

# **TREATMENT OF FETTO- FETAL TRANSFUSION SYNDROME: AN INTEGRATIVE REVIEW**

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**Abstract:** One of the main complications of twin pregnancies is the fetal-fetal transfusion syndrome (TTTS), it is important to observe the representation by the oligo-polyhydramnios (PCOS) and anemia-polycythemia (PAS) sequences, when in severe stages, the expectant management for each one of them is associated with poor prognosis, with a high rate of intrauterine and perinatal mortality, including a high rate of neurological impairment in survivors. In this sense, it is necessary to determine three essential points in this research: first, the investigation of the state of the art in the literary scene on the subject through the Integrative Review (IR) methodology, the second point is to present as scope the main therapeutic forms of the STFF and finally, to present the result of this scenario in relation to the treatment of the STFF.

**Keywords:** Twin pregnancy. Feto-fetal transfusion syndrome. Treatment.

## INTRODUCTION

Feto-fetal transfusion syndrome (TTTS) is classified as a rare condition. Present in twin pregnancies, it is characterized by the presence of a single placenta with unbalanced blood flow from one fetus to the other. The redirection of blood flow from the donor fetus to the recipient fetus is identified by the formation of vascular anastomoses in the placenta, which may be of arteries and veins, only veins or only arteries, in this sense, anastomotic involvement occurs, usually followed by cardiac response, causing imbalance. osmotic and hydrostatic. In this process of redirecting blood flow, the recipient fetus will receive a greater blood supply than the other, causing gestational risk with fetal deaths.

According to Franciscani et al (2010), the pathophysiology of TTTS can be understood by two sequential events: imbalance of placental

vascular anastomoses and cardiovascular response. Computerized models point to the development of TTTS in the face of increased hydrostatic and osmotic forces with change in flow direction, when vascular connections are unbalanced, in the face of a greater number of Arteriovenous (AV) anastomoses, with blood flow in a single preferred direction. TTTS will not occur if the anastomoses are balanced, with blood flow in a bidirectional direction. The occurrence of TTTS seems to be associated with AV anastomoses, while Arterio-arterial (AA) anastomoses would protect against its development.

This research is structured in 5 sections. In this section introduction was presented in general context about the STFF with the synthesis of the theoretical framework, in section 2, the main aspects related to the objectives of this research are explored, then it shows the methodological aspects applied in the research, in section 4 the results are discussed findings from the research and finally section 5 brings the conclusions within the relevant aspects of the research.

## GOALS

The general objective was to investigate the most sophisticated treatment for TTTS reported in the scientific literature. The specific objectives are: to identify all the treatment techniques for TTTS and their general aspects.

## METHODOLOGY

The methodology used was the Integrative Literature Review, which is based on bibliometric techniques of analysis of scientific publications on the topic of STFF Treatment, available in the Scientific Electronic Library Online (SCIELO), Brazilian Digital Library of Theses and Dissertations (BDTD) and Coordination for the Improvement of Higher Education Personnel (CAPES), with a time

