The Fetal Medicine Foundation

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HYDROTORAX IN A FETUS WITH DOWN SYNDROME – A CASE REVIEW

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OBJECTIVE

Down syndrome is the most common chromosome abnormality among liveborn infants. It is characterized by a variety of dysmorphic facial features, physical growth delays and intellectual disability.

Causes of hydrotorax	Prevalence
Cardiovascular diseases	50%
Structural malformation	25%
Chromosomic alteration	15%
Other causes	10%

Causes of trisomy 21	Prevalence
No meiotic disjunction of the oocyte	95%
Robertsonian translocation	4%
Mosaic	1%

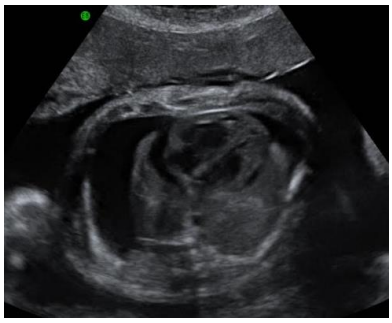
The **hydrothorax** is a pathologic collection of liquid in the thoracic cavity that can be associated with chromosomopaties like Down syndrome. It has an incidence of 1/10,000-15,000 births.

METHODS

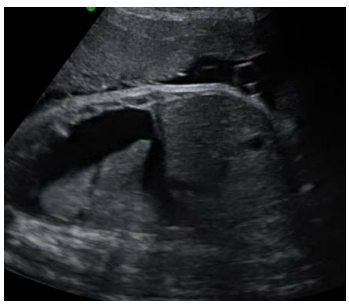
We present the case of a 44-years-old tercigesta without pathologic antecedents. She has one alive children and one antenatal death at 22 weeks of gestation in context of oligohydramnios and with Down syndrome

She started the pregnancy controls at 28 weeks. We performed a first ultrasound, limited by fetal position, that demonstrated apparent normal anatomy. We offered the realization of an amniocentesis due to the antecedents of the patient but she declined that option.

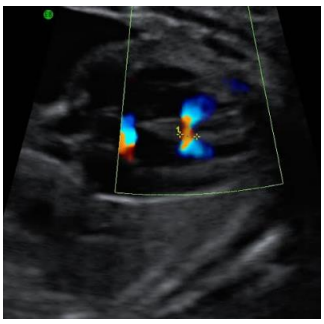
In the routinely gestational control at 32 weeks a fetal bradycardia was detected, so we performed a new abdominal ultrasound



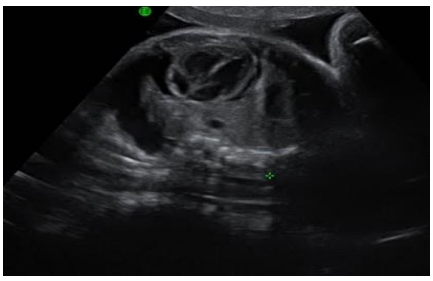
Mediastinal deviation



Right hydrotorax



Interventricular communication



Pericardial effusion

Pulmonary maturation was administrated and we performed maternal serologies as well as indirect coombs and fetal echocardiography. A fetal thoracentesis was performed and 80ml of amniotic liquid were analyzed. The results demonstrated a Down syndrome. The following ultrasounds showed the beginning of fetal hydrops with hemodynamic alterations.

RESULTS

The couple ask for legal interruption of gestation and it was authorized by the ethical committee. A 2280g male fetus was obtained. The necropsy demonstrated bilateral hemorrhagic pleural effusion and interventricular communication.

CONCLUSIONS

For those who have one child with Down syndrome, the risk of having a second child with the same syndrome is about 1% if both parents have normal karyotypes.

In cases of robertsonian translocation, the risk of having more children affected depends on paternal karyotype. If it is a familiar translocation the risk changes depending on the parent carrying the translocation. If the mother is the carrier the risk of a new child with Down syndrome is estimated at 15%, and if the carrier is the father, at 3%. In the strange cases of translocation between two 21 chromosomes, the 100% of the offspring will be affected.