MATERIAL AND METHODS
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The present study was conducted in the department of Paediatrics, M.L.B. Medical College and Hospital, Jhansi from June, 1990 to May, 1991 to observe the efficacy of oral vitamin 'K' intake on the prothrombin time of newborn babies.

SELECTION OF CASES

The study was conducted on 51 full term babies (gestational age more than 37 weeks), weighing more than 2 kg and who were born after uncomplicated vaginal delivery. All the babies had normal APGAR score at the time of birth (1 minute APGAR score).

Babies were selected from the labour room of the department of Obstetrics and Gynaecology. The selection of cases was random. Babies were randomly assigned to 4 different groups viz., A, B, C and D.

1. Group A consisted of 10 babies who received 1 mg vitamin K intramuscularly.
2. Group B consisted of 8 babies who received 0.5 mg vitamin K intramuscularly.
3. Group C consisted of 18 babies who received 1 mg vitamin K orally.
4. Group C consisted of 15 babies who did not receive vitamin K at all.

All the babies who were selected for present
study were exclusively breast fed. Informed consent was obtained from the mothers for prior administration of vitamin K and subsequently blood sample was collected between 36-72 hours of vitamin K administration.

ANTENATAL HISTORY

Full antenatal history was elicited and selected babies belonged to mothers who were not having following history or complications during pregnancy viz.:
1. Toxaemia of pregnancy.
2. Fever (with or without a rash) during the first trimester of pregnancy.

All babies were examined in the labour room and all those who were the outcome of complicated delivery, had birth anoxia or showed congenital anomalies were excluded from the present study.

MATERIAL USED

1. Commercially prepared thromboplastin capsule.
2. Normal saline (0.9% solution of sodium chloride).
3. Marked test tube and pippette.
4. Solution of calcium chloride (M/40 solution of calcium chloride).
5. Stop watch.
COLLECTION OF SAMPLE

First of all 0.2 ml solution of 3.1% trisodium citrate was poured in a marked test tube, then Child's part was prepared to collect venous blood sample. The blood (1.8 ml) was directly collected in the marked test tube containing trisodium citrate solution (0.2 ml).

Then plasma was separated from the venous blood after centrifuging the blood and the plasma, thus, separated was transferred to another test tube.

PRINCIPLE OF PROTHROMBIN TIME

Principle of the test is based on a fact that if all the substances theoretically required for coagulation of blood, are mixed in optimal amount then the prothrombin time is directly proportional to the concentration of prothrombin present. The test is customary called prothrombin time (PT).

Depending upon the exact procedure, two methods of prothrombin time determination are known (a) Giegy's method, (b) Quicke's one stage method.

Quicke's one stage method was used in the present study to determine prothrombin time.

PROCEDURE FOR QUICKE’S ONE STAGE METHOD

In this procedure first of all thromboplastin solution (6.5% suspension) was prepared in normal saline. The main steps of the test are:
1. Contents of 1 capsule of thromboplastin were dissolved in 5 ml normal saline and 2 ml of supernatant from this solution was transferred to another test tube. To this 2 ml solution (supernatant) was added 2 ml calcium chloride (M/40 solution of calcium chloride) and the solution containing mixture was incubated for 15 minutes at 37°C.

2. Venous blood of the case (1.8 ml) was taken in another test tube containing trisodium citrate(0.2ml). This was centrifuged for 2 minutes to separate plasma and then incubated for 5 minutes at 37°C.

3. Finally 0.2 ml solution was taken from the mixture of thromboplastin and calcium chloride in another test tube and to that was added 0.1 ml of baby's plasma, while the stop watch was started. Time taken to form a web in the test tube was noted and the reading was taken as prothrombin time (PT) in seconds. With each batch of test a control was run.

All the tests were performed within one hour after taking the venous blood from the babies selected for the study.

Each test was performed twice and mean of the two readings was taken as prothrombin time (PT) in seconds.