# Risk Factors for Prevention of Infection in Abdominal Surgery in Obstetrics and Gynecology

**Xiaojun Liu, Lili Xuan***

China-Japan Union Hospital of Jilin University, Changchun, 130033, Jilin, China

* Corresponding author

**Keywords:** Risk Factors, Abdominal Surgery, Obstetrics and Gynecology

**Abstract:** To explore the risk factors of clinical incision infection in obstetric surgery, and to develop targeted preventive nursing strategies to reduce wound infection. Methods The clinical data of 120 cases of cesarean section in the Department of Sensation, First People's Hospital of Zigong City from January 2011 to December 2012 were retrospectively analyzed. According to whether there was a wound infection after operation, the patients were divided into study group (incision infection). In 78 cases, the control group (no incision infection) was analyzed, and the factors that may affect the infection of the incision were analyzed, and targeted nursing control measures were developed. Results Incision infection occurred in 42 cases, and the infection rate was 35.0%. Body mass index (BMI), number of examinations, operation time, preparation time to surgery, hemoglobin, premature rupture of membranes, summer surgery, multi-person ward and antibiotic use were statistically significant ($P < 0.05$); There was no significant difference in age, gestational age and pregnancy between the two groups ($P > 0.05$); BMI, summer surgery, antibiotics and premature rupture of membranes, and operative time were all affecting the obstetric surgery incision Risk factors for infection. Conclusion The postoperative incision infection in obstetrics has a high incidence and risk factors. In the clinic, targeted preventive and nursing measures should be strengthened to reduce the incidence of wound infection.

## 1. Introduction

Surgery plays an important role in the treatment of gynecological diseases, but surgical treatment is a traumatic process, and there is a possibility of wound infection. Combined infection of the incision can increase the patient's pain, prolong the length of hospital stay, and affect the quality of life of patients. This study retrospectively analyzed the clinical data of patients undergoing abdominal surgery in obstetrics and gynecology in our hospital, analyzed the risk factors of wound infection, and explored nursing preventive measures.

## 2. Materials and methods

From January 2011 to December 2012, 120 patients with cesarean section in our hospital were selected as subjects, including ages 22 to 38, gestational age of 38 to 42 weeks, and gestational age of 1 to 4 times. After the incision infection, it was divided into study group (incision infection) in 42 cases and control group (no incision infection) in 78 cases.

A retrospective analysis of the basic data of the two groups of maternal, including age, gestational age, pregnancy, body mass index (BMI), number of examinations, operation time, skin preparation to surgery time, hemoglobin, premature rupture of membranes, intraoperative blood loss, Multi-person wards, antibiotic use, summer surgery, multi-person ward and other factors were compared.

Data analysis was performed using SPSS 19.0 statistical software. The data of the measurement data were expressed as mean±standard deviation (x±s). The t test was used for comparison between the two groups. The count data was used for comparison. The comparison between groups was performed by $\chi 2$ test. Logistic regression analysis was statistically significant at $P < 0.05$.

  DOI: 10.25236/iclsmh.2019.001

## 3. Discussion of results

BMI, number of examinations, operation time, preparation time to surgery time, hemoglobin, premature rupture of membranes, intraoperative blood loss, multi-person ward, antibiotic use, summer surgery, multi-person ward, the differences between the two groups were statistically significant. Significance (all $P < 0.05$); there was no significant difference in age, gestational age and pregnancy between the two groups ($P > 0.05$). Logistic regression analysis of risk factors affecting incision infection in obstetric abdominal surgery found that BMI, summer surgery, antibiotics and premature rupture of membranes, and operative time were risk factors for abdominal incision infection in obstetrics. The difference was statistically significant ($P < 0.05$), multi-person wards were the protective factor ($P < 0.05$). With the improvement of medical level and anesthesia technology, the healing of abdominal incision in obstetrics and gynecology has been well guaranteed, but some patients have complications such as wound infection, splitting or non-healing, which brings the patient's body and mind. Adverse effects, and increase the economic burden of patients, therefore, effective prevention of incision infection in obstetrics and gynecology abdominal surgery is the focus of improving patient prognosis and alleviating the relationship between doctors and patients. In this study, 21 cases of incision infection occurred in 319 patients, the infection rate was 6.58%, similar to the literature report, showing that the incision infection is still the most common complication after obstetrics and gynecology abdominal surgery. Patients were grouped according to infection status. After multivariate logistic regression analysis, it was found that age ≥ 60 years, BMI <19 or >23 kg/m2, operative time ≥ 120 min, ASA grade III, emergency surgery, non-the surgeon Preventive application of antibiotics and no postoperative rehabilitation education are independent risk factors affecting incision infection in obstetrics and gynecology. The main causes are: (1) elderly patients with coronary heart disease, hypertension, diabetes, etc. A variety of underlying diseases, especially female patients, are more likely to be associated with symptoms such as anemia and hypoproteinemia, resulting in poor autoimmune function, low immune defense ability, and slow wound healing, which is susceptible to pathogen invasion. (2) BMI <19 or >23kg/m2 indicates that the patient is malnourished or obese. The malnutrition patient needs longer recovery time, and the hospitalization time is also extended accordingly, which increases the time of exposure to the pathogen environment in the hospital and increases the risk of infection. Obese patients were found to have significantly lower blood volume than normal BMI patients, and their tissue was insufficiently supplied with blood, which reduced wound healing time and resistance. (3) The increase of operation time leads to an increase in the amount of bleeding, and it is more prone to increase the risk of infection, such as poor postoperative incision cleanliness. (4) There are many situations in the emergency surgery, such as short skin preparation time and inadequate disinfection of medical equipment, so that the principle of intraoperative sterility cannot be completely implemented, and the risk of wound infection of pathogenic bacteria is significantly increased. (5) Patients with ASA grade III have a serious condition, and the risk of anesthesia is high. Complications are easy to occur during surgery, and postoperative functional compensation is affected, and the resistance is reduced, so that the defense ability against pathogens is insufficient. Most scholars hold different opinions on whether or not prophylactic antibiotics are used after surgery.

