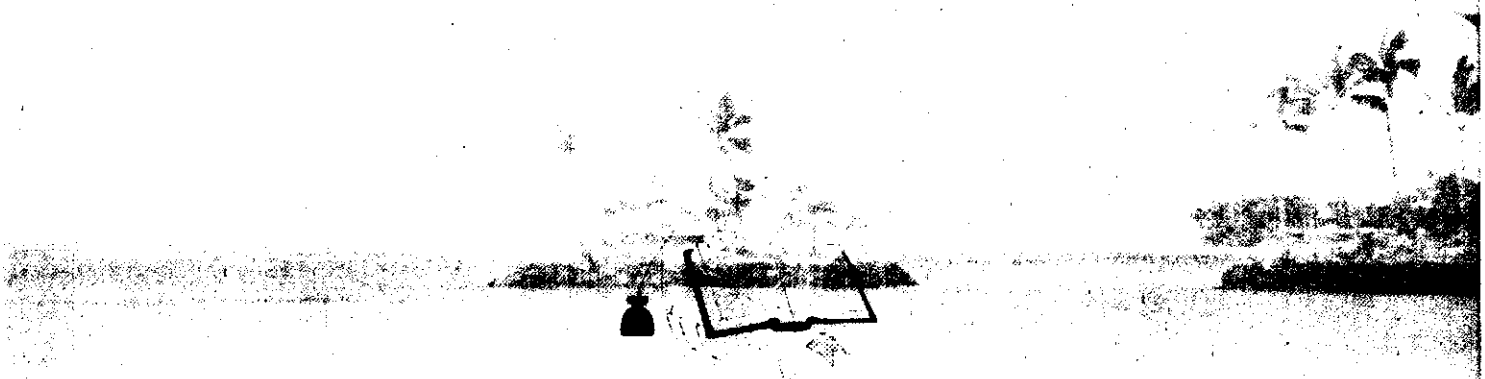
INTRODUCTION
&
AIM OF THE WORK



INTRODUCTION AND AIM OF THE WORK

Calcium is an essential requirement for many biological processes and is required by many enzymes for full activity. It is the most prevalent electrolyte in the body, it forms about 1.6% of the total body weight. The full term newborn body had a calcium reserve of about 30 gm as compared to 100 gm in adult ***(Martin, 1984).***

In newborn infants, rapid ossification begins soon after birth, so they need aready supply of Ca throughout infancy ***(Guyton, 1991).***

Fetal accretion rate of Ca is 130-150 mg/kg/day of elemental Ca, 80% of the skeletal up take occurs in the last trimester, therefore, preterm infants < 1500 gm have minimum Ca stores ***(BenJamin, 1985).***

At all ages, 99% of body Ca is stored in bones. Non skeletal Ca is present in the body fluids and soft tissues in very low conc. (1%). The conc. of Ca in plasma is normally varying between 9.0 and 10.5 mg/dl which is equivalent to 2.4-2.6 mmol/l ***(Guyton, 1991).***

In healthy term babies, calcium concentration will decline for the first 24 to 48 hours; the nadir is usually 7.5 to 8.5 mg/dl there after, Ca conc. progressively rise to the mean values observed in older children ***(Greer, 1982).***

Early neonatal hypocalcemia is frequantly observed in high risk neonates, which constitute 9% of all live born infants. This group include prematures, infants who suffered perinatal asphyxia and infants of diabetic mothers ***(Pursley and Cloherty, 1991 & Allan, 1993).***

Seizures occuring in those high risk infants are potentially life-threatening especially in the first month of life ***(Levine, 1988).*** Causes of neonatal seizures are numerous. Alterations in the metabolism of calcium and magnesium are among the important causes of such seizures ***(Bernes and Kaplan, 1994).***

This work aimed at studying the Ca and Mg in the first three days of life in high risk babies (Preterm, IDM and thos with RD), factors affecting their metabolism such as, serum inorganic phosphates (Pi), parathormone (PTH), calcitonin and serum albumin were studied as well.