Comparison between the Use of Misoprostol Plus Oxytocin versus Oxytocin Alone to Reduce the Intraoperative and Postoperative Hemorrhage during Cesarean Section

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Abstract

Objective: This study was designed to compared the efficacy of administration of oxytocin plus misoprostol versus oxytocin alone during cesarean section to reduce intra-operative and post-operative bleeding in cesarean section.

Study Design: This was an interventional prospective controlled study assessing the use of postpartum rectal misoprostol in addition to intraoperative IV infusion of oxytocin during cesarean delivery to reduce intra-operative and post-operative blood loss in comparison with routinely used intra-operative IV infusion oxytocin injection alone. The study was composed of 80 women undergoing cesarean delivery under general or spinal anaesthesia, subjects included in the study randomized into two groups:

• The first group (40 women): Received post-partum misoprostol 800mcg, administered rectally in addition to intra-operative 10IU of IV infusion of oxytocin.
• The second group (40 women): Received intra-operative 10 IU infusion of oxytocin after the delivery of the neonate as slow IV dose.

Results: In our study, differences in the age, parity and gestational age were statistically insignificant among the two groups. In our study, 22.5% among the first group patients needed further uterotonic agents compared to 32.5% of the patients in the other group, also 15% out of the first group needed blood transfusion, compared to 17.5% of the second group, which is statistically insignificant. According to our study, no statistical significance was found between IV oxytocin alone and post-operative rectal misoprostol in addition to intra-operative IV oxytocin in the estimated mean operative blood loss, hemoglobin and hematocrit values preoperatively and postoperatively and pulse and mean arterial pressure measured both pre-operatively and post-operatively.

Conclusion: In comparison between oxytocin plus misoprostol and oxytocin alone in the management of the third stage of labour. Oxytocin was preferred in our study and misoprostol an option when oxytocin not available.

Key Words: Misoprostol – Oxytocin – Postpartum hemorrhage.

Introduction

CESAREAN delivery is the most common major surgical procedure performed on women worldwide and its rates continue to rise steadily in both developed and developing countries [1]. With the most substantial improvement from 2012 to 2013 at –3.3%. Many of the global gains in reducing maternal mortality can be attributed to developments in preventing and treating Postpartum Hemorrhage (PPH). In fact, the biggest absolute reduction was in maternal deaths due to hemorrhage. Yet, PPH remains the most common cause of maternal death globally [2]. Adequate management of the third stage of labor is critical due to the fact that postpartum hemorrhage often presents following that stage. Proper management of the third stage of labor makes it possible to avoid or at least alleviate postpartum hemorrhage. Active and physiologic management (also known as expectant approach) have been defined as the two main types of management protocols. Active management consists in early umbilical cord clamping, the use of uterotonic agents after birth, controlled cord traction, and uterine massage. Await the signs of placental separation and allow for the placenta to fall by maternal effort or spontaneously, with gravity, and do not use uterotonic agents or clamp the cord until placental expulsion [3]. Recent studies from developed countries report an increase in the rate of postpartum hemorrhage, which has been attributed (at least in part) to a rise in the rate of
cesarean delivery [4]. Large population-and hospital-based cohort studies have attributed this to uterine atony after vaginal or cesarean deliveries [5]. Postpartum hemorrhage following a cesarean delivery has been defined as blood loss over 1000ml [6], based on a study from the early 1960s [7]. Recent studies have estimated that the prevalence of postpartum hemorrhage after cesarean delivery ranges from 0.6% to 6.4% (median, 3%), although the frequency depends on the criteria used to define this condition and the method used to calculate blood loss [8]. The efficacy of routine administration of uterotonic agents, mainly oxytocin, to reduce the frequency of postpartum hemorrhage after vaginal birth is well-established [9]. It has been assumed that the benefits of injectable uterotonic agents observed for vaginal births also apply to cesarean deliveries; yet, this has not been rigorously demonstrated. An updated guideline of the Royal College of Obstetricians and Gynecologists on cesarean delivery recommends a slow intravenous bolus dose of 5IU of oxytocin after delivery of the neonate to ensure adequate uterine contractility, minimize delay in the delivery of the placenta, reduce intra-operative blood loss and prevent postpartum hemorrhage [10]. In contrast, in the United States, the practice is to use an oxytocin infusion instead of a bolus dose [11]. Misoprostol, a prostaglandin E1 analogue with strong uterotonic properties, has been suggested as an alternative to injectable uterotonic agents for preventing postpartum hemorrhage following vaginal or cesarean deliveries.

