Research Article

Comparison of neonatal outcome with use of isoxsuprine hydrochloride and nifedipine in management of preterm labour in rural India

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Abstract

Aim: In India, especially in rural population multiple factors adversely affect the incidence of preterm birth .The main aim of this study was to compare the neonatal outcome of pregnancy between use of isoxsuprine hydrochloride and nifedipine as tocolytics in preterm labor from rural population of India. **Study Design:** This study was conducted at the department of Obstetrics and Gynecology, NIMS Medical College and Hospital, Jaipur, Rajasthan. This was a prospective study during period of one year with sample size of 100 patients. **Method:** Steroid cover given to all patients. Group A patient received inj. Isoxsuprine hydrochloride and Group B patient received Tab. Nifedipine. Neonate will be evaluated for gestational age, birth weight, congenital anomalies, APGAR score at 1 and 5 minutes of delivery. **Results:** Mean birth weight was 2524.51grams in isoxsuprine group and 2354.78 grams in nifedipine group. APGAR score is comparable in both groups. **Conclusion:** Neonatal outcome was comparable in both groups. No significant difference in respect to birth weight and APGAR score,

Keywords: Neonatal outcome, Isoxsuprine hydrochloride, Nifedipine, Preterm labour, Rural population.

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Received Date: 01/02/2015 Revised Date: 08/02/2015 Accepted Date: 12/02/2015

Access this article online

Quick Response Code:

Website: www.statperson.com

DOI: 14 February 2015

INTRODUCTION

Successful pregnancy is one which ends up in birth of a live healthy newborn at term. The importance of preterm labor lies in the fact that 75% of all perinatal deaths occur in preterm infants, and when lethal anomalies are excluded, 85% of all neonatal deaths occur in preterm infants. The antecedent causes in the mother leading to preterm delivery coupled with low birth weight expected in preterm birth contributes to an enhanced perinatal mortality rate (PNMR).[1] Apart from high mortality, a large percentage of preterm neonates suffer from severe neonatal complications like respiratory distress syndrome, intra-ventricular hemorrhage, sepsis and necrotizing enterocolitis and long term sequel like cerebral palsy, microcephaly, blindness due to retrolental fibrosis, deafness and mental retardation.[2]

OBJECTIVE

Comparison of neonatal outcome with use of isoxsuprine hydrochloride and nifedipine in preterm labor

METHOD

All the cases of preterm labor were divided in to two groups by using simple randomization technique. Complete history and Period of gestation was calculated from naegeles formula with known last menstrual or USG. Complete examination including general physical, systemic and per abdominal examination was recorded. Per speculum and per vaginal examination done for discharge and bishop score. All routine investigation and USG for fetal wellbeing done. Inj. Betamethasone 12 mg I/M 2 doses 24 hour apart will be given to every patient.

How to site this article: Kumud Gupta, Gunjan. Comparison of neonatal outcome with use of isoxsuprine hydrochloride and nifedipine in management of preterm labour in rural India. *MedPulse – International Medical Journal* February 2015; 2(2): 63-65. http://www.medpulse.in (accessed 16 February 2015).

Group A patient will receive inj. Isoxsuprine hydrochloride 40 mg (4 ampule) in 500 ml of 5% dextrose @ 0.2-0.5 mg / min I/V over 10 hour followed by 0.1-0.3 mg/min over next 12 hours. Maintain @ 10-20 mg IM 6-8 hourly. Group B patient will receive Tab. Nifedipine with dose of 10 mg orally stat followed by same dose after 30 minutes if contractions persists. Maintain at 10-20 mg 6 hourly for next Neonate will be evaluated for gestational age, birth weight, congenital anomalies, APGAR score at 1 and 5 minutes. 48-72 hours.

