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Women's specific health needs are intimately connected to their reproductive role. Safe motherhood concept aims at providing the support systems to ensure satisfactory outcome of labour for the mother and her unborn child.

Giving birth to a baby on one hand provides happiness to the mother and entire family but on the other hand it has always been darkened with pain, agony and fear of some mishap. For ages long there has been no solution for the problems of prolonged labour leading ultimately to great mortality and morbidity.

The process of parturition is a complex process involving the uterus, the cervix and the body system as a whole. In attempts to augment the labour process attention was primarily but mistakenly directed to only the uterus as the main contractile and propulsive forces for the foetus, while the cervix has been regarded as a passive, inferior part of the uterus which resulted in many unfortunate failures and subsequent problems.

Today, increased knowledge of the biochemistry and histology of the cervix indicates that this organ plays a much more active and prominent role in the delivery mechanism and it is a well known fact that success of induction depends to a large extent upon the consistency, compliance and anatomic configuration of the uterine cervix.
The process involving physically detectable softening, shortening and dilatation of cervix occurring before the onset of parturition is referred to as ripening or priming. The process of ripening has been suggested to occur over a period of time as short as 12 hours and as long as 6 to 8 weeks. The onset of labour, length of labour and success of induction of labour all depend on the degree of cervical ripeness. Induction of labour for medical and obstetric indications leads to a successful vaginal delivery in a high percentage of patients with ripe or easily inducible cervixes. But on the other hand, induction of labour in a patient with an unripe cervix has always posed a formidable challenge to the clinician. Patients with firm closed and unripe cervixes at the time of induction have a high incidence of failed induction (20-50%). (Bishop 1964, Friedman, 1966). More maternal pyrexia, birth asphyxia, further, when vaginal delivery is achieved, these patients undergo prolonged labour, higher incidence of instrumental delivery and increased maternal and foetal morbidity (Turnbull, 1968).

However, in numerous circumstances such as when pregnancy is complicated by pre-eclampsia, essential hypertension, prolonged gestation, intrauterine growth retardation, intrauterine death, oligohydramnios, diabetes, suspected placental insufficiency, Rh sensitization, necessitate delivery, induction of labour is usually pursued, if immediate delivery is not eminent.
The ideal cervical priming agent is one that causes cervical change similar to that seen in the natural ripening process. It should not affect the uterine blood flow or the foeto-placental unit as many of the foetuses involved are at high risk. It should neither affect the uterine blood flow nor the foeto-placental unit nor maternal well being by causing extreme vomiting, diarrhoea, infection or discomfort. There should be no trauma to cervix and uterus which would affect the future pregnancies in a detrimental manner. The agent should be safe and practical to use and should not require complicated storage and preparation. The application should be acceptable to the patient and staff and cause no untoward complication. It should be economical.

A long list of mechanical, hormonal and medical methods have been tried over the years. Of all the priming agents local prostaglandin gel has proved to be the most desirable priming agent. Prostaglandins, PGE₂ in particular is directly involved in the initiation of labour and cervical priming and is also produced endogenously.

The clinical response to oxytocin depends on the functional state of both the cervix and myometrium. It is a well known clinical experience that unripe cervix may resist forceful myometrial contractions produced by oxytocin. Patients with firm closed and unripe cervixes at the time of induction have a high incidence of failed induction (20-50%) (Bishop, 1964 and Friedman, 1966). Further, when vaginal
delivery is achieved these patients undergo prolonged labour higher incidence of instrumental delivery and increased maternal and fetus mortality (Turnbull, 1968).

Intracervical PGE₂ gel can ripen the cervix, permitting subsequent induction by oxytocin infusion, without the risk of myometrial hyperstimulation (Ekman Wingerup and Ulmsten, 1983).

In patients with favourable cervical state oxytocin infusion continues to be an effective and safe drug for term labour induction. There is an increasing evidence suggesting the endogenous production of prostaglandin in the cervical tissue is an important factor in cervical ripening. PGE₂ has been administered vaginally, endocervically extra amniotically in viscous vehicle. Endocervical gel application offers an advantage of lower dose and lesser side effects.

Very few side effects with cervix prime gel are occasional nausea and vomiting or diarrhoea, uterine contraction abnormalities with hypertonic contractions and foetal distress.

Intravenous oxytocin is found to be associated with uterine hypertonus, foetal bradycardia and water retention, an increased incidence of neonatal jaundice.

Thus, a local application of PGE₂ adds to the natural process, when compared with vaginal application. The intracervical application has fewer side effects because of direct access to the target organ and lower systemic dose required.
In the present study undertaken at M.L.B. Medical College, Hospital, "Intracervical PGE\(_2\) gel is used for enhancement of priming and induction of labour at term in patients with an unfavourable cervix followed by oxytocin infusion after 12 hours and comparative study was done with oxytocin alone."