RESULTS

Labor characteristics in the study groups :

Dosage of misoprostol :

The total number of doses taken by the vaginal group was 130 doses versus 157 doses, taken by the oral group. This difference was statistically significant.

The average number of doses of misoprostol used for every patient in the vaginal group was 2.6 ± 1.01 doses versus 3.14 ± 0.88 doses for every patient in the oral group. This difference was statistically significant (Table 4) .

Induction-activation time :

The mean induction-activation time was 132.46 ± 39.53 minutes in the vaginal group versus 169.78 ± 82.95 minutes in the oral group. This difference was statistically significant (Table 4) (Fig. 3) .

Success and failure rates :

Labor was successfully induced in 42 cases (84%) in the vaginal group versus 43 cases (86%) in the oral group. However, the failure to achieve vaginal delivery in 4 cases (8%) in the vaginal group was due to operative interference for hyperstimulation syndrome and not due to failure to progress in labor.

Eight cases (16%) in the vaginal group showed failed induction of labor versus 7 Cases (14%) in the oral group, without significant difference. The causes of induction failure were;

one case of anencephaly in each group, arrested progress of cervical condition (1 versus 3)
failure of head descent due to cephalopelvic disproportion (2 versus 3), and fetal distress
(4 versus 0) in the vaginal and oral groups, respectively (Table 4) .

Table 4 : labor characteristics in the study groups .

Variables	**Vaginal Group N = 50**	**Oral Group N = 50**	**Statistics**
Total number of doses	130	157	X^2 = 2.66, p 0.05 *
One dose : no (%)	6 (12)	1 (2)	
Two doses : no (%)	21 (42)	13 (26)	
Three doses : no (%)	10 (20)	14 (28)	
Four doses : no (%)	13 (26)	22 (44)	
Average number of doses Mean ± SD	2.6 ±1.01	3.14 ± 0.88	1=2.98,p0.043*
Induction – activation time (min)	132.46±39.53	169.78±82.95	1=5.27,p0.001*
Successful induction : no (%)	42 (84)	43 (86)	Z = 1.03, p 0.31
Failed induction : no (%)	8 (16)	7 (14)	Z = 1.35, p 0.21
Causes of induction failure			
Arrested progress : no (%)	1 (2)	3 (6)	Z = 2.65, p 0.04 *
Failure of head descent : no (%)	2 (4)	3 (6)	Z = 0.45, p 0.5
Fetal distress : no (%)	4 (8)	0 (0)	
Anencephaly : no (%)	1 (2)	1 (2)	

- Statistically significant difference. P ≤ 0.05

- Non significant : P > 0.05

Uterine overactivity :

Uterine overactivity was recorded in 7 cases (14 %)in the vaginal group versus 4 cases (8%) in the oral group. This difference was statistically significant (Table 5) .

Passage of meconium :

Passage of thin meconium was noticed in 4 cases (8%) in the vaginal group versus 3 cases (6%) in the oral group. This difference was statistically non significant (Table 5) .

Maternal side effects :

Maternal side effects in the from of vomiting (two cases in the vaginal group and one case in the oral group) and diarrhea (one case in each group), were the only maternal side effects noticed, without significant difference between both groups (Table 5)

Fetal distress :

Intrapartum fetal distress was noticed in 4 cases (8%) in the vaginal group versus 2 cases (4%) in the oral group. This difference was statistically non significant (Table 5) .

Table 5 : Intrapartum complications and side effects in the study groups.

Variables	**Vaginal Group N = 50**	**Oral Group N = 50**	**Statistics**
Uterine overactivity: no (%) Hyperstimulation syndrome Tachysystole	7 (14) 4 (8) 3 (6)	4 (8) 2 (4) 2 (4)	X^2 = 3.983,p0.032*
Thin meconium : no (%)	4 (8)	3 (6)	Z= 1.079,p0.13
Vomiting : no (%)	2 (4)	1 (2)	Z= 1.2, p 0.23

Diarrhea : no (%)	1 (2)	1 (2)	
Intrapartum fetal distress: no (%)	4 (8)	2 (4)	Z = 1.8, p 0.05 *

* statistically significant difference $P \leq 0.05$

Non significant : $P > 0.05$

Induction delivery interval :

The mean induction- delivery interval was 757.68 $\pm$ 380.49 minutes in the vaginal group versus 991.02$\pm$ 507.88 minutes in the oral group and this difference was statistically significant (Table 6). (Fig.4)

Mode of delivery and its induction:

Vaginal delivery occurred in 40 cases (80%) in the vaginal group versus 39 cases (78%) in the
Oral group, without significant difference.