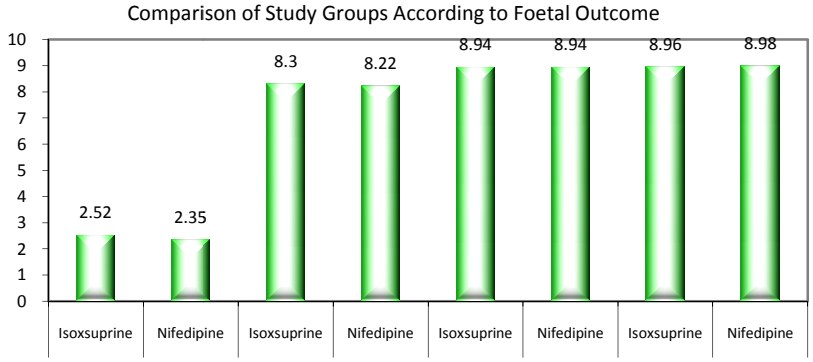
OBSERVATION AND RESULT

Table 1: Comparison of Study Groups in View of Fetal Outcome

	Medicine	N	Mean	Std. Deviation	'P' Value*
Baby Weight	Isoxsuprine	49	2524.51	408.57	0.052
	Nifedipine	50	2354.78	446.81	
Apgar	Isoxsuprine	50	8.30	0.65	0.528
	Nifedipine	50	8.22	0.62	
Apgar 1	Isoxsuprine	50	8.94	0.31	1.000
	Nifedipine	50	8.94	0.24	
Apgar 5	Isoxsuprine	50	8.96	0.28	0.656
	Nifedipine	50	8.98	0.14	

*unpaired't'-test

There is no significant difference ($p>0.05$) between groups with respect to baby weight and apgar score. The mean baby weight at the time of delivery in the group of patients receiving Isoxsuprine was 2524.51 grams, while 2354.78 grams in patients of nifedipine group.



DISCUSSION

In the developed world, preterm birth is, in quantity and in severity, the most important issue in obstetric care. Adverse neonatal outcome is strongly related to gestational age at delivery. Since the patho-physiological mechanism of preterm birth in not completely unrevealed. The development of successful preventive strategies are hampered. When preterm labor is actually threatening, current pharmacological therapies focus on inhibition of preterm contractions. This allows for transportation of the mother to a centre with neonatal intensive care unit and administration of the corticosteroids to enhance fetal lung maturity. As in India, especially in rural population socioeconomic factors like young maternal age, low maternal weight, poor nutritional status, general ill health, hard manual work, lack of prenatal care, poor sanitation and hygiene, illiteracy, uncontrolled fertility, emotional stress and smoking adversely affect the incidence of preterm birth.[3] Contrary to the situation in developed countries, neonatal morbidity and mortality is significantly high in developing countries, despite the standard use of betamethasone. Delaying delivery up to 36 weeks gestational age benefit the neonate to overcome other problems of prematurity Neonatal outcome was comparable in both groups. Mean birth weight was 2524.51grams in isoxsuprine group and 2354.78 grams in nifedipine group. There is no significant difference between both groups in respect to APGAR score.

CONCLUSION

The neonatal outcome was comparable in both groups. There was no significant difference in neonatal outcome

in respect to birth weight and APGAR score in both groups receiving isoxsuprine hydrochloride and nifedipine. Delaying delivery up to 36 weeks gestational age benefit the neonate to overcome other problems of prematurity.

ACKNOWLEDGEMENT

I would like to express my gratitude to **Dr. Balvir S. Tomar** (Chairman) and **Dr. Shobha Tomar** (Managing director) and to **Dr. Beena Bhatnagar,** Professor and HOD, Department of Obst. and Gynae. National Institute of Medical Sciences Medical College and Hospital, Jaipur for permitting me to carry out this work in this esteemed college. I express my feelings of deep gratitude, indebtness and reverence for my esteemed teacher and guide Dr. Kumud Gupta. I sincerely thanks to my colleagues who helped me at every stage of my study. Lest I forget, let me owe my indebtedness to all the patients who extended their cooperation to me in completing this study. The funding for this research study was self funding.

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Source of Support: None Declared
Conflict of Interest: None Declared