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**Literature search results**

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**Search details**

Pregnant women on labetalol and impact on newborn – hypoglycaemia?

**Resources searched**

NICE Evidence; TRIP Database; Cochrane Library; CINAHL; EMBASE; MEDLINE

**Database search terms:** (labetalol OR normodyne OR trandate), hypoglyc*, (neonat* OR newborn* OR baby OR babies OR maternal)

**Evidence / Google Scholar search string(s):** labetalol AND (hypoglycemia OR hypoglycaemia OR hypoglycemic OR hypoglycaemic) AND (neonate OR neonatal OR newborn OR baby OR babies)

**Guidelines and Policy**

Nothing found

**Evidence Reviews**

Nothing found
**Is labetalol really a culprit in neonatal hypoglycaemia?**

**Author(s)**: Daskas N, Crowne E, Shield JP

**Citation**: Archives of Disease in Childhood Fetal & Neonatal Edition, March 2013, vol./is. 98/2(F185), 1359-2998;1468-2052 (2013 Mar)

**Publication Date**: March 2013

**Source**: Medline

Available in fulltext from Fetal and Neonatal at Highwire Press

Available in fulltext from Archives of Disease in Childhood -- Fetal & Neonatal Edition at EBSCOhost

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**Neonatal side effects of maternal labetalol treatment in severe preeclampsia.**

**Author(s)**: Heida KY, Zeeman GG, Van Veen TR, Hulzebos CV

**Citation**: Early Human Development, July 2012, vol./is. 88/7(503-7), 0378-3782;1872-6232 (2012 Jul)

**Publication Date**: July 2012

**Abstract**: OBJECTIVE: Labetalol is often used in severe preeclampsia (PE). Hypotension, bradycardia and hypoglycemia are feared neonatal side effects, but may also occur in (preterm) infants regardless of labetalol exposure. We analyzed the possible association between intraterine labetalol exposure and such side effects. STUDY DESIGN: From 1 January 2003 through 31 March 2008, all infants from mothers suffering severe PE admitted to one tertiary care center were included. Severe PE was defined according to the International Society for the Study of Hypertension in Pregnancy (ISSHP) criteria. Infants exposed to labetalol in utero (labetalol infants) were compared with infants, who were not exposed to labetalol (controls). Neonatal records were reviewed for hypotension (RR<mean gestational age in weeks), bradycardia (heartrate<100/min) and hypoglycaemia (glucose<2.7 mmol/L) in the first 48 postnatal hours. RESULTS: Of 109 infants, 55 had been exposed to labetalol, whereas 54 were not (controls). Gestational age at delivery and birthweight were similar in both groups (31.8 vs. 32.8 weeks (p=0.06) and 1510 vs. 1639 grams (p=0.25), respectively for the labetalol vs. control group). Hypotension occurred significantly more in conjunction with labetalol exposure (16, (29.1%) vs. 4 (7.4%); p=0.003), irrespective of the route of administration. Patent ductus arteriosus (PDA) was present in 9 (56%) of hypotensive labetalol infants compared to 1 (24%) infant in the hypotensive control group (NS). In a multivariate regression model, labetalol exposure, the need for intubation and PDA appeared independently associated with hypotension (P<0.001). Hypoglycemia occurred in 26 (47.3%) of labetalol infants and in 23 (42.6%) of control infants (p=0.62). Bradycardia occurred in 4 (7.3%) of labetalol infants and in 1 (1.9%) of control infants (p=0.18). Hypoglycemia was more common in premature infants (n=45 (48.9%) vs. n=4 (23.5%), p=0.05) in both labetalol and control infants. CONCLUSION: Hypotension is more common after maternal labetalol exposure, regardless of the dosage and route of administration. The need for intubation and the presence of a PDA also play a role. Hypoglycemia is a very common finding in this population and is merely related to prematurity and independent of labetalol exposure as was the incidental occurrence of bradycardia. These findings on the neonatal side effects of maternal labetalol treatment in preeclampsia underline the importance of frequent blood glucose and blood
pressure measurements in the first days of life, especially in intubated preterm infants with a PDA.

