Incorporating Precesarean Vaginal Preparations into Routine Preoperative Infection Prophylaxis

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Abstract

Background: Post cesarean endometritis rates remain high despite routine antibiotic and skin antisepsis use. Vaginal preparations with povidone-iodine solution have been shown to reduce post cesarean endometritis rates by more than 50%. By incorporating the use of pre-cesarean vaginal preparations for women who are laboring or with ruptured membranes prior to the decision for cesarean delivery, the goal is to change policy at our institution and ultimately reduce rates of post cesarean endometritis.
Methods: Study population included women admitted to Crouse labor and delivery who met the criteria for a pre-cesarean vaginal preparation (laboring or ruptured membranes). Hospital staff was educated on how to perform vaginal preps. After incorporation of precesarean vaginal preparations, a chart review was performed to identify patients who met criteria for a vaginal preparation, and which of these patients actually received one. The study aimed to measure compliance with vaginal preparations in patients who qualified.
Results: There was an increase in compliance starting from 0% and progressing to 69% when compared by week. There was an average of 13 cesarean sections each week that qualified for a vaginal preparation. When comparing each week, there was a steady increase in the amount of vaginal preparations that were performed.

Introduction

Cesarean deliveries are the most common major surgical procedure in the United States. Preoperative antibiotics and skin antisepsis are used to reduce post operative complications such as infection. Evidence has shown that the use of precesarean vaginal preparations with povidone-iodine solution can reduce the postoperative rates of endometritis by more than 50%.[1, 2, 3, 4]

Despite the current use of preoperative antibiotics and skin antisepsis, endometritis rates are still high, affecting almost 1 in 10 patients nationwide.[1, 2] Current preoperative infection prophylaxis primarily targets skin flora. The recent addition of azithromycin for preoperative infection prophylaxis for women who are laboring or have ruptured membranes, targets genital flora, which plays a role in endometritis. The use of a precesarean vaginal preparation would be targeted towards genital flora as well. The evidence of precesarean vaginal cleansing and reduction of postoperative endometritis rates are shown especially in patients who have been laboring or with ruptured membranes. [3, 4]

The practice of precesarean vaginal preparations has not yet gained uniform popularity despite convincing evidence showing reduction in endometritis rates. This project aims to incorporate precesarean vaginal preps with povidone-iodine solution to the preoperative infection prophylaxis bundle for cesarean deliveries.

Methods and Materials

The study population included patients admitted to Crouse Hospital receiving a cesarean delivery; this only included patients who were laboring or ruptured prior to decision to perform cesarean delivery. This did not include other indications for c-section (scheduled repeat, primary breech, or other fetal/medical indications.

Hospital staff was educated on the use of precesarean vaginal preparations and for what population of patients qualified for one. The pre-operative checklist was modified to identify which patients qualified and received a pre-cesarean vaginal preparation.

Birth records were reviewed to identify all patients who had a cesarean delivery during the period of when vaginal preparations were being performed and chart review identified patients who met the criteria for a vaginal preparation and whether one was performed or not.

Results

Over the three week period, there was an overall steady increase in compliance with performing vaginal preparations. Compliance was first reviewed by day and was measured as the number of vaginal preparations that were actually performed out of the total number of patients that met the criteria for a vaginal preparation. This is shown in Figure 1.

This information was then aggregated by week to more easily see a trend over time. The first week had a compliance of 0% where out of 13 cesarean sections that were performed, there were 0 vaginal preparations done. Week 2 showed a compliance of 53.8% where 7 vaginal preparations were performed out of a total of 13 that qualified. And the final week showed a compliance of 69.2% where 9 vaginal preps were performed out of 13 that qualified. This is shown in Figure 2.

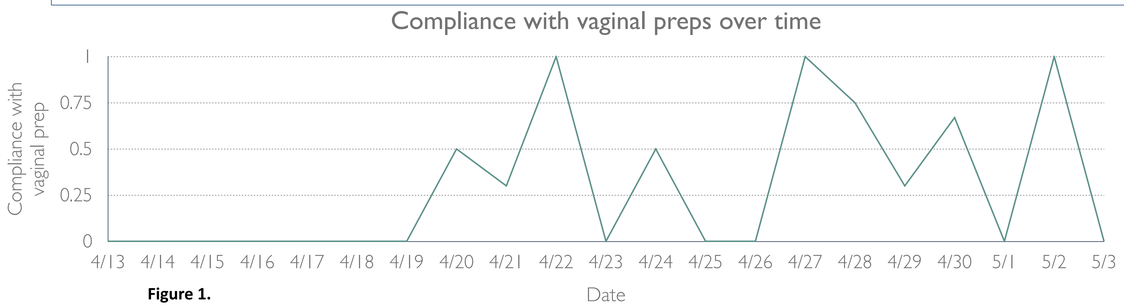

Figure 1.

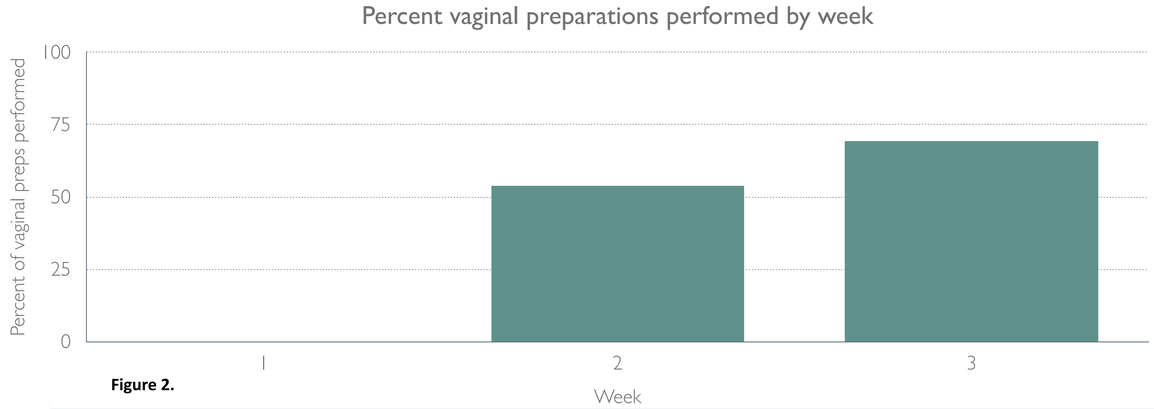

Figure 2.

Discussion

There was an increase in compliance between each week over time. From the first week, there were no vaginal preparations that were done out of a total of 13 that qualified. This is likely attributed to the novelty of a precesarean vaginal preparation at the institution. With reminders and increased education and awareness, there was an increase in compliance over time showing an increase in compliance to 53.8% and 69.2% in weeks two and three.

Conclusions

The goal of this project was to incorporate precesarean vaginal preparations. Evidence has already shown that this intervention can decrease post operative endometritis rates by up to 50%. Once vaginal preps become part of the routine part of a cesarean delivery, this intervention can be used to see the effect on post operative endometritis rates at this particular institution.

References

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