Patients and Methods

Study area:
Gynecology and Obstetrics Department of Al-Sheikh Zayd Al-Nahyan Hospital in Cairo. Tertiary Hospital. Over the period from December 2015 to May 2016.

Study design:
An interventional prospective controlled study assessing the use of postpartum misoprostol rectally in addition to IV oxytocin during cesarean delivery (to reduce intra-operative and post-operative blood loss) in comparison with routinely used intravenous oxytocin injection alone.

The study was composed of 80 women aged between 23-36 years, admitted to Al-Sheikh Zayd Al-Nahyan Hospital-Obstetrics and Gynecology Department underwent cesarean delivery over the period from December 2015 to May 2016.

Subjects included in the study randomized into 2 groups:
- The first group (40 women): Received post-partum misoprostol 800ug, administered rectally in addition to intra-operative 10IU of IV oxytocin.
- The second group (40 women): Received intra-operative 10IU of oxytocin after the delivery of the neonate as slow IV dose.

Randomization to each group of (two groups) was carried out using a computer-generated randomization list of numbers, without a fixed number of subjects per group. The information on the group assigned was then placed inside an individual, sealed, opaque and sequentially numbered envelope. This was prepared by the statistician and it was not available to the doctors who were responsible for inviting, getting consent and enrolling women.

Primary outcomes (most important outcomes to be assessed):
To compare the efficacy of post-partum rectal misoprostol in addition to intra-operative IV oxytocin with intra-operative IV oxytocin alone during cesarean delivery to reduce intra-operative and post-operative blood loss.

Secondary outcome parameters (other outcomes to be assessed):
A- Subsequent need for additional uterotonic drugs.
B- To document safety and evaluate adverse events recorded during the study either maternal or fetal.

Inclusion criteria:
- Gestational age 37-40 WKs.
- Lower segment CS.

Exclusion criteria:
Women excluded were pregnant females showing:
- Women with any risk factors associated with an increased risk of postpartum hemorrhage excluded as HTN, Diabetes.
- Anemia (Hb <10g%).
- Multiple gestation.
- Antepartum hemorrhage.
- Polyhydramnios.
- History of previous rupture uterus.
- History of significant disease including heart disease, liver, renal disorder or known coagulopathy.

Study instruments:
All individuals were subjected to the following:

**Full history taking including:**
- Age.
- Gestational age.
- Obstetric code.
- Mode of delivery in the previous pregnancy/pregnancies if present.
- Exclusion of any medical disorder, or any drug intake which may affect neonatal wellbeing.

**Thorough clinical examination:**
- Vital signs: Focusing on blood pressure to exclude Pregnancy Induced Hypertension (PIH).
- Systematic examination, including BMI of the pregnant women, where BMI=weight in Kg/height in m$^2$.
- Obstetric examination.

**Laboratory investigations:**
- Fasting and 2h PP blood sugar.
- Proteinuria.
- CBC, PT, PC, INR, liver & kidney functions.

**Ultrasound:**
- To assess Biophysical Profile (BPP), which include: Amniotic Fluid Index (AFI), fetal movement, fetal tone, fetal breathing, and non-stress test using CTG, to assess fetal wellbeing in elective cesarean section.
- To confirm the gestational age.

**Estimated blood loss:**
- Pre-operative Hb, post-operative Hb.
- Pre-operative hematocrit, post-operative hematocrit by fixing amount of fluids given to the patient.

