

# 胎儿镜手术治疗单绒毛膜双胎妊娠并发双胎输血综合征一例并文献分析

王盼盼<sup>1,2</sup>, 李安芬<sup>1,2</sup>, 李晓敏<sup>1,2</sup>, 赵敏<sup>1</sup>, 徐琳<sup>1\*</sup>

<sup>1</sup>青岛大学附属医院产科, 山东 青岛

<sup>2</sup>青岛大学医学院, 山东 青岛

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## 摘要

本文报道了1例单绒毛膜双胎妊娠合并双胎输血综合征(twin-to-twin transfusion syndrome, TTTS)孕妇。孕妇中孕期行超声检查提示TTTS1期, 入院保胎治疗, 效果不佳, 病情反而迅速进展, 2天时间发展为TTTS2期, 告知患者及其家属可选择的治疗方案及存在的风险, 最后商议后决定行胎儿镜下胎盘交通血管激光凝固术, 必要时可同时行羊水减量术, 术后恢复良好, 并产下2例新生儿, 预后良好。

## 关键词

单绒双胎妊娠, 双胎输血综合征, 胎儿镜手术

# Fetoscope Laser Surgery in Monochorionic Diamniotic (MCDA) Twin Pregnancies with Twin to Twin Transfusion Syndrome Case and Literature Analysis

Panpan Wang<sup>1,2</sup>, Anfen Li<sup>1,2</sup>, Xiaomin Li<sup>1,2</sup>, Min Zhao<sup>1</sup>, Lin Xu<sup>1\*</sup>

<sup>1</sup>Department of Obstetrics and Gynecology, The Affiliated Hospital of Qingdao University, Qingdao Shandong

<sup>2</sup>Medical College, Qingdao University, Qingdao Shandong

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\*通讯作者 Email: wangpanpan1xs@sina.com

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## Abstract

This article reports a case of monochorionic diamniotic pregnancy with twin-to-twin transfusion syndrome (TTTS). Ultrasound examination during pregnancy indicates that TTTS1 is hospitalized for fetal protection treatment. The effect is not good, but the condition progresses rapidly. It developed into TTTS2 in 2 days, informing the patient and their families of the optional treatment plan and the existing risks, and finally decided to take placental communication vessel laser coagulation under fetal endoscopy. Amniotic fluid reduction can be performed at the same time if necessary, and the postoperative recovery is good, and 2 newborns are born with a good prognosis.

## Keywords

Monochorionic Diamniotic, Twin-to-Twin Transfusion Syndrome, Fetoscope Laser Surgery

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## 1. 病例报告

一例因“双侧输卵管通而不畅”的孕妇移植鲜胚 1 枚。早期超声诊断为单绒毛膜双胎妊娠；然而，在怀孕 19 周 1 天时，产检超声检查提示为 TTTS1 期，收入院密切监测，并告知患者及其家属目前可行的治疗方案及存在的风险，经商议后患者及其家属要求继续观察。孕 19 周 3 天复查 B 超提示未见供血儿膀胱，诊断为 TTTS2 期，病情进展迅速，告知患者及其家属可选择的治疗方案：1) 继续保守治疗，可能进一步进展，使得供血儿贫血、血容量减少甚至死亡。受血儿血容量增多，出现充血性心衰、胎儿水肿甚至死亡。2) 手术治疗，行胎儿镜下胎盘交通血管激光凝固术 + 羊水减量术，凝固胎盘上两胎儿的血管交通支，防止病情进展。但也有胎盘深面不可见的血管交通支无法凝固的可能，术后仍有病情继续进展可能。患者及其家属表示理解并要求行手术治疗，积极术前准备，行胎儿镜下胎盘交通血管激光凝固术 + 羊水减量术，手术过程顺利，术后继续保胎治疗，1 周后复查，未见异常，准予出院。孕 29 周时因先兆早产，胎膜早破，第一胎为臀先露，行剖宫产术，娩出 2 例活产儿，女，出院时均无神经系统后遗症，随诊未见明显异常。

