SUMMARY

Misoprostol has been extensively investigated in the past few years for use in cervical ripening and labor induction. Marketed as a gastric cytoprotective agent, the drug is also an effective, safe and inexpensive agent for cervical ripening and labor induction for those with unfavorable cervix, although it is not FDA-labeled for that purpose.

Misoprostol is a synthetic analogue of PGE1, it can be administered by different routes in the obstetric field vaginally, oral , rectal and recently sublingual.

Total systemic bioavailability of vaginally administered misoprostol is three times greater than that of orally administered misoprostol.

The nitric oxide and its donors have been discovered since many years as coronary vasodilators with different effects on reproduction and cervical ripening. In the last few years several studies have investigated the effects and side effects of isosorbide -5- mononitrate in cervical ripening and labor induction.

Nitric oxide is a free radical with ultra short half life, synthesized form L-arginine by the enzyme nitric oxide synthase (NOS). in human it is involved in many physiological and pathophysiological processes, in pregnancy produced endogenously in the human uterine cervix and placenta, it stimulates cyclo-oxygenase II which is involved in prostaglandin synthesis.

The purpose of this study was to evaluate the vaginal isosorbide-5-mononitrate , to compare the vaginal delivery rate and the delivery

interval using 40 mg of isosorbide-5- mononitrate versus 50 micrograms misoprostol administrated vaginally in any pregnant women more than 37 weeks gestational age with various indications for labor induction, investigating the efficacy and safety as regard maternal and neonatal outcomes.

One hundred women with different indications for induction were enrolled in this study. They were randomized so that 50 women received 50-ug misoprostol vaginally (group I) and the other 50 women received 40 mg of siosorbide-5- mononitrate vaginally (group II) .

The induction delivery interval was longer in the isosorbide group than in the misoprostol group, also the isosorbide group needed more doses of oxytocin.

There was no statistically significant difference between the 2 groups as regard the mode of delivery, the parity, the gestational age and the neonatal outcomes.

So 50 micrograms of vaginal misoprostol every 4 hours has better efficacy than 40 mg of vaginal isosorbide as regard shorter induction delivery interval and less number of oxytocin doses used.

It seems that isosorbide-5-mononitrate is more acceptable to be used at outpatient's clinics as it doesn’t not lead to hyperstimulation, which obviates the need of monitoring the fetal heart rate repeatedly.