

To Evaluate the Patients of Puerperal Sepsis after Caesarean Delivery at Tertiary Care Hospital

Yasmeen Joyo, Saira Parveen, Samana Aleem, Shabana, Rozina Mujeeb and Madiha Rafique

ABSTRACT

Objective: The rationale of our study is to evaluate the outcome of puerperal sepsis in patients undergone for caesarean delivery and this study will help us to save the patients from developing the sepsis and lessen the rate of maternal mortality.

Study Design: cross sectional study

Place and Duration of Study: This study was conducted at the Department of Obstet and Gynae, Peoples Medical College Hospital (PMCH) Nawabshah from January 2019 to November 2021 for a period of 10 months.

Materials and Methods: Patients were admitted from Emergency Department. They were evaluated by taking detailed history and clinical examination. The patients having pyrexia/sepsis and delivered within 30 days were diagnosed on clinical examination apart from laboratory investigations. Patients were treated accordingly.

Results: The age of patients was between 17-45 years. 10 (16.5%) age was between 17-20 years. 15 (24.5%) patients age was 21-30 years and 36 (59%) were of 31-45 years. 57 (93.4%) patients presented with increased leucocyte count, decreased platelets 41(67.2%), fever in 60(98.3%), abdominal distention in 50(82%), anemia positive in 50(82%), wound infection in 30(49%) and positive vaginal swabs in 39(64%). Patients developed septicemia in 17(27.8%), peritonitis in 26(42.6%), DIC in 14(23%) and mortality in 9(14%).

Conclusion: It is concluded that patients presenting with puerperal sepsis after Caesarean delivery were of middle aged female, mostly un-booked, and complication commonly seen was peritonitis. As compared to other studies, mortality was decreased in our study.

Key Words: Peritonitis, Septicemia, Sepsis, Mortality

Citation of article: Joyo Y, Parveen S, Aleem A, Shabana, Mujeeb R, Rafique M. To Evaluate the Patients of Puerperal Sepsis after Caesarean Delivery at Tertiary Care Hospital. Med Forum 2022;33(1):88-90.

INTRODUCTION

Puerperal sepsis is the fatal condition in surgical practice throughout world. Its incidence is highly increased particularly in developing countries due to multiple reasons. It is major cause of death in patients undergone for caesarean Section.¹ Peritonitis, Septicemia and Disseminated Intravascular Coagulation are the main three serious complications that, if controlled timely, have good otherwise very poor prognosis.²

Sepsis is the systemic inflammatory response to infection. Its incidence is increasingly continuously now days. It has been the common cause of death in developed countries.

Department of Obstet and Gynae, Peoples University of Medical and Health Sciences For Women (PUMHSW), Nawabshah.

Correspondence: Dr. Yasmeen Joyo, Assistant Professor of Obstet and Gynae, Peoples University of Medical and Health Sciences For Women (PUMHSW), Nawabshah.

Contact No: 0313-3616612

Email: yasmeenjoyo4@gmail.com

Received: December, 2021

Accepted: December, 2021

Printed: January, 2022

During pregnancy, the changes in women either physiological or anatomical enhance the risk of infection.³ Maternal bacterial sepsis is the common disease related to pregnancy and is the leading cause of increased mortality throughout world. The mortality ratio in this connection is about 25% in United States of America (USA) and 1.4% women die of this disease in United Kingdom.⁴

Globally, the mortality rate due to Puerperal sepsis is about 15%. It is the 2nd leading cause of death of maternal mortality and accounts for 10% of deaths. In developed countries, ratio of puerperal sepsis has somewhat declined. It is 5.5% and 7.4% of vaginal deliveries and Caesarean section respectively.⁵ The majority of patients develop puerperal sepsis due to infection of genital tract by pathogens which colonize the vagina and cervix and through amniotic fluid invade the devitalized uterine tissues. Other causes could be the severe maternal anemia, multiple vaginal examinations, prolonged membranous rupture and prolonged labor. However, the only risk factor for this sepsis is Caesarean Section.^{6,7} Multiple pathogens are involved as causative agents of this disease. These are Streptococcus, Pseudomