

# Function of the Right Ventricle in a Recipient Twin in Twin to Twin Transfusion Syndrome



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## Quintero Staging System

## INTRODUCTION

The Twin to Twin Transfusion Syndrome (TTTS) is a condition affecting around 10% of monozygotic (MC) diamniotic twin pregnancies. Various echocardiographic changes have been described in the recipient twin. The disease affects function of recipient's twin right ventricle due to volume overload, increased afterload and myocardium remodeling.

Description / Stage	I	II	III	IV	V
Polyhydramnios / oligohydramnios	+	+	+	+	+
Absent bladder in donor	-	+	+/-	+/-	+/-
Abnormal Doppler	-	-	+	+	+
Fetal hydrops	-	-	-	+	+
Fetal demise	-	-	-	-	+

## METHODS

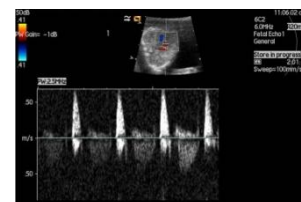
- retrospective analysis
- 43 pairs of twins with TTTS
- division into groups according to the Quintero Staging System
- evaluation of the recipient's cardiac function

## RESULTS

	Mean MPI
Recipient twin	0,662
Healthy MC twin	0,407



Cardiomegaly



Monophasic RV filling



Tricuspid and mitral regurgitation



Myocardium thickened

Quintero stage:	I (19%, 8 pts)	II (21%, 9 pts)	III (42%, 18 pts)	IV (16%, 7 pts)
Cardiomegaly (56%, 24 pts)	50%	33%	50%	100%
Myocardium thickened (58%, 25 pts)	63%	67%	39%	86%
Shortening fraction decreased (60%, 26 pts)	63%	56%	56%	86%
Tricuspid regurgitation (81%, 35 pts)	88%	89%	78%	100%
Monophasic RV filling (16%, 7 pts)	0%	11%	17%	43%
Functional pulmonary atresia (14%, 6 pts)	13%	0%	6%	57%

## CONCLUSIONS

1. The function of the right ventricle is affected by TTTS in most recipient twins.
2. Serious cardiac function alterations are presents regardless of the Quintero stage, so cardiac changes are more important to evaluate twin condition in TTTS.
3. Echocardiographic examination should be performed in all cases of suspected TTTS.