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Vaginal Preparation with Povidone Iodine prior to Cesarean Delivery

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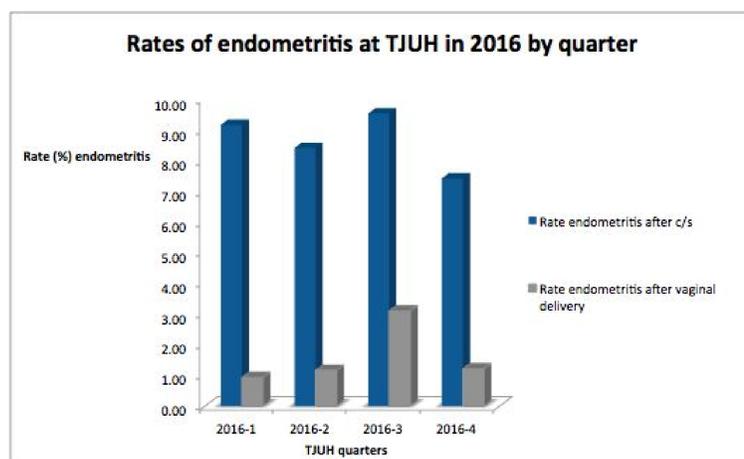
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Background

- Postpartum endometritis is an infection of the lining of the uterus that occurs in 6-27% of postpartum patients (1). It is diagnosed by fundal tenderness and fevers.
- Risk factors include chorioamnionitis prolonged rupture of membranes, and cesarean delivery (CD).
- Complications include bacteremia, sepsis, and intra-abdominal abscess formation (1). In rare cases hysterectomy may be required.
- Abdominal preparation with chlorhexidine solution and preoperative antibiotics are used for prophylaxis.
- Vaginal preparation with povidone iodine prior to CD has been shown to further reduce the risk of postoperative endometritis.
 - Cochrane Review showed the rate of postoperative endometritis dropped from 15.4% to 1.4% when vaginal preparation was performed prior to CD in patients with ruptured membranes (1).
 - Vaginal preparation has not been implemented as a standard of care.
- Thomas Jefferson University Hospital (TJUH) postpartum endometritis occurred in 69 of 1878 (3.67%) deliveries in 2016. Following cesarean delivery the rate of postpartum endometritis was 8.66% (48/554).



Objectives

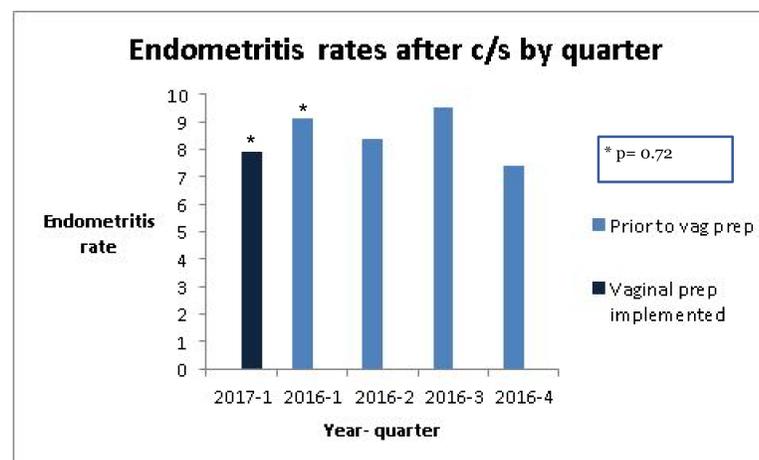
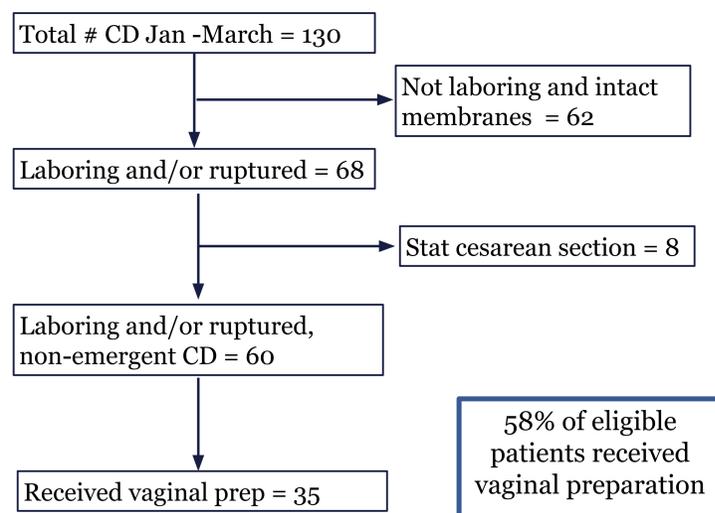
To reduce the rate of postoperative endometritis in patients undergoing cesarean delivery by implementing a new departmental guideline for vaginal preparation prior to cesarean sections, after labor or rupture of membranes.

Methods

- A guideline was implemented for vaginal preparation prior to CD in patients who have labored or have ruptured membranes.
- For patients with an allergy to iodine or shellfish, 4% chlorhexidine scrub was used in place of iodine per American College of Obstetricians and Gynecologists (ACOG) recommendation (2).
- Residents were trained on preparation technique and implementation occurred on January 9, 2017.
- For each patient included we tracked the presence of labor or ruptured membranes and type of vaginal preparation received. After the launch of EPIC, implementation is tracked directly in the electronic medical records (EMR).

Results

2017-1 Cesarean Deliveries



The rate of endometritis after implementation of the protocol is lower than the rate in Q1 of 2016 but this difference is not statistically significant.

Discussion

Outcome:

For the first quarter of 2017 there was no difference in endometritis rates after cesarean delivery following implementation of a vaginal prep protocol in ruptured and laboring patients.

Limitations:

- Limited follow up data available (3 months)
- Data comes from automated coding

Challenges:

- Tracking implementation
- Compliance with new protocol

Future Steps:

- Increasing implementation and documentation of vaginal preparation for patients in labor or with ruptured membranes
 - Automated prompt in EMR
 - Reminders at big board
 - Signs in OR
- Analysis of data over longer time period with confounding variables taken into account including chorioamnionitis rates, abdominal preparation rates, prophylactic antibiotic utilization and timing, urgency status of cesarean section, and length of rupture of membranes.

Sources

1. Haas DM, Morgan S, Contreras K. Vaginal preparation with antiseptic solution before cesarean section for preventing postoperative infections. Cochrane Database of Systematic Reviews 2014, Issue 9. Art. No.: CD007892.
2. American College of Obstetricians and Gynecologists. "Solutions for surgical preparation of the vagina. Committee Opinion No. 571." *Obstet Gynecol* 122 (2013): 718-720.