Postpartum hemorrhage:
- Number and weight of pads used and soaked within the first hour after completing the cesarean section, weight of blood clots as well.

Statistical analysis of the obtained data.

Data management/analysis:
The data was entered into a secured personal computer using Microsoft Excel software 2016 version and the statistical analysis was performed using computer software SPSS for Windows Version 22.

Categorical variables are summarized as numbers and percentages, whereas normally distributed continuous variables are presented as means and standard deviations or 95% confidence interval for mean. Continuous variables that are not normally-distributed are presented as medians and interquartile ranges. Demographic characteristics and outcomes of subjects were compared using X-square for categorical data. Two-sample t-test was used for comparison of continuous data from two groups. All tests were performed two-sided and the differences were considered statistically significant if the p-value was <0.05.

Ethical consideration:
Agreement for the study obtained from the hospital’s ethical committee, and each woman signed an informed consent after adequate information on the purpose of the study, objectives, process, discomfort and benefit prior to randomization.

Results
Eighty pregnant women were included in this prospective study who underwent cesarean section fulfilling the inclusion and exclusion criteria mentioned before; they were admitted to Al-Sheikh Zayd Al-Nahyan Hospital-Obstetrics and Gynecology Department over the period from December 2015 to May 2016.

Patients classified into two groups:
- Group (I): Included 40 patients who received oxytocin plus misoprostol.
- Group (II): Included 40 patients who received oxytocin alone.

The results will be presented in Tables from (1) to (9) and Figures from (1) to (11).
Table (1) and Figs. (1,2) show demographic and some obstetrical data of between the studied groups that no statistical significant differences between the two groups as regarding gestational age, parity ($p$-value >0.05).

Table (2) and Fig. (3) represent the results of the comparison between groups regarding estimated blood loss and revealed that there was no significant difference between Misoprostol + Oxytocin group and Oxytocin only group regarding estimated blood loss (852 vs. 875ml) for the two groups respectively.

Regarding the results of the comparison between groups in Major obstetric hemorrhage, need for additional uterotonic agents and need for uterine massage (Table 3) and Fig. (4). The results indicated that there were no significant differences between Misoprostol + Oxytocin group and Oxytocin only group as regard the previous data.

Also, results of Table (4) and Fig. (5) show that there were no significant differences between group regarding the concentration of hemoglobin pre and post-operative.

Smilar results of the tend of hemoglobin were observed in Hematocrit concentration (Table 5 and Fig. 6), no significant differences between group regarding the Hct (%) pre and post-operative.

Table (6) and Fig. (7) represent the occurrence of severe anemia and need for blood transfusion. Seven cases in Group (I) and 8 cases in Group (II) who had severe anemia while 4 cases (10.0%) in Group (I) and 3 cases (7.5%) in Group (II) who needed blood transfusion with no statistically significant difference between groups.

No statistically significant difference was noticed between the two groups regarding pre and post operative systolic and diastolic blood pressure and also the mean pre and post-operative pulse (Table 7).

Table (8) presents the results of the comparison between groups regarding occurrence of vomiting and post-operative hospital stay. The results shows that 3 cases (7.5%) in Group (I) and 5 cases (12.5%) in Group (II) who had vomiting post-operative and this difference was not significant. Also, slight difference (not significant) was noticed between the two groups as regard hospital stay Figs. (8,9).

