Antenatal Steroids in a Single Centre

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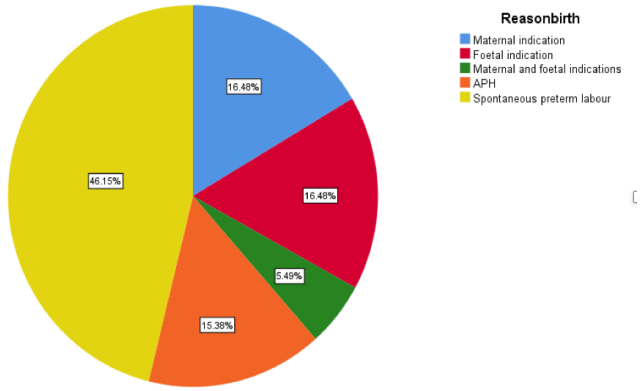
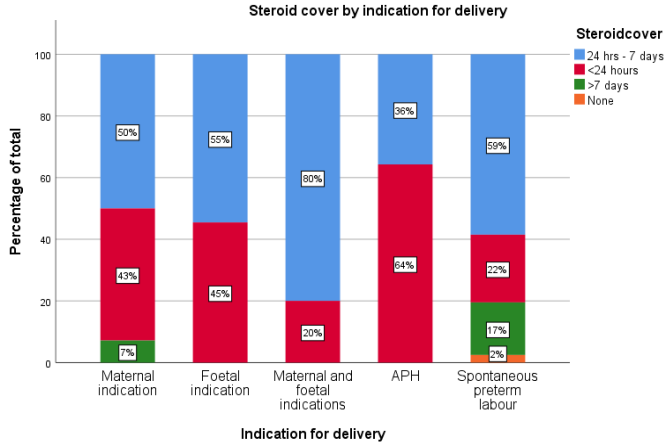
INTRODUCTION

Antenatal steroid use has been shown to significantly reduce neonatal respiratory and cardiovascular morbidity and mortality in preterm infants. They have also been shown to significantly reduce rates of intraventricular hemorrhage (IVH) in preterm infants, particularly those less than 32 weeks gestation or with a very low birth weight(1). We examined the timing of steroid administration relative to time of birth in our population as part of a clinical practice improvement project to reduce rates of IVH, by identifying the barriers to optimal steroid cover in our institution.





METHODS

We performed a retrospective audit of live born infants delivered <32/40 between 01/01/2017-31/12/2017. We examined whether they received optimal, partial or no steroid cover prior to birth. Optimal cover was defined as greater than 24 hours after the first dose and less than 7 days after the first dose.

RESULTS

46% of preterm deliveries in the study period were due to spontaneous preterm labour and 15% were due to antepartum haemorrhage. Of the iatrogenic preterm deliveries, 16% were due to a maternal indication, 16% due to a fetal indication (fetal distress, intrauterine growth restriction) and 5% were due to both maternal and fetal indications (pre-eclampsia with intrauterine growth restriction, chorioamnionitis with fetal distress)

We quantified steroid cover rates of each indication for preterm delivery. Our rates of optimal steroid cover for spontaneous preterm births were only 50%. We performed best with both maternal and fetal indications for iatrogenic delivery, achieving an 80% coverage rate. Our lowest rate of optimal steroid cover occurred in the antepartum haemorrhage group (36% coverage).

96 babies in the study period were identified, 2 were excluded as they were not resuscitated at birth. 58 (62%) were male with a median gestational age (GA) of 30/40. 49 (52%) received optimal steroid cover, 30 (32%) had <24h, 8 (8.5%) >7/7 and 1 no steroids. 21 (22%) had any IVH with 3 (3.2%) having Grade 3/4 IVH. 20 (21%) had chronic lung disease (CLD), 3 (3.2%) died. IVH and CLD were not significantly associated with steroid optimality in this small sample.

CONCLUSION

Antenatal steroids when given in an optimal time frame has been shown to significantly improve neonatal outcomes and reduce IVH. In our single centre, our optimal steroid cover rates were performed best if there was a maternal and fetal indication for delivery, but poor when antepartum haemorrhage was the indication for delivery. As such, we aim to create a hospital protocol to improve rates of steroid cover in this group.

REFERENCES

1. Wei, J. C., Catalano, R., Profit, J., Gould, J. B., & Lee, H. C. (2016). Impact of antenatal steroids on intraventricular hemorrhage in very-low-birth weight infants. *Journal of perinatology : official journal of the California Perinatal Association, 36*(5), 352–356. doi:10.1038/jp.2016.38