A review of dexamethasone prescribing for the management of bronchopulmonary dysplasia in neonates

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BACKGROUND

Bronchopulmonary dysplasia (BPD) is a common cause of morbidity and mortality in preterm neonates. A current regimen for postnatal steroids (PNS) for BPD is DART (Dexamethasone: a randomized trial). Deviations from the DART regimen often occur in practice. There is concern that high dosage and extended treatment duration may result in delayed neurodevelopmental outcomes.

AIM

To compare the use of DART regimen for neonates across two time periods.

METHOD

Neonates who were prescribed PNS during the period 2006-2007 and 2011-2012 were identified via electronic databases. Neonates who received only the DART regimen were included in the study. Medical records were retrieved to collect the following data: demographics, DART dosages, surfactant doses, respiratory support before and after each course of steroids, and short-term adverse effects. The results were collected and analyzed using Microsoft Excel and IBM SPSS Statistics.

RESULTS

Eighty-one courses (44 neonates) were included in the analysis; 36 in cohort A (2006-2007) and 45 in cohort B (2011-2012). Mean gestational ages were 30 weeks in cohort A and 26 weeks in cohort B, with mean birth weights of 699g and 735g respectively. Ventilation, surfactant requirements and antenatal steroids received were similar in both cohorts (Table 1).

DISCUSSION

Dexamethasone has been widely used across multiple neonatal facilities for the treatment of BPD for over 20 years. Corticosteroid use has shown to improve short-term respiratory function, allowing for earlier extubation among ventilator-dependent infants.

However the American Academy of Paediatrics recommends that corticosteroids should be limited to exceptional clinical circumstances and minimizing dose and duration of treatment.

Similar prescribing practice is shown in the two cohorts. Our results indicate in recent years neonates have received less prolonged courses but more frequent courses of DART. As a result, there is a slight increase in the total cumulative dose of dexamethasone received per neonate.

CONCLUSION

The dexamethasone prescribing for the management of BPD is consistent over the years. A four year comparison study with a two year follow-up study on neurodevelopmental outcomes has been planned to assess long term sequelae.

REFERENCES