Does early referral improve outcomes in MCDA twin pregnancies?

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Objective

To examine the outcomes of monochorionic twin pregnancies in an Indian setting and compare the outcomes in pregnancies that were referred earlier i. e before 16 weeks with pregnancies that were referred after 16 weeks or on suspicion of complications.

Methods

All monochorionic pregnancies that were examined at Bangalore Fetal Medicine Centre from Jan 2005 to December 2014 were assessed for development of Twin to Twin Transfusion Syndrome (TTTS) and need for Fetoscopic laser ablation with successful outcomes. We conducted a retrospective analysis of 356 consecutive pregnancies, among which there were 329 MCDA twin pregnancies with 81 (24. 6%) which developed TTTS, 8 (2. 4%) had TRAP sequence and 19 were monochorionic monoamniotic twin pregnancies. Of the 81 who developed TTTS, 34 underwent fetoscopic laser ablation of the placental anastamosing vessels and of the 8 with TRAP sequence 5 underwent ultrasound guided laser ablation of the umbilical vessels. All pregnancies were followed up with serial scans.

Results

Of the 356 pregnancies, there were 19 MCMA twin pregnancies with 12 live births (63%). The MCMA pregnancies were followed up with fortnightly scans and the majority delivered by elective cesarean section between 32 - 36weeks. 5/19 pregnancies resulted in intrauterine fetal demise (26. 3%). Of the 8 MCDA twin pregnancies complicated by TRAP sequence, 5 underwent ultrasound guided laser ablation of the umbilical cord vessels, of which 4 were live births and 1 is an ongoing pregnancy. Amongst the remaining 3 which did not have any intervention antenatally, 2 were live births and 1 was an intrauterine fetal demise. Of the remaining 329 MCDA twins, after excluding spontaneous miscarriages, terminations and loss to follow up, 234 pregnancies were eligible to be included in the study. There were 121 pregnancies that were referred before 16 weeks and so were followed up fortnightly according to the FMF guidelines from 16 weeks after the NT scan. Of these, 64/ 121 (52. 9%) had double survivors and 22 /121 (18. 2%) had single survivors, giving a rate of at least 1 survivor in 71% pregnancies. In this 2 patients who required fetoscopic laser ablation, both were managed successfully. In the second group that was seen mostly due to development of complication or after 16 weeks, there were 113 pregnancies. In these the double survivors were 67/ 113 (59. 3%) and single survivors was 28/113 (24. 8%). The take home baby rate of at least 1 survivor was about 84%. In group 1 TTTS was diagnosed in 26 (21. 5%) of which only 2 was severe enough to require Fetoscopic laser. After excluding terminations following diagnosis of early onset TTTS, there were double survivors in 8/14 (57. 1%) and single survivors in 6/14 (42. 9%). In the second group, 55/113 (48. 7%) developed TTTS, 32 underwent Fetoscopic laser for severe TTTS. The double survivors in this group were 21/ 55 (38. 2%) and single survivors were 18/ 55 (32. 2%).

Conclusion

Early and accurate diagnosis of chorionicity with prompt referral to a Fetal Medicine Unit enables early detection of complications in monochorionic pregnancies. Although the overall rate of double and single survivors in both groups are not very different, the rate of successful pregnancies with double and single survivors is higher in the ' early referred' group. Secondly as the pregnancy is much early on, the couples have the option of terminating the pregnancy as cost of Fetoscopic laser treatment is a big burden for most parents in India. Serial ultrasound examinations will ascertain prompt detection of complications enabling early intervention by adequately trained and experienced personnel. This gives a take home baby rate of 76. 5% in pregnancies complicated by TTTS undergoing FLA and a take home baby rate of 87. 5% in the MCDA pregnancies complicated by TRAP sequence. Amongst the MCMA twin pregnancies, serial ultrasound examinations gave a live birth rate of 63%.