ETIOLOGY OF NONIMMUNE HYDROPSFETALIS: A SYSTEMATIC REVIEW. A CASE REPORT WITH MIRROR SYNDROME.

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Etiology of nonimmune hydrops fetalis: a systematic review. A case report with mirror syndrome (Ballantyne Syndrome)

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PURPOSE: The aim of this study is to investigate the etiology of non immune hydrops fetalis. In the same time to represent a case with Ballantyne Syndrome, the criteria and the perspective too.

METHODS: We performed a systematic review of the pertinent literature based on the QUality Of Reporting Of Meta-analyses (QUOROM) recommendations, searching in Pub med, Cacraine. We established 14 different diagnostic categories and provide the pathophysiologic background of each, if known.

RESULTS: All the cases were subclassified into one of the following diagnostic categories: Cardiovascular (21.7%), hematologic (10.4%), chromosomal (13.4%), syndromic (4.4%), lymphatic dysplasia (5.7%), inborn errors of metabolism (1.1%), infections (6.7%), thoracic (6.0%), urinary tract malformations (2.3%), extra thoracic tumors (0.7%), TTTF-placental (5.6%), gastrointestinal (0.5%), miscellaneous (3.7%), and idiopathic (17.8%).

DISCUSSION: Hydrops fetalis is an excessive accumulation of fetal fluid. The basis of the disorder is an imbalance in the regulation of fetal fluid movement between the vascular and interstitial space. Fetal hydrops is a common symptom of fetal disease at any stage of gestation. Hydrops is traditionally classified into either immune or non-immune hydrops (NIHF), but in practice, nowadays in the Western world >90% of hydrops is of non-immune origin.

In early pregnancy, primary or secondary intra-uterine cardiac failures due to major cardiovascular defects are more often linked to a chromosomal abnormality than during the second half of gestation. In these cases, an increase of the nuchal translucency thickness is probably the first stage of fetal hydrops. Depending on the severity of the underlying defect, the next stage is generalized skin oedema with eventual placental oedema, ascites and pleural effusion. The natural history of fetal hydrops remains poorly understood and thus the prognostic factors determining fetal outcome are still unknown. Examination of the fetal nuchal anatomy between 10 and 14 weeks of gestation and the follow-up of
these pregnancies offer an opportunity for an early screening in most aneuploidies and cardiovascular defects, and a better understanding of the aetiology of fetal hydrops.

CONCLUSION: HF is not a diagnosis in itself but a symptom, and the end-stage of a wide variety of disorders. In the era before routine immunization of Rhesus (Rh) negative mothers, most cases of hydrops were due to erythroblastosis from Rh alloimmunization, but nowadays, nonimmune hydrops fetalis (NIHF) is more frequent, representing 76-87% of all described HF cases. The aetiological mechanisms leading to non-immune fetal hydrops are complex and their impact variable at different stages of gestation. The natural history of fetal hydrops remains poorly understood and thus the prognostic factors determining fetal outcome are still unknown.

Ballantyne syndrome or Mirror syndrome is a triad consisting of the presence of fetal hydrops, generalized edema placentomegaly mother. May be related to any cause of fetal hydrops. The fetal prognosis is poor in untreated cases, the mother has reference to be the cause or the termination of pregnancy. Present the case of a 26-year-old who developed mirror syndrome secondary to non-immune fetal hydrops of unknown origin, accompanied by preeclampsia.