Furosemide for transient tachypnoea of the newborn

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An updated version of this systematic review has been published and can be found online at www.cochrane.org. We will soon update the below RHL summary to reflect the updated findings of the systematic review.

RHL summary

Findings of the review: This review includes two trials that had evaluated the effect of furosemide treatment in 100 term infants with transient tachypnoea of the newborn (TTN). There were no significant differences between furosemide-treated and placebo-treated infants in terms of duration of symptoms or length of hospital stay. There were no reports of need for respiratory support in the two trials.

Implementation: The available data do not support the use of furosemide in term infants with TTN. The pathophysiology of TTN should be re-evaluated so that possible interventions could be developed and evaluated.

Cochrane review


Abstract

Transient tachypnoea of the newborn (TTN) results from delayed clearance of lung liquid and is a common cause of admission of full term infants to neonatal intensive care units. The condition is particularly common after elective caesarean section. Conventional treatment involves appropriate oxygen administration and continuous positive airway pressure in some cases. Most infants receive antibiotic therapy. Hastening the clearance of lung liquid may shorten the duration of the symptoms and reduce complications.

To determine whether furosemide administration reduces the duration of oxygen therapy and respiratory symptoms and shortens hospital stay in term infants with transient tachypnoea of the newborn.

An updated search was carried out in January 2013 of the following databases: The Cochrane Library issue 1, 2013
We included randomised and quasi-randomised controlled trials that compared the effect of furosemide administration versus placebo or no treatment in infants of less than seven days of age, born at 37 or more weeks of gestation with the clinical picture of transient tachypnoea of the newborn.

We extracted and analysed data according to the methods outlined in the latest *Cochrane Handbook for Systematic Reviews of Interventions*. Two review authors assessed trial quality in each potentially eligible manuscript and two review authors extracted data.

Our updated review includes two completed trials. Wiswell 1985 and Karabayir 2006 investigated 100 infants with transient tachypnoea of the newborn. Wiswell 1985 randomised 50 infants to receive either oral furosemide (2 mg/kg body weight at time of diagnosis followed by a 1 mg/kg dose 12 hours later if the tachypnoea persisted) or placebo. Karabayir 2006 randomised 50 infants to receive either intravenous furosemide (2 mg/kg body weight) or an equal volume of normal saline placebo. Neither trial reported on the need for respiratory support. Neither trial demonstrated a statistically significant impact of furosemide on transient tachypnoea of the newborn regarding duration of symptoms or length of hospitalisation.

Oral or intravenous furosemide cannot be recommended as treatment for transient tachypnoea of the newborn and it should not be used unless additional data become available. This finding suggests that either furosemide is not effective in promoting resorption of lung fluid, or factors other than delayed resorption of this fluid contribute to the pathogenesis of transient tachypnoea of the newborn. The question remains as to whether furosemide given to the infant (or even to the mother before caesarean section) might shorten the duration of the illness. As elective caesarean section continues at a high level, these two interventions might be worthy of trials.

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Home > Furosemide for transient tachypnoea of the newborn