Low dose aspirin for prevention of preterm delivery in lower middle income countries (ASPIRIN Trial) (*Lancet. 2020;395:285-93*)

Available evidence from a meta-analysis suggests that aspirin might decrease the incidence of preterm delivery as well, if initiated early in gestation. To explore it further, the authors conducted this multicenter, double blind, placebo controlled trial in seven community sites from six lower and middle income countries (LMIC) including India. A total of 11976 nulliparous pregnant women with singleton pregnancy were randomized to receive either lower dose aspirin (daily dose 81 mg) or placebo from 6-14 weeks. The incidence of preterm delivery before 37 wk (primary outcome) was lower in intervention arm as compared to control arm (11.6 % *vs* 13.1%, RR 0·89, 95% CI 0·81-0·98). In secondary outcomes, there was a decrease in incidence of perinatal mortality, early preterm delivery (<34 wk), and incidence of gestational hypertension in women delivering before 34 wk.

Fast versus slower increment of milk feeding in Preterm infants (SIFT trial) (*N Engl J Med. 2019;381:1434-43*)

The researchers involved in this multicenter trial in Ireland randomized very preterm (<32 wk) or very low birth weight (<1500 g) infants to faster increment group (daily increment 30 mL/kg) or slower increment group (daily increment 18 mL/kg) until full feeding was achieved. The incidence of primary outcome *i.e.,* survival without moderate or severe neuro-disability at 24 months was similar between the groups (802 of 1224 infants (65.5%) in faster increment and 848 of 1246 (68.1%) in slower increment group, adjusted RR, 0.96; 95% CI: 0.92-1.01; *P*=0.16); so was the incidence of major secondary outcomes like late onset sepsis (29.8% *vs* 31.1%) and necrotizing enterocolitis (5.0% *vs* 5.1%). Thus faster feeding increment appears a very promising strategy in stable preterm neonates and should be actively implemented.

Neonatal hypoglycemia optimal treatment threshold (HypoEXIT) trial (*N Engl J Med. 2020 February 6. doi: 10.1056/NEJMdo005675*)

Currently, there is no existing consensus regarding optimum treatment threshold for neonatal hypoglycemia of at risk neonates. The researchers of this multicenter non-inferiority trial involving 17 teaching hospitals in Netherlands randomized 689 neonates of >35 weeks with one or more risk factors for hypoglycemia (small for gestational age, infant of diabetic mother or large for date) either in to lower threshold group (treatment initiated at glucose concentration of <35 mg/dL, *n*=348) or traditional threshold group (treatment initiated at glucose concentration of <47 mg/dL, *n*=341). The primary outcome (assessed in 82.5 % and 86.5% infants in low and traditional threshold groups, respectively) was defined by Bayley scales of infant and toddler development, 3rd edition at 18 months of age with a non-inferiority margin of 7.5 points. There was establishment of non-inferiority for both cognitive [mean scores (SE), 102.9 (0.7) *vs* 102.2 (0.7)] and motor outcome [mean scores (SE), 104.6 (0.7) *vs* 104.9 (0.7)] between the groups. The mean glucose concentration was higher in traditional threshold group [61(0.5) mg/dl *vs* 57 (0.4) mg/dL]. Though, there were fewer and less severe hypoglycemic episodes in the traditional-threshold group, the infants in the group needed more frequent invasive diagnosis and treatment. However, in view of long term consequences of uncorrected hypoglycemia and medicolegal aspects, the trial needs to be interpreted cautiously in the Indian scenario.

Choice of antenatal corticosteroid for improving outcomes of preterm birth (ASTEROID) trial (*Lancet Child Adolesc hlth. 2019;3:769-80*)

Despite established benefits of antenatal corticosteroids (ANS), the choice of steroid remains a matter of debate. Hence the investigators tried to compare the maternal and neonatal benefits and side effect of most commonly used ANS (dexamethasone and betamethasone) in this randomized, double blind, placebo control, multicenter trial from 14 maternity care units of Australia and New Zealand. Between 2009 to 2013, 1346 eligible consenting pregnant women of gestation <34 wks were recruited randomly in to dexamethasone arm (*n*=679, two IM doses of 12 mg dexamethasone sodium phosphate given 24 h apart) or betamethasone arm (*n*=667, two IM doses of 11.4 mg betamethasone given 24 h apart). The primary outcome death or neurosensory disability at corrected age of 2 years were similar between both the groups (198 (33%) in dexamethasone group *vs* 192 (32%) in betamethasone group; adjusted relative risk 0·97, 95% CI 0·83 to 1·13; *P*=0·66). However, the incidence of maternal side effects like discomfort at injection site was less in dexamethasone group (1% *vs* 3%; *P*=0·02). Thus, the investigators concluded due to ease of administration, lower cost and lesser side effect profile dexamethasone can be a safe alternative ANS.

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