical termination of pregnancy illustrates the significance of a multidisciplinary strategy in addressing intricate obstetric circumstances. Additional genetic counseling and testing may prove advantageous for the patient in strategizing future pregnancies.

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