Table (9) and Figs. (10,11) showed that number of soaked towels and the amount in suctions (ml) were not differed significantly between the Misoprostol + Oxytocin and the Oxytocin only.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Groups</th>
<th>$p$-value (Sig.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group (I)</strong></td>
<td>misoprostol + oxytocin</td>
<td></td>
</tr>
<tr>
<td>(40 cases)</td>
<td>(M $\pm$ SD)</td>
<td></td>
</tr>
<tr>
<td><strong>Group (II)</strong></td>
<td>oxytocin only</td>
<td></td>
</tr>
<tr>
<td>(40 cases)</td>
<td>(M $\pm$ SD)</td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>27.9±2.4</td>
<td>28.2±2.7</td>
</tr>
<tr>
<td>Gestational age (wks.)</td>
<td>3.8±1.2</td>
<td>3.8±1.3</td>
</tr>
<tr>
<td>Parity</td>
<td>2.2±0.93</td>
<td>2.07±1.09</td>
</tr>
<tr>
<td>Primigravida</td>
<td>2 (5.0%)</td>
<td>5 (12.5%)</td>
</tr>
<tr>
<td>Para 1</td>
<td>6 (15.0%)</td>
<td>5 (12.5%)</td>
</tr>
<tr>
<td>Para 2</td>
<td>16 (40.0%)</td>
<td>14 (35.0%)</td>
</tr>
<tr>
<td>Para 3</td>
<td>14 (35.0%)</td>
<td>14 (35.0%)</td>
</tr>
<tr>
<td>Para 3</td>
<td>2 (5.0%)</td>
<td>2 (5.0%)</td>
</tr>
<tr>
<td>Weight (kg.)</td>
<td>81.1±7.7</td>
<td>79.8±6.2</td>
</tr>
</tbody>
</table>

NS: Not Significant ($p<0.05$).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Groups</th>
<th>$p$-value (Sig.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group (I)</strong></td>
<td>misoprostol + oxytocin</td>
<td></td>
</tr>
<tr>
<td>(40 cases)</td>
<td>(M $\pm$ SD)</td>
<td></td>
</tr>
<tr>
<td><strong>Group (II)</strong></td>
<td>oxytocin only</td>
<td></td>
</tr>
<tr>
<td>(40 cases)</td>
<td>(M $\pm$ SD)</td>
<td></td>
</tr>
<tr>
<td>Estimated blood loss (ml)</td>
<td>852±195</td>
<td>875±220</td>
</tr>
</tbody>
</table>

NS: Not Significant ($p<0.05$).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Groups</th>
<th>$p$-value (Sig.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group (I)</strong></td>
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<td></td>
</tr>
<tr>
<td>(40 cases)</td>
<td>(M $\pm$ SD)</td>
<td></td>
</tr>
<tr>
<td><strong>Group (II)</strong></td>
<td>oxytocin only</td>
<td></td>
</tr>
<tr>
<td>(40 cases)</td>
<td>(M $\pm$ SD)</td>
<td></td>
</tr>
<tr>
<td>Major obstetric hemorrhage:</td>
<td>No</td>
<td>34 (85.0%)</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>6 (15.0%)</td>
</tr>
<tr>
<td>Need for additional uterotonic agents:</td>
<td>No</td>
<td>31 (77.5%)</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>9 (22.5%)</td>
</tr>
<tr>
<td>Need for uterine massage:</td>
<td>No</td>
<td>30 (75.0%)</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>10 (25.0%)</td>
</tr>
</tbody>
</table>

NS: Not Significant ($p<0.05$).
Table (4): Comparison between groups regarding pre and post-operative hemoglobin concentration.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Group (I) misoprostol + oxytocin (40 cases)</th>
<th>Group (II) oxytocin only (40 cases)</th>
<th>( p )-value (Sig.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-operative Hb (g/dL)</td>
<td>10.84±0.64</td>
<td>10.78±0.61</td>
<td>0.720NS</td>
</tr>
<tr>
<td>Post-operative Hb (g/dL)</td>
<td>9.09±0.88</td>
<td>9.16±0.84</td>
<td>0.708NS</td>
</tr>
</tbody>
</table>

NS: Not Significant (\( p < 0.05 \)).

