



## **Trends in the Methods of Induction of Labour: Where We Stand**

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**Abstract**

*Induction of labour (IOL) has become more common throughout recent years. In Saudi Arabia, IOL is achieved by Prostin, Propess which are cervical PGE2 or mechanical induction via foley's catheter balloon. The method of induction is decided by the physician and patient after counselling and is tailored to each case. This paper will analyse the trends and outcomes in the above mentioned methods of IOL. Numbers of inductions and their outcomes were followed over 84 days in our tertiary centre with average of 6 inductions per day. The data yielded Prostin to be superior to other agents of induction with the highest number of successful inductions of labour and least number of Caesarean sections.*

**Objective**

This paper aims to study trends and outcomes of different methods of IOL. This could be utilised by obstetricians when deciding a method of induction and in tailoring a plan of induction for their patients. Moreover, data can be compared to international data to insure achievement of international goals in obstetric care locally.

**Sample and Method**

The numbers of inductions of singleton pregnancies were recorded over the period of 12 weeks, February-April 2022. They were then, divided retrospectively based upon the methods of induction mentioned above. Each case was then traced until delivery to record the events that lead up to delivery including mode of delivery. Cases were subdivided into: number of cycles of induction needed to achieve labour, unsuccessful inductions and cases that were induced and ended with caesarean section. Data were analysed and results were compared to international data.

**Results**

The two agents of labour (Prostin and Propess) are comparable but have differences both locally and

internationally x. In terms of number of inductions, Prostin had the highest cases accounting for 72.7% of the total cases of induction. Compared to Propess 21.8% and mechanical 5.5%. The same trend was observed in the number of successful inductions where Prostin had the highest cases (344 cases- 84.5%) compared to Propess (98 cases- 80.3%) and mechanical (13 cases- 41.9%). These figures are compared to international benchmark where Prostin is the most used method of induction of labour followed by Propess and mechanical methods X.

	<b>Prostin</b>	<b>Propess</b>	<b>Mechanical</b>	<b>Total</b>
No. of induction	407	122	31	560
No. of induction completed 1 cycle	51	36	13	100
No. of induction completed 2 cycle	7	3	0	10
No. of unsuccessful IOL	33	14	7	60
No. of patient induced & ended by C/S	30	10	11	51

Interestingly, The number of inductions that completed a second cycle had Propess (3 cases – 3.1%) leading, followed by Prostin (7 cases – 2.0%). While mechanical IOL did not record any cases that completed a second cycle. As shown in the table above, mechanical induction by Foley’s catheter balloon had the highest failed induction percentage (7 cases – 22.6%), followed by Propess (14 cases- 11.5%) and Prostin (33 cases- 8.1%). As observed, in the number of patients induced and ended with C/S, Prostin had the lowest percentage of cases (7.3%) compared to Propess (8.1%) and mechanical IOL (35.4%).

## **Discussion**

According to ACOG 20%-40% of pregnancies are now induced. Methods of inductions varies among centres depending on local policies and guidelines. In our centre, Prostin is usually used to induce multiparous women which explains the bigger sample number. Propess however is used in the induction of primigravid women. Pharmacological induction is not usually used in patients with history of uterine surgery such as a caesarean section because it can increase the risk of uterine rupture X. Therefore, women with a previous scar are usually induced via foleys catheter balloon.

The higher number in the prostin group is explained by the population its used for, however this does not affect the validity of the results as the numbers were changed to percentages and all three groups were rebased to 100. The sample number in each group is expected, the majority would be multigravida women followed by primigravida women and finally the smallest group would be women with previous scar who are candidates for a trial of labour after caesarean section.

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The number of successful inductions is defined as the number of patients who received any of the induction methods studied and/ or completed one or two cycles of induction. Although this study shows prostin to be superior to propess, the literature suggest they are quite similar in terms of achieving successful induction and delivery. X, 20xx and many concluded, patients who received propess had a shorter induction to delivery interval and unlike patients who were induced by prostin, they did not need oxytocin augmentation. The Prostin group was leading in the number of successful inductions which can be explained by the likelihood of multiparous women of having a smooth successful vaginal delivery more than nulliparous women or women with previous section.

Expectedly, failed inductions were highest in women with previous scar which can be due to many factors that initially predisposed them to the first scar. Propess came second in the number of failed inductions which can be explained by the type of cases induced by propess; primigravida women who are at a higher risk of caesarean delivery when compared to multiparous women.

In conclusion, this study suggests Prostin is a more efficient method of induction and is more cost effective than propess. As any other paper, this one had the limitation of prostin being reserved for multiparous who were already advantaged by have a previous successful vaginal delivery and propess being preserved for primigravida women who already carries the risk of caesarean section and failed vaginal delivery attempt.

## References

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