

2 COMPLICATIONS OF PREGNANCY

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Authorised by: OGCCU
Review Team: OGCCU

2.7 Use of corticosteroids
Section B
Clinical Guidelines
King Edward Memorial Hospital
Perth Western Australia

2.7 USE OF CORTICOSTEROIDS

AIM

To provide antenatal corticosteroid therapy to reduce the risk of neonatal mortality and morbidity in preterm birth.

BACKGROUND INFORMATION

In 1972 a study by Liggins and Howie demonstrated that a single course of antenatal corticosteroids treatment may enhance fetal maturation before preterm birth and decrease the rate of respiratory distress syndrome, intraventricular haemorrhage and neonatal death.^{1,2} Further studies since then have confirmed this information. The use of antenatal corticosteroids is also associated with decreasing the incidence of necrotising enterocolitis and systemic infections in the neonate in the first 48 hours following birth. Even if only one dose of corticosteroid is completed before birth the risk for neonatal death is reduced.³

Long term follow-up studies indicate that the use of antenatal corticosteroids results in less neurodevelopment delay and possibly less cerebral palsy in childhood. This is probably due to the lower neurological and respiratory complications experienced by the preterm neonate. Studies so far have not shown any long term psychological complications.³

Research has indicated that there may be some respiratory functional benefit to repeated doses of antenatal corticosteroids. However, fetal growth may be reduced thereby effecting brain development and leading to unknown long term consequences.² A recent large randomised trial assessed the benefit of multiple courses of antenatal corticosteroids given every 14 days. It found this regimen did not improve the pre-term birth outcomes, and is associated with a decreased weight, length and head circumference at birth. Therefore, it was not recommended to prescribe multiple doses of corticosteroids.⁴

KEY POINTS

1. Administration of a single course of antenatal corticosteroid therapy should be offered to all women between 23 to 34 weeks gestation at risk of pre term delivery within 7 days.
2. Unless delivery is imminent, even if only one dose is anticipated, a course of antenatal corticosteroids should be commenced for all women at risk of pre term delivery.⁵
3. Higher or more frequent doses of antenatal corticosteroids do not provide benefits and may increase the risk for adverse effects.⁶
4. Multiple doses of antenatal corticosteroids (every 2 weeks) do not improve pre-term birth outcomes, and are associated with decreased weight, length and head circumference of the neonate at birth. Repeat courses of corticosteroids are not recommended at present.⁴
5. When there are no contra-indications for tocolysis it should be considered to allow time for a completed course of antenatal corticosteroid therapy.^{5,6}

6. Women with preterm rupture of membranes should be offered a course of corticosteroid therapy provided there are no clinical signs of infections.^{3,5}
7. Antenatal corticosteroid therapy is contraindicated if a woman has a systemic infection including tuberculosis. Caution is required when chorioamnionitis is suspected.⁶
8. Consider administration of antenatal corticosteroids after 34 weeks gestation if there is evidence of pulmonary immaturity.⁵
9. Advise the Obstetric Medicine Consultant on call or Registrar when antenatal corticosteroids are administered to a woman with diabetes of any type. This ensures close supervision of diabetes control, allows adjustment of hypoglycaemic medication and avoids complications that may occur due to the possibility of severe transient hyperglycaemia following corticosteroid administration.^{5,6}
10. Women with a multiple pregnancy should be offered a course of antenatal steroids if they are at risk of giving preterm birth within 7 days. Currently there is inconclusive evidence about the dosage and benefits of antenatal corticosteroid administration in multiple pregnancies.^{7,8}

DOSAGE AND ADMINISTRATION OF A COURSE OF ANTENATAL CORTICOSTEROIDS

Administer one dose of Betamethasone (Celestone Chronodose) 11.4mg by intramuscular injection and repeat this dose 24 hours later..

Note:

- 1 dose = 11.4 mg intramuscular injection i.e. 2 ampoules of Betamethasone (Celestone Chronodose)
- 1 course = a total of 2 doses which are given 24 hours apart.

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