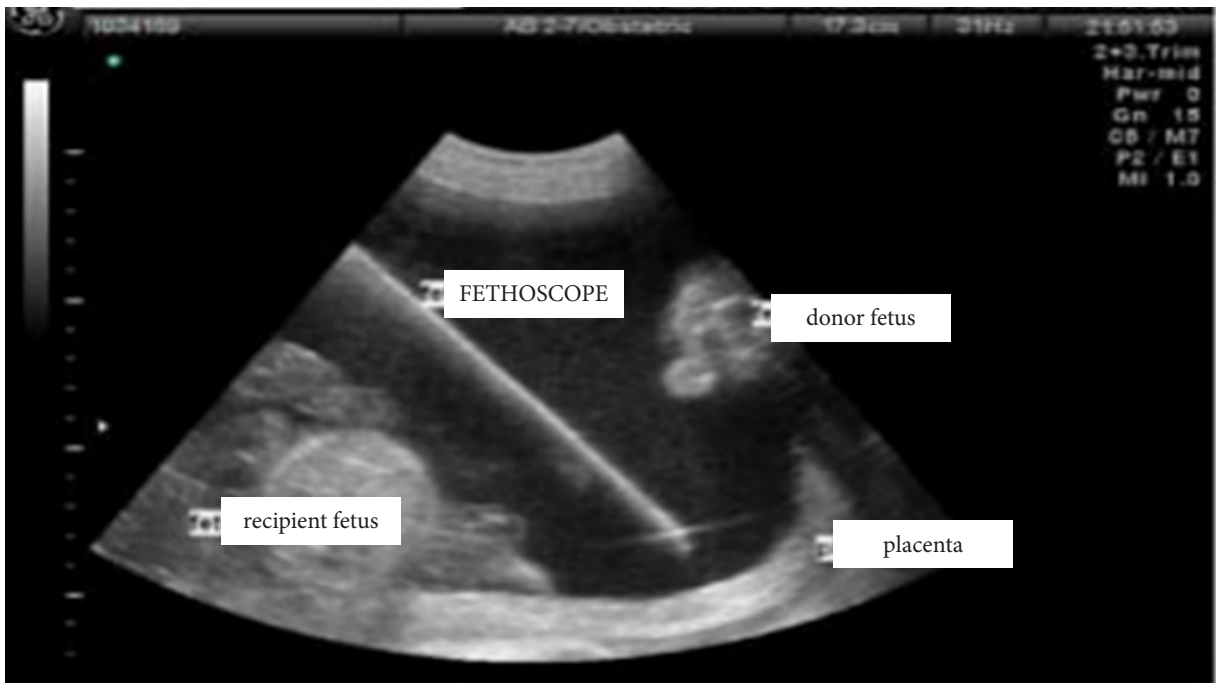


Figure 1: Ultrasonographic image of the fetoscope inside the uterine cavity. The fetoscope is facing the surface of the placenta and both fetuses can be seen in a cross-sectional view.

Source: Raposo (2020).

Data base	records found	Excluded	pre-selected	Final analyses
BDTD	22	10	12	01
SCIELO	29	27	03	03
CAPES	04	0	04	00
<b>TOTAL</b>	<b>55</b>	<b>37</b>	<b>19</b>	<b>04</b>

Figure 2: Flow of sample data collection for the Integrative Review.

Source: Own authorship, 2021.

References	Year	What treatment did you find?
BRANDÃO, Ana Maria Simões et al.	2016	Fetoscopic laser treatment.
CAMPOS, Denise et al.	2016	Fetoscopic laser coagulation treatment.
COSTA, Karina Jorge Rodrigues da.	2016	Treatment by laser ablation of placental vessels.
REZENDE, Thamyle Moda De Santana et al.	2021	Fetoscopic laser ablation of vessels with the Solomon technique

Table 1 Synthesis of the description of the selected articles with the application of the appropriate treatment of the STFF.

Source: Own authorship, 2021.

cut from 2016 to 2021, held in October 2021, the descriptor used was “Feto-fetal transfusion syndrome”, scientific publications were selected with full availability in the English, Portuguese and Spanish languages, the corresponding sample was found in four scientific publications.

## RESULTS AND DISCUSSION

Four publications were found in total, three in the SCIELO database and one publication in the BDTD, it was verified in the studies which are the TTTS treatment techniques, it is noted that 100% of the studies found report the laser treatment of TTTS of abnormal vessels in the placenta (endoscopic laser surgery).

According to Raposo et al 2020, there are several treatment options for TTTS, which include: repeated removal of excessive amniotic fluid (increased reduction); laser treatment of abnormal vessels in the placenta (endoscopic laser surgery); puncture of the membrane between the twins (septostomy); and the selective end of a twin's life (selective feticide).

Evidence showed that laser treatment was associated with more babies who were alive without neurological abnormalities when compared with removing excess amniotic fluid.

## CONCLUSION

Considering the studies to carry out this research, it is important to understand the forms of treatment of TTTS, within various aspects and possibilities, it is essential for a healthy pregnancy to carry out prenatal care to diagnose various diseases, such as Feto-fetal transfusion. Fetoscopy is a laser procedure currently considered the gold standard in the treatment of TTTS, this technique is performed with the support of ultrasound, which coagulates the vascular anastomoses existing in the placental area of each fetus in monochorionic twin pregnancy. Although it is the most sophisticated approach, it is also the one that requires more professional preparation, as complications include premature rupture of membranes, as well as vaginal bleeding and placental abruption.

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