

# XANTINOL NICOTINATE THERAPY AND BIRTH WEIGHT IN TOXAEMIAS OF PREGNANCY

by

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## SUMMARY

Xantinol Nicotinate has been authenticated to cure the basic pathology involved in PET and Eclampsia. Keeping this view study of the effectiveness of complamina in these disorders was undertaken in 50 cases. It was found that apart from lowering the B.P., decreasing cerebral irritation, oedema and improving renal function it improves the placental function also thereby preventing intrauterine anoxia to some extent. A better foetal lung maturity and a lowered incidence of hyaline membrane disease was observed with this therapy. Regarding untoward reactions almost no unpleasant side effect was observed rather in the majority of cases it shortened the duration of labour.

### *Introduction*

In modern obstetrics uteroplacental insufficiency has been known to play a major role in etiopathogenesis of pre-eclampsia, the resultant increased foetal mortality and morbidity. In toxemia of pregnancy there is decreased peripheral utilization of glucose and hyperlipaemia which predispose the gravid women to atheromatous changes. Lipid accumulation in subintimal layer of spiral arteries along with generalised vasospasm compromise the blood flow to the placenta as a result of ischaemia and

cellular necrosis clotting factors are liberated which causes disseminated fibrin deposition in liver, brain and kidney.

Now a days xantinol nicotinate has been introduced in the treatment of toxemias of pregnancy, which is known to augment uteroplacental blood flow enhancing nutritive micro-circulation, and to decrease peripheral vascular resistance, venous pressure and hypercoagulation state thereby increasing the birth weight and decreasing foetal morbidity.

### *Material and Methods*

Hundred cases were selected from antenatal clinic and labour ward of Zenana Hospital, Jaipur. They were divided in two groups:

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Group I—50 cases were given conventional therapy.

Group II—50 cases were given xantinol nicotinate and they were divided into two:

(a) Mild cases—Those cases having 130/90 to 140/100 mm Hg. of blood pressure with or without albuminuria and oedema were given Tab. complamina 500 mg. 1 x 3 for 15 days.

(b) Moderate to severe cases—those cases having blood pressure 150/110 to 170/120 mm Hg. with albuminuria and oedema were given [Inj. complamina—300 mg intramuscularly 8 hourly for 3 days followed by oral therapy.

Routine investigations e.g. haemoglobin, urine examination, blood urea, blood sugar, serum creatinin, serum alkline phosphates at the time of admission and every 15 days thereafter.

#### Obstetric Management

Abdominal and pelvic examinations were done at the time of admission,

vaginal examination was done after 8 hours for re-assessment and artificial rupture of membrane; syntocinon intravenous drip was given if necessary. In moderate to severe cases prophylactic forceps were applied.

Appar scoring was done for all babies, birth weight was taken, naked eye examination of the placenta was done and it was weighed.

Follow up of the cases was done after 4 weeks and pulse, blood pressure, lactation, uterine involution and general health of babies were noted.

#### Observations

Various factors e.g. age, parity, height and socio-economic status can affect the birth weight. Keeping these factors in view, cases were grouped with special reference to the factors common to all groups.

The above Table shows a definite increase of birth weight in complamina treated cases.

TABLE I  
Effect of the Drug on Baby Weight

Groups	Baby Weight in Kg.					
	1-1.5	1.6-2	2-2.5	2.6-3	3.1-3.5	3.6-4
<i>Study Group</i>						
No. of cases	1	—	5	12	24	2
Percentage	2.2	—	11.5	26.6	53.3	4.5
<i>Control Group</i>						
No. of cases	1	3	17	24	1	—
Percentage	2.2	6.6	29.9	53.3	2.2	—

TABLE II  
Ischaemic Placental Changes

	Discrete infarcts	Patchy areas of infarcts	Calcarious deposits at periphery
<i>Study Group</i>			
No. of Cases	3	1	—
Percentage	6	2	—
<i>Control Group</i>			
No. of Cases	6	4	2
Percentage	12	8	4

This Table reveals only minor ischaemic changes in placenta in study group as compared to control group.

As is revealed by this Table foetal outcome is definitely better in study group in comparison to control group.

As shown by above Table Apgar Score

at birth was better in complamina treated group.

Above Table shows neonatal morbidity of 14% in control group with 4% having respiratory distress syndrome. In the study group none had respiratory distress syndrome with only 6% cases had some problem.

TABLE III  
*Drug Therapy and Foetal Outcome*

	Live births	Stillbirths	Neonatal deaths
<i>Study Group</i>			
No. of Cases	46	2	2
Percentage	92	4	4
<i>Control Group</i>			
No. of Cases	40	6	4
Percentage	80	12	8

TABLE IV  
*Effect of Complamina on Apgar Scoring at Birth*

Name of Drug	APGAR		SCORING	
	8-10	5-7	5-0	
<i>Complamina</i>				
No. of Cases	45	3	2	
Percentage	90	6	4	
<i>Chlorpromazine</i>				
<i>Diazepam</i>				
No. of Cases	39	5	6	
Percentage	78	10	12	

TABLE V  
*Complamina and Neonatal Morbidity*

Diagnosis	Study Group		Control Group	
	No. of cases	Percentage	No. of cases	Percentage
Neonatal Septicaemia	1	2	1	2
Gastroenteritis	1	2	1	2
R.D.S.	—	—	2	4
Icterus	1	2	2	4
Congenital Anomalies	—	—	1	2

### Discussion

Toxaemia of pregnancy till today has been one of the most important complications of pregnancy and until recently one of the leading causes of maternal and foetal mortality in developing countries. The multiplicity of etiology is responsible for the diversity of its treatment. No single treatment has yet been found to be ideal though several regimens appear to have enjoyed more success and popularity than others. Now a days xantinol nicotinate has been used to reduce the severity of the disease.

This study reveals that complamina therapy to toxaemia of pregnancy is associated with increase in birth weight of infants by enhancing the nutritive micro-circulation of placenta. In this series, 53.3% infants were born with a baby weight of 3.25 Kg. in study group as compared to 2.75 Kg. in control group thereby making a difference of 500 gm. (Table I) among them. Same was the conclusion of Mukherjee *et al* 1980.

Striking finding was that no respiratory distress syndrome occurred in study group while two babies died by hyaline membrane disease in control group (Table III). So it can be concluded that complamina helps in prevention of re-

spiratory distress syndrome by enhancing lung maturity.

Placenta of control group had definitely more areas of infarcts as compared to the study group (Table II). This again indicates better placental function in the study group as a result of complamina therapy. Improvement in placental function was also reported by Bergstein and Kessel (1968).

Ninetytwo per cent of the babies were with good apgar score among the study group as compared to 78% in control group.

Thus we can conclude that complamina therapy definitely improves the placental circulation, foetal out come and the birth weight by increasing the utero-placental blood flow.

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