INTRODUCTION AND AIM OF THE WORK

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Labor is the process by which the uterus expels the fetus through the birth passages. Labor to be normal must continuously progress. In normal circumstances the onset of labor is dictated by the feto-placental unit and labor is maintained probably also by fetus and placenta with some help from the mother, but final delivery of the child is completed usually by the expulsive effort of the mother herself ***(Lewis and Chamberlain, 1990).***

The human fetal membranes and uterine decidua are believed to play a central role in the metabolic event that lead to the initiation of parturition. Indeed, many factors that adversely affect these tissues cause premature labor ***(Mac Donald et al., 1978)***

Arachidonic acid is mobilized from fetal membranes (amnion and chorion laeve) during human parturition . Activation of the enzymatic mechanisms that catalyze the release of free arachidonic acid from phospholipids of fetal membrane is one of the primary events in the initiation of parturition ***(Okita et al., 1982)***.

Leukotrienes are 5- lipoxygenase metabolites of arachidonic acid with potent biological effects in several organs . Leukotriene B_4 (LTB_4) is a potent chemotactic agent involved in inflammatory reactions . It

has few direct muscle-stimulating actions. It is possible that it contributes by indirect route because it can mobilize calcium and stimulate phospholipase A_2 activity leading to prostaglandin formation (***Lewis and Austen, 1984).***

It is speculated that the formation of LTB_4 is predominantly done by tissues of fetal origin (***Mitchell et al., 1987).*** The spontaneous onset of labor is associated with increased mobilization of arachidonic acid from fetal membranes. . It is known that these tissues have active cyclo and lipoxygenase pathways. Both cyclo-and lipoxygenase metabolites increase in amniotic fluid in spontaneous labor at term ***(Romero et al., 1987a).***

Lopez et al. (1990), suggested that the production of LTB_4 by human placenta was high in early pregnancy, but remained low during the third trimester, with a significant increase during spontaneous labor at term. LTB_4 output was low in uncomplicated preterm labor. Infection and labor had additive effect in the elevation of amniotic fluid concentrations of LTB_4 ***(Romero et al., 1987b).***

Cyclo-oxygenase and lipoxygenase products exhibit diverse and often opposing biologic characteristics . One possibility is that these two systems may serve to modulate tone in the uterine vascular beds and that ovarian steroids may regulate the levels of prostaglandins and

leukotrienes by shunting arachidonic acid metabolism from one pathway to the other (***Parisi et al., 1984).***

Although a direct effect of steroid hormones on the initiation of labor has been shown in animals conclusive data on human parturition are lacking ***(Keresztes et al., 1988).*** However, the steroid hormone are involved in human parturition , estrogen and progesterone hormones play only a facilitatory role in the initiation of labor ***(Fuchs and Fuchs, 1984).***

The aim of the work :

The aim of this work is to find the role of leukotriene B_4 (LTB_4) , estrogen and progesterone in parturition. The inter-relationships between these substances will be studied in both the amniotic fluid and umbilical cord blood in the following groups :

1- Control elective caesarean section at term

2- Spontaneous vaginal term labor

3- Spontaneous preterm labor