Table (5): Comparison between groups regarding pre and post-operative hematocrit concentration.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Group (I) misoprostol + oxytocin (40 cases)</th>
<th>Group (II) oxytocin only (40 cases)</th>
<th>( p )-value (Sig.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-operative Hct (%)</td>
<td>33.01±1.18</td>
<td>33.13±1.05</td>
<td>0.627NS</td>
</tr>
<tr>
<td>Post-operative Hct (%)</td>
<td>29.21±1.25</td>
<td>29.44±1.08</td>
<td>0.398NS</td>
</tr>
</tbody>
</table>

NS: Not Significant (\( p < 0.05 \)).

Table (6): Comparison between groups regarding occurrence of severe anemia and need for blood transfusion.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Group (I) misoprostol + oxytocin (40 cases)</th>
<th>Group (II) oxytocin only (40 cases)</th>
<th>( p )-value (Sig.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occurrence of severe anemia: No</td>
<td>333 (82.5%)</td>
<td>332 (80.0%)</td>
<td>0.775NS</td>
</tr>
<tr>
<td>Yes</td>
<td>7 (17.5%)</td>
<td>8 (20.0%)</td>
<td></td>
</tr>
</tbody>
</table>

Need for blood transfusion:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Group (I) misoprostol + oxytocin (40 cases)</th>
<th>Group (II) oxytocin only (40 cases)</th>
<th>( p )-value (Sig.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>34 (85.0%)</td>
<td>33 (82.5%)</td>
<td>0.692NS</td>
</tr>
<tr>
<td>Yes</td>
<td>6 (15.0%)</td>
<td>7 (17.5%)</td>
<td></td>
</tr>
</tbody>
</table>

NS: Not Significant (\( p < 0.05 \)).

Table (7): Comparison between groups regarding pre and post-operative blood pressure and pulse.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Group (I) misoprostol + oxytocin (40 cases)</th>
<th>Group (II) oxytocin only (40 cases)</th>
<th>( p )-value (Sig.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-operative systolic BP</td>
<td>119±6.5</td>
<td>121±7.4</td>
<td>0.207NS</td>
</tr>
<tr>
<td>Pre-operative diastolic BP</td>
<td>77±6.7</td>
<td>78±6.6</td>
<td>0.354NS</td>
</tr>
<tr>
<td>Post-operative systolic BP</td>
<td>110±8.4</td>
<td>112±7.6</td>
<td>0.261NS</td>
</tr>
<tr>
<td>Post-operative diastolic BP</td>
<td>67±5.0</td>
<td>69±5.8</td>
<td>0.161NS</td>
</tr>
<tr>
<td>Pre-operative pulse</td>
<td>76±6.1</td>
<td>77±6.0</td>
<td>0.298NS</td>
</tr>
<tr>
<td>Post-operative pulse</td>
<td>90.8±5.3</td>
<td>92.9±6.7</td>
<td>0.110NS</td>
</tr>
</tbody>
</table>

NS: Not Significant (\( p < 0.05 \)).

Table (8): Comparison between groups regarding occurrence of vomiting and post-operative hospital stay (hrs.).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Group (I) misoprostol + oxytocin (40 cases)</th>
<th>Group (II) oxytocin only (40 cases)</th>
<th>( p )-value (Sig.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occurrence of vomiting: No</td>
<td>37 (92.5%)</td>
<td>35 (87.5%)</td>
<td>0.456NS</td>
</tr>
<tr>
<td>Yes</td>
<td>3 (7.5%)</td>
<td>5 (12.5%)</td>
<td></td>
</tr>
<tr>
<td>Post-operative hospital stay (hrs.) (M ± SD)</td>
<td>54.6±2.25</td>
<td>55.4±2.30</td>
<td>0.143NS</td>
</tr>
</tbody>
</table>

NS: Not Significant (\( p < 0.05 \)).

Table (9): Comparison between groups as regard No. of soaked towels and amount in suctions (ml).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Group (I) misoprostol + oxytocin (40 cases)</th>
<th>Group (II) oxytocin only (40 cases)</th>
<th>( p )-value (Sig.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of soaked towels</td>
<td>3.3±1.5</td>
<td>3.5±1.6</td>
<td>0.537NS</td>
</tr>
<tr>
<td>Amount in suctions (ml)</td>
<td>334±136</td>
<td>366±209</td>
<td>0.414NS</td>
</tr>
</tbody>
</table>

Fig. (1): Gestational age between groups.