Incision infection is one of the common postoperative complications in the clinic, and it has a high incidence in the clinic. Especially in obstetric abdominal surgery, the incidence of this complication is greatly increased, giving the maternal quality of life and postoperative recovery. Has a serious impact. Therefore, effective understanding of the risk factors of abdominal surgical incision infection in obstetrics is of great significance in reducing infection of the incision.

The study found that the risk factors for incision infection in obstetric abdominal surgery were mainly BMI, summer surgery, antibiotics and premature rupture of membranes, and five aspects of surgery time. Because the environment for summer surgery is relatively dry and affected by temperature, it is easy to breed bacteria, which makes the infection rate greatly increased. At the same time, most patients use antibiotics, which can easily cause dysbacteriosis and lead to infection of the incision. For patients with large BMI, the subcutaneous fat is thicker, which makes the blood

halo worse. In the case of cutting, fat islands are prone to occur, which makes the adipose tissue liquefy. At the same time, patients with premature rupture of membranes will increase the probability of infection, and after premature rupture, vaginal bacteria will enter the patient's uterine cavity, increasing the probability of intra-amniotic infection, leading to wound infection. In addition, as the operation time increases, it is easy to cause the overall resistance of the mother to decline, and the probability of infection of the surgical incision will increase.

Clinically, there are many risks of obstetric abdominal incision infection, and targeted preventive measures can effectively reduce the infection rate of the incision and improve the clinical treatment effect.

Active weight control caregivers should effectively help women to develop detailed plans to control their weight, and need to eat less meals, eat some low-sugar, low-fat foods, regularly perform obstetric examinations, measure body weight, and adjust according to their weight. Encourage maternal activities, can participate in some useful activities, help to improve the body's immunity and avoid overweight.

Strengthen summer health management Nursing staff should strengthen summer health management, earnestly conduct health education for women, and improve their awareness of personal hygiene. Let the mothers strengthen their attention to their own hygiene and bedding and dressing to wear some loose clothes. At the same time, maintain the sanitation of the ward, control its temperature and humidity, and regularly open the window for ventilation. In addition, aseptic procedures should be strengthened throughout the care to effectively prevent cross-contamination. Finally, it should be ensured that the dressing is dry and the mothers with more secretions should be replaced in time to avoid infection.

Premature rupture of membranes should strengthen the clinical monitoring of maternal, especially for women with premature rupture of membranes, should strengthen the observation of body temperature and blood and amniotic fluid, and observe whether there is tenderness in the lower abdomen, thus effectively reducing the index and anus The number of operations is checked, and the monitoring and cultivation of bacteria needs to be strengthened. Once infection occurs, it should be controlled in time.

Shorten the operation time The nursing staff should fully prepare for the preoperative operation, and purify the air in the operating room before surgery, prepare various instruments and drugs for the operation, divide and place according to the types, and improve the efficiency of the operation. At the same time, the respective duties should be clarified during the operation, and the close cooperation with the surgeon should be strengthened to reduce the time of surgery. In addition, aseptic procedures should be strengthened throughout the procedure to avoid infection.

Strengthening drug care Nursing staff should strengthen the guidance and care of women's medication throughout the nursing process. Drug selection should be carried out in combination with the physiological and pathological characteristics of the mother, especially for the use of antibacterial drugs. When administering antibacterial drugs, the drug susceptibility test should be done to clarify the antibacterial drugs, and the time and method of controlling the antibacterial drugs should be controlled. To improve the rationality of the use of antibacterial drugs.

## 4. Conclusion

There are many risk factors for incision infection in abdominal obstetric surgery in clinical practice, mainly including BMI, summer surgery, antibiotics and premature rupture of membranes, and operative time. In clinical practice, targeted nursing measures should be formulated according to risk factors, so as to effectively reduce the incidence of wound infection and improve the clinical surgical treatment effect.

## References

[1] Song Ying, Guo Chunqi. Analysis of 26 cases of poor abdominal incision after cesarean section [J]. China Medical Herald, 2010, 7 (8): 157-158.

[2] Cao Mei. Clinical analysis of 26 cases of abdominal incision infection after cesarean section [J]. China Practical Medicine, 2013,8(13):155-156.

[3] Chen Xiaoxia, Yi Fengxian, Ye Hong. Clinical analysis and countermeasures of abdominal incision infection in cesarean section [J]. Medical Theory and Practice, 2013, 26(4): 492-494.

[4] Du Chunyan, Tong Jinyi, Sun Shengnan. Analysis of factors related to incision infection in abdominal surgery of obstetrics and gynecology and nursing strategies [J]. Chinese Journal of Nosocomiology, 2013, 23(8): 1840-1842.

[5] Bai Jianfeng, Wu Liping, Guo Chaoli, et al. 41 cases of incision fat liquefaction after cesarean section [J]. Chinese Journal of Reproductive Health, 2010, 21(3): 182-183.