Source: Medline

**Neonatal adrenergic blockade following single dose maternal labetalol administration.**

**Author(s):** Klarr JM, Bhatt-Mehta V, Donn SM

**Citation:** American Journal of Perinatology, March 1994, vol./is. 11/2(91-3), 0735-1631;0735-1631 (1994 Mar)

**Publication Date:** March 1994

**Abstract:** A single 30 mg intravenous dose of labetalol given 20 minutes prior to cesarean delivery at 35 weeks of gestation for severe pregnancy-induced hypertension was associated with symptoms of beta-adrenergic blockade (hypoglycemia, bradycardia, hypotension) in preterm twins. The infants were subsequently found to have therapeutic labetalol concentrations (180 and 150 ng/mL) in umbilical cord blood. The pharmacology of transplacental labetalol is reviewed and potential mechanisms for neonatal beta-adrenergic blockade are discussed.

Source: Medline

**Effects of maternal labetalol on the newborn infant.**

**Author(s):** Munshi UK, Deorari AK, Paul VK, Singh M

**Citation:** Indian Pediatrics, December 1992, vol./is. 29/12(1507-12), 0019-6061;0019-6061 (1992 Dec)

**Publication Date:** December 1992

**Abstract:** Forty eight neonates, born to mothers suffering from pregnancy induced hypertension and receiving labetalol for control of blood pressure, were studied for the possible adverse effects of the drug. These were compared with eighty one neonates matched for gestation and weight and born to mothers with pregnancy induced hypertension treated with drugs other than labetalol. Incidence of birth asphyxia and intrauterine growth retardation (IUGR) in the study population was 10.4 and 22.9%, respectively and in the control group 5 and 19.7%, the difference between two groups was not statistically significant (p > 0.05). However, the incidence of hypoglycemia was significantly higher (p < 0.01) in the study group (47.9%) as compared to the control group (17.2%). Two-thirds of the hypoglycemic babies in the study population were asymptomatic and they were managed with sugar-fortified milk feeds. In the study population, the symptomatic hypoglycemic babies had hypoglycemia for prolonged duration of 43.3 +/- 23.3 hours as compared to 11.5 +/- 6.3 hours in symptomatic hypoglycemic babies of the control group (p < 0.01). The mothers of the symptomatic babies in the study group received higher doses of labetalol in the range of 287.6 +/- 142.3 mg/day while rest of the mothers in the same group whose babies had either asymptomatic hypoglycemia or normal blood glucose levels, received 239.5 +/- 118.5 mg/day, though the difference was not statistically significant. It is concluded that maternal labetalol therapy is associated with increased risk of neonatal hypoglycemia.

Source: Medline

Available in fulltext from Indian Pediatrics at Free Access Content

**Half-life of maternal labetalol in a premature infant.**

**Author(s):** Haraldsson A, Geven W

**Citation:** Pharmaceutisch Weekblad - Scientific Edition, December 1989,
Abstract: Intra-uterine heart arrhythmia, postpartal respiratory insufficiency, bradycardia and hypoglycaemia were observed in a premature infant (37 weeks gestational age) delivered by a caesarian section. The mother had been treated with adequate doses of labetalol because of pregnancy-induced hypertension and her plasma concentration was found to be 89 micrograms/l one day after delivery. The half-life of labetalol in the plasma of the infant was found to be approximately 24 h, i.e. substantially longer than in normal adults. The half-life of labetalol in newborn premature infants may be prolonged as compared to normal adults. More studies are required regarding the pharmacokinetics of this agent in premature infants and newborn babies.

Source: Medline

The fetal outcome in a randomized double-blind controlled trial of labetalol versus placebo in pregnancy-induced hypertension.

Author(s) Pickles CJ, Symonds EM, Broughton Pipkin F

Citation: British Journal of Obstetrics & Gynaecology, January 1989, vol./is. 96/1(38-43), 0306-5456;0306-5456 (1989 Jan)

Abstract: The effects of labetalol were compared with those of placebo in a multicentre randomized double-blind and prospective study of 152 patients with mild to moderate, non-proteinuric pregnancy-induced hypertension. Labetalol in a dose of 100 mg three times daily, increasing to 200 mg three times daily where required, significantly reduced maternal mean arterial pressure. There was some reduction in preterm delivery, neonatal respiratory distress syndrome and jaundice in the labetalol-treated group. Intrauterine growth retardation and neonatal hypoglycaemia occurred with the same frequency in both groups. There were no perinatal deaths. Labetalol appears to be an effective agent in the management of mild to moderate pregnancy-induced hypertension. The data from this study suggest possible advantages and no apparent disadvantages for the fetus during its use.

Source: Medline