Fig. (2): Parity between groups.
Comparison between the Use of Misoprostol Plus Oxytocin versus Oxytocin Alone

Fig. (3): Estimated blood loss between groups.

Fig. (4): Major obstetric hemorrhage between groups.

Fig. (5): Hemoglobin concentration between groups.

Fig. (6): Hematocrit between groups.

Fig. (7): Need for blood transfusion between groups.

Fig. (8): Occurrence of vomiting between groups.
Primary PPH is one of the top five causes of maternal mortality in both developed and developing countries found that the most important risk factors for severe PPH were related to an abnormal third stage of labor. The most common abnormalities being third stage more than or equals 30 minutes and retained placenta [13].

Active management of the third stage of labour significantly reduces the risk of mild PPH (estimated blood loss >500mL), severe PPH (estimated blood loss >1000mL), low postpartum hemoglobin level (<9g/dL), need for transfusion, and need for additional uterotonic medication [14].

The aim of this study is to compare the efficacy of post-partum rectal misoprostol in addition to intra-operative IV oxytocin with intra-operative IV oxytocin alone during cesarean delivery to reduce intra-operative and post-operative blood loss, to assess subsequent need for additional uterotonic drugs and to document safety and evaluate adverse events recorded during the study either maternal or fetal.

The Study was composed of 80 women undergoing cesarean delivery under general or spinal anesthesia, subjects included in the study randomized into two groups:

- The first group (40 women): Received post-partum misoprostol 800ug, administered rectally in addition to intra-operative 10IU of IV Oxytocin after the delivery of the neonate as slow IV bolus dose.
- The second group (40 women): Received intra-operative 10IU of Oxytocin after the delivery of the neonate as slow IV bolus dose.

In our study, differences in the age, parity and gestational age were statistically insignificant among the two groups.

In our study, 22.5% of the first group patients needed further uterotonic agents compared to 32.5% of the patients in the other group, which was found to be statistically insignificant.

According to our study, no statistical significance was found between IV Oxytocin alone and post-operative misoprostol in addition to Intra-operative Oxytocin in the estimated mean operative blood loss.

In other study compared sublingual misoprostol, intravenous oxytocin and intra venous methyl ergometrine in active management of the third stage of labor. The study was conducted on 3 groups 75 women each. One group received 400µg...
to 600µg of sublingual misoprostol; the other group received 5IU of intravenous oxytocin and the last group 200µg of intravenous methyl ergometrine, and there was a significant advantage for the misoprostol group regarding the mean blood loss and the duration of the third stage of labor over the oxytocin group. In this study, there was an advantage for the oxytocin group over the misoprostol group regarding the mean blood loss [18].

This difference between the two studies maybe the result of the difference in the sample size and the route of administration of the misoprostol.

Other study in 2010 studied the efficacy of rectally administered misoprostol with intravenous oxytocin infusion in preventing uterine atony and blood loss during cesarean delivery on a total number of patients 190. Intraoperative and post-operative blood loss was significantly lower in the misoprostol group than in the oxytocin group. This does not match the results of our study [16].

A recent multinational study led by the WHO to explore clinical practices, risks, and maternal outcomes associated with PPH included 275,000 births in 28 low-and middle-income countries. Of all the women included in the analysis, 95.3% received an uterotonic prophylaxis and 1.2% of women reported PPH; with the overall PPH death rate of 38 per 100,000 births. Not only is uterotonic treatment of PPH important in the reduction of adverse maternal outcomes but it can help avert more medical interventions, including the administration of Intravenous (IV) fluids, additional drug therapy, blood transfusion, and surgery [17].

