INTRODUCTION
INTRODUCTION

Considerable attention is now being paid to foetal maturity and to methods for its assessment, not only by obstetricians and neonatologists but their colleagues, providing diagnostic support in biochemistry, radiology or ultrasonics.

Occasionally few cases of fulminant pre-eclampsia and placental abruption need induction in mother's interest but many cases of immaturity, elderly primigravidae and mothers - with bad obstetrical history are allowed to continue pregnancy to as near term as possible, although these are high risk patients.

In certain cases of post maturity labour is often induced under an erroneous impression of the diagnosis. Besides if induction fails in these cases specially if the nature of induction was artificial rupture of membranes, intra-uterine injection supervision and caesarean section complicates the matter further.

In all these circumstances, careful assessment of foetal maturity is essential. Because as far numerous likelihood maternal and uncertain timing of evolution specially seen after oral contraception and postnatal amenorrhoea where menstrual history is often an unreliable guide for calculation of gestation age.
For the obstetrician who has reason to terminate a pregnancy the assessment of foetal maturity and also its intrauterine state is of great importance.

Foetal maturity includes the simple chronological process of increasing gestational age, the growth of the foetus in terms of increasing size and weight, and functional maturity signifying physiological development of the foetal tissues and systems. Better is the most important amongst those which determine viability of the foetus. It is upon the functional capacity of the lungs, rather than other organs, that the undamaged live born baby's survival depends.

Since it is clear that simple determinant of the foetal capacity for extra uterine viability relates to his capacity to escape from a uterine environment ready and able to breathe air, the more practical and meaningful measure of foetal maturity would be the ability to determine whether a foetus could successfully meet this supreme challenge of extrauterine environment.

Prematurity with low birth weight is one of the main etiological factors in perinatal mortality. Since the premature infant is subjected to the risk of hypoxia caused by disease causing respiratory distress and this complication is a major cause of death in these small infants.
The lungs of these neonates are deficient in surfactant, which because of its unique variable surface tension effect when compressed prevents atelectasis and collapse of the alveoli at the end of expiration, thereby maintaining expansion of the alveoli on inspiration.

Babies born without this protective coating may developed respiratory distress syndrome (R.D.S.). In this situation, alveolar surface will be elevated after expiration causing alveoli to collapse and inducing progressive atelectasis.

Glick (1967) has found that this surface active substance is abundant in neutral lipids and phospholipids specially lecithin, perhaps lecithin rich material could be detected before term by amniocentesis because it has been suggested that fetal tracheobronchial tree contributes in part to the contents of amniotic fluid. The relative proportions of lecithin and sphingomyelin in amniotic fluid analysis proved diagnostic to maturity. Prior to alveolar stability (about 36 weeks gestation) the ratio of lecithin to sphingomyelin is less than or equal to 1 (see). Pulmonary insufficiency, however, was heralded by a sudden change in the ratio in favor of lecithin. A ratio more than 2:1 indicates that a baby born at that point would not develop respiratory distress syndrome.
As literary data are quite unreliable and even contradictory it is of interest to handle this problem again particularly in large sera's doses of normal and abnormal pregnancies with following aims and objectives:

1. To estimate levels of lecithin and sphingomyelin and their ratio during various periods of gestation.

2. To see whether amniotic fluid L/S ratio can serve as a good parameter for foetal lung maturity.

3. To see whether L/S ratio can be of significance in complicated pregnancies in assessing foetal lung maturity.