Vaginal delivery succeeded through retrial after 3 days for one case of anencephaly in each group.

Vacuum extraction was done for 2 cases (4%) in the vaginal group versus 4 cases (8%) in the oral group. This difference was statistically significant .

Cesarean section was performed for 7 cases (14%) in the vaginal group versus 6 cases (12%) in the oral group, without significant difference between both groups (Table 7).

Intrapartum changes in the bishop score :

Bishop score before the 2nd dose in the vaginal group was 5.83 $\pm$ 2.19 versus 4.35 $\pm$ 1.47 in the oral group. This difference was statistically significant . The changes in the Bishop score before the 3rd and 4th doses in both groups were not statistically significant as shown in (Table 8).

Table 6 : induction- delivery interval in the study groups.

Variables	Vaginal Group N = 42	Oral Group N = 43	Statistics
induction- delivery interval (min) Mean ± SD	757068 ± 380.49	991.02±507.88	t = 3.26,p0.041*

- statistically significant difference. $P \leq 0.05$
- Non signifiant : $P > 0.05$

Table 7 : Mode of delivery and its indications.

Variables	Vaginal Group N = 50	Oral Group N = 50	Statistics
Spontaneous vaginal delivery: no(%) Vaginal delivery after retrial : no(%)	40(80) 1 (2)	39 (78) 1 (2)	Z= 0.98,p0.38
Vacuum extraction due to : Prolonged 2nd stage : no(%) Fetal distress : no(%)	 2 (4) 0 (0)	 2 (4) 2 (4)	Z= 1.99, p 0.5*
Cesarean section due to : Arrested progress : no(%) Failure of head descent : no(%) Fetal distress : no(%)	 1 (2) 2 (4) 4 (8)	 3 (6) 3 (6) 0 (0)	Z= 1.68, p 0.1 Z= 1.58, p 0.05 Z= 0.98, p 0.3

* statistically significant difference $P \leq 0.05$
Non significant : $P > 0.05$

Table.(8): Intrapartum changes in the Bishop score

Neonatal outcome :

The mean birth weight was (3472 ± 359.7 gm) in the vaginal group verses
(3 404 ± 239.9 gm) in the oral group, without significant difference between both groups .

Six newborns (15%) in the vaginal group verses 5 newborns (11.6%) in the oral group
Needed admission to neonatal intensive care unit (NICU) without significant difference between both groups .(Table 9)(Fig.5)

Table 9 : Neonatal outcome in the study groups.

Variables	Vaginal Group N = 40 *	Oral Group N = 43 *	Statistics
Birth weight (gm) Mean ± SD Apgar score:1 minute < 7 Apgar score:5 minute < 7 Admission to NICU #	 3472 ± 359.7 5 (12.5) 2 (5) 6 (15)	 3404 ± 239.9 4 (9.3) 1 (2.3) 5 (11.6)	 T=1.36, p 0.12 Z=1.32, p 0.21 Z= 0.98, p 0.35 Z = 0.82, p 0.41

* Statistically significant difference $P \leq 0.05$
Non significant : $P > 0.05$

* Excluding cases with IUFD, anencephaly, and multiple congenital anomalies.
# NICU : neonatal intensive care unit.

The third stage of labor :

The mean duration of the third stage for the vaginal group was 8.69 ± 2.98 minutes versus
9.36 ± 3.02 minutes in the oral group . There was no statistically significant difference (table 10)

Table 10 : Third stage of labor

Variables	Vaginal Group N = 42	Oral Group N = 43	Statistics
3 rd stage (min): mean ± SD	8.69 ± 2.98	9.36 ±3.02	t = 1.2, p 0.19

Non significant : P > 0.05