

## Guideline on the use of Antenatal Corticosteroids to Prevent Respiratory Distress Syndrome

Preterm birth accounts for 10% of births in Malaysia and results in about 75% of neonatal deaths not associated with congenital malformation.<sup>1</sup> The neonatal morbidity in surviving infants is high.

The use of corticosteroids in preterm birth has been responsible for a significant reduction in neonatal mortality as well as morbidity from respiratory distress syndrome (RDS) and intraventricular haemorrhage (IVH).<sup>2</sup>

The initial guidelines were convened in 1995, as there was a need to emphasize the usage of antenatal steroids as it was felt that at that time there was some hesitation for its usage. This has however improved over the years. The representatives as below reviewed the original recommendations in August 2001 and there was extensive discussion on three issues.

- i. The choice of antenatal steroids as there was current data to suggest that betamethasone may have a better outcome than dexamethasone.<sup>3</sup> However, because this data is a Grade B recommendation, it was felt that the negative effect of dexamethasone should not be highlighted. This issue will constantly be reviewed as evidence becomes available.
- ii. The dosage of dexamethasone per literature is 4 doses of 6mg given 6 hours apart. However it is widely given as 2 doses of 12mg given 12 hours apart. There is no clinical data to support this regime.
- iii. Repeated courses of antenatal steroids are less well studied and are controversial. Animal models have shown that repeated betamethasone doses cause growth retardation that persists to term.<sup>4</sup> Similar findings have been described in humans.<sup>5</sup>

Representatives from

1. Perinatal Society of Malaysia,
2. Malaysian Paediatric Association,
3. Obstetrical and Gynaecological Society of Malaysia,
4. Academy of Medicine, Chapters of Paediatrics, and Obstetrics and Gynaecology,

have agreed to adopt the American College of O&G Committee Opinion Recommendations for the Use of Antenatal Corticosteroids,<sup>6</sup> with minor modifications and an addition taken from the Royal College of Obstetricians and Gynaecologist's Guideline.<sup>7</sup>

## Recommendations

1. The benefits of antenatal administration of corticosteroids to fetuses at risk of preterm delivery vastly outweigh the potential risks. These benefits include not only a reduction in the risk of RDS but also substantial reduction in mortality and IVH. (Grade A)
2. All women between 24 and 36 weeks of pregnancy at risk of preterm delivery are candidates for antenatal corticosteroids therapy. ( Grade A )
3. Foetal race gender and availability of surfactant therapy should not influence the decision to use antenatal corticosteroid therapy. <sup>2</sup> (Grade A )
4. Patients eligible for therapy with tocolytic agents should also be eligible for treatment with antenatal corticosteroids.
5. Treatment should consist of either 2 doses of 12 mg of betamethasone, IM, given 24 hours apart; or 4 doses of 6 mg of dexamethasone, IM, given 12 hours apart. The optimal benefit begins 24 hours after initiation of therapy and last 7 days.(Grade A )
6. One recent study has suggested that betamethasone may be a better choice as it is associated with a reduced risk of cystic periventricular leukomalacia among the premature infants.<sup>3</sup> (Grade B )
7. Because treatment for less than 24 hours is still associated with a significant reduction in neonatal mortality, antenatal corticosteroids should be given unless immediate delivery is anticipated.
8. Antenatal corticosteroid use is recommended in women with preterm PROM , in the absence of clinical chorioamnionitis. (Grade A )
9. In women with complicated pregnancies for whom preterm delivery prior to 36 weeks of gestation is likely, antenatal corticosteroid use is recommended unless there is evidence that corticosteroids will have an adverse effect on the mother or delivery is imminent. (Grade A)
10. There is evidence to show that repeated courses of corticosteroids may impose a risk to both mother and foetus hence there is a need to be cautious in its use and where possible, amniotic fluid phosphatidyl glycerol should be estimated.(Grade A)
11. Caution should also be applied to antenatal corticosteroid use in poorly controlled diabetes in pregnancy, chorioamnionitis and immunosuppressed mothers.(Grade B)

## References

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3. Baud O, Foix-LiHelias L, Kaminski M et al . Antenatal glucocorticoid treatment and cystic periventricular leukomalacia in very premature infants. N Engl J Med 1999; 341: 1190-6.
4. Jobe AH, Newnham J, Willet K, Sly P, Ikegami M. Fetal versus maternal and gestational age effects of repetitive antenatal glucocorticoids. Pediatrics 1998; 102: 1116-25.
5. French NP, Hagan R, Evans SF, Godfrey M, Newnham JP. Repeated antenatal corticosteroids: size at birth and subsequent development. Am J Obstet Gynecol 1999; 180: 114-21.
6. American College of Obstetrics and Gynecology Committee Opinion. Antenatal corticosteroid therapy. Number 147 - December 1994.
7. Royal College of Obstetrics and Gynaecology Guideline. Antenatal corticosteroids to prevent respiratory distress syndrome. Number 7 - April 1996.

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\* Addresses are correct at the time of formulation of the Guideline.

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