

The Effect of Antenatal Corticosteroid Treatment on the incidence of Respiratory Distress Syndrome in Twin Pregnancy

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OBJECTIVE: To determine the effect of Antenatal Corticosteroid Treatment (ACS) on Respiratory Distress Syndrome (RDS) in twin pregnancy according to gestational age at delivery.

STUDY DESIGN: The prospective ESPRiT study was conducted at eight academic perinatal centres in Ireland, all with tertiary neonatal intensive care facilities, from May 2007 to October 2009. Inclusion criteria for this study were all diamniotic twin pregnancies enrolled prior to 22 weeks gestation with both fetuses alive with intact membranes at 24 weeks, and without major fetal structural abnormality. This prospective multicentre cohort study included 1028 unselected twin pairs recruited over a 2 year period.

RESULTS: The incidence of RDS in MCDA twins delivered <34 weeks, 34-37 weeks and >37 weeks was 60%, 12.3% and 4% respectively. ACS was used in 43%, 60% and 25% of each group respectively. The incidence of RDS in DCDA twins delivered <34 weeks, 34-37 weeks and >37 weeks was 68%, 11.8% and 2.3% respectively. ACS was used in 41%, 47% and 15% of each group respectively.

CONCLUSION: This incidence of RDS was observed in spite of high rates of ACS. This observation is consistent with other studies which suggest a suboptimal benefit of ACS in twin pregnancy. This may be due to a shorter half-life and enhanced clearance of ACS in twin compared to singleton pregnancies. The incidence of RDS was similar for both DCDA and MCDA twins in each gestational age group.