**Conclusion:**

This study done to compare intra-operative IV oxytocin VS post-operative rectal misoprostol in addition to intra-operative IV oxytocin in active management in the third stage of labour, which failed to show any significant difference between two groups regarding estimated blood loss, pulse and mean arterial blood pressure estimates both pre and post-operative, change in haemoglobin and hematocrit, need for additional uterotonic drugs and need for blood transfusion. The results of this study may be attributed to the small sample size and larger sample size should be included in further studies. Also, different doses with different routes for the drug intake should be considered in further studies.

**Recommendation:**

In comparison between oxytocin plus misoprostol and oxytocin alone in the management of the third stage of labour. Oxytocin was preferred in our study and Misoprostol an option when oxytocin not available.

**References**


مقارنة بين استخدام عقار الأوكسيتينوس والميزوبرستول
وبين استخدام عقار الأوكسيتينوس
منفردا لتقليل النزيف أثناء وبعد الولادة القيصرية

إن الهدف من هذه الدراسة هو مقارنة الأدوية المختلفة القابضة للرحم في منع نزيف ما بعد الولادة القيصرية في الحالات الأكثر إصابة.

لذلك، مقارنة الأمان والقابلية للحفاظ على إنقباض الرحم بالشكل الكافي، وتقليل حدوث ونوع نزيف ما بعد الولادة في الحالات المعرضة.

جرح.

نظرية البحث: هذه الدراسة إشتملت على 80 رضيحة تختيم عملية ولادة قيصرية:

- 40 مريضة أُعِيَّنت بـ 10 وحدات من الأوكسيتينوس بالتنقيط الوريدى مصحوبة ب 80 ميكروجرام من الميزوبرستول عن طريق الشرج كمادة قابضة للرحم.

- 40 مريضة أُعِيَّنت بـ 10 وحدات من الأوكسيتينوس بالتنقيط الوريدى.

هذى الدراسة أوضحت أنه لا يوجد اختلاف إحصائي بين المجموعتين من حيث عمر المريضات وعدد مرات الحمل ومدة الحمل. في هذه الدراسة 2/4% من مريضات المجموعة الأولى تميّنت في حديد من الأمور القابضة للرحم.

أيضاً 10% من مريضات المجموعة الأولى تميّنت في حديد من مرضيات المجموعة الثانية وليس لهذا الاختلاف دالة إحصائية.

هذه الدراسة إشتملت على 80 رضيحة تختيم عملية ولادة قيصرية:

- 40 مريضة أُعِيَّنت بـ 10 وحدات من الأوكسيتينوس بالتنقيط الوريدى مصحوبة ب 80 ميكروجرام من الميزوبرستول عن طريق الشرج كمادة قابضة للرحم.

- 40 مريضة أُعِيَّنت بـ 10 وحدات من الأوكسيتينوس بالتنقيط الوريدى.

نتيجة الدراسة: هذه الدراسة أوضحت أنه لا يوجد اختلاف إحصائي بين المجموعتين من حيث عمر المريضات وعدد مرات الحمل ومدة الحمل. في هذه الدراسة 2/2% من مريضات المجموعة الأولى تميّنت في حديد من الأمور القابضة للرحم.

أيضاً 15% من مريضات المجموعة الأولى تميّنت في حديد المدم أُعِيَّنت ب 17/7% من مريضات المجموعة الثانية وليس لهذا الاختلاف دالة إحصائية.

الاستنتاج النهائي: وفقًا لدراستنا لا يوجد اختلاف إحصائي بين المجموعتين من حيث مستوى كمية فقد الدم، التغير في قيم الهيموجلوبين والهيموتوكريتيت، وقياس البصع، وتوزيع الضغط الشرياني قبل وبعد الإجراء.

من خلال تلك الدراسة فإن عقار الأوكسيتينوس هو العقار المفضل في المرحلة الثالثة من الولادة بالمقارنة باستخدامه منفرداً ويبين استخدامه}

مجتمعاً مع الميزوبرستول، وعقار الميزوبرستول بشكل بديل مناسباً في حال عدم توفر الأوكسيتينوس.