## 2. 讨论

双胎输血综合征(TTTS)是单绒毛膜双羊膜囊双胎妊娠(MCDA)的严重并发症,其发生于大约 8%~15% 的单绒双羊双胎妊娠中,是单绒毛膜双胎妊娠双胞胎新生儿发病率和死亡率的主要来源[1]。其发病机制是通过胎盘间的动-静脉吻合支,血液从动脉向静脉单向分流,使得其一胎儿成为供血者(贫血,血容量不足,肾灌注不足,少尿导致羊水过少),而另一胎儿成为受血者(血容量增多导致充血性心衰、胎儿水肿、羊水过多) [2] [3]。现大多应用 TTTS Quintero 分期标准[4]。对于 TTTS 的治疗,现已有研究表明 26 周前的 TTTS,激光治疗是一线治疗方案[5] [6] [7]。

我们报告的单绒双羊双胎妊娠合并 TTTS 的病例,且病情进展迅速,行选择性胎儿镜下胎盘交通血管激光凝固术 + 羊水减量术,得到了良好的妊娠结局。我们收集相关报道及文献,综合概述目前来说单绒双胎合并 TTTS 的病情进展、病情严重程度的评估、发病相关因素,可选择的治疗方案、术后并发症

及预后。

TTTS 病情进展迅速,不可预测,未治疗和早期发病与双胎 90%的死亡率有关,严重的 TTTS 病死率可达 80%~100% [8] [9];因此有多种治疗方案相继出现,如:repeated serial amnioreduction; endoscopic laser ablation of vascular anastomoses; amniotic septostomy; selective feticide。随着对治疗方案的不断改进,不断革新,数字化技术对术前的模拟操作[5] [10], High volume fetal therapy centers 的双胎存活率达 70%,至少有一个双胞胎存活超过 90% [11]。现在有相关的资料表示胎儿镜激光电凝治疗方案能够明显改善胎儿和新生儿的预后[12] [13] [14]。关于选择治疗时机,近期有研究表明 Quintero I 期与 II 期、III 期与 IV 期之间的差异对围产期胎儿预后没有显著影响[15]。虽然现在的激光电凝治疗方案得到了认可,但是临床医师仍然面临众多挑战,挑战之一就在于术后可能出现的并发症,如:出血、感染、胎膜早破、早产、流产、TTTS 复发、胎儿神经系统发育异常、羊膜束带综合征及镜像综合征等[16]。但就目前的证据表明,改善双胎输血综合征患儿存活率且不造成神经损伤的最佳方法是对胎盘进行激光治疗[5]。

造成多胎妊娠的因素有很多,而现今随着辅助生殖技术的发展,它也成为造成多胎妊娠的一个重要原因[13] [17]。我们报告这个病例因“双侧输卵管通而不畅”而借助辅助生殖技术:移植 1 枚鲜胚。辅助生殖技术有利有弊,它可以解决女性不孕问题,但是同时也增加了妊娠带来的并发症,如:不良围产期结局、多胎妊娠、结构性先天性异常、染色体异常、印记障碍和儿童癌症等[18]。所以辅助生殖技术是把双刃剑,应该如何使用,应在备孕前进行产前咨询。

本例病例的病情发展迅速(病情在 2 天内由 TTTS I 期发展为 TTTS II 期),且为珍贵儿,与患者及其家属交代病情后,患者及其家属要求手术治疗,积极术前准备,行胎儿镜下胎盘交通血管激光凝固术 + 羊水减量术,纠正两胎儿间的血流分布,最终经剖宫产的得到两个健康新生儿。

### 3. 结论

TTTS 是单绒毛胎的严重并发症之一,其进展不可预测,未能积极治疗将严重影响妊娠结局。因此对于双胎妊娠,应尽早判断其绒毛膜性,做到早诊早治。目前对于 TTTS 的治疗方案:胎儿镜激光电凝术的治疗效果已得到证明,可有效地提升双胎存活率及双胎中至少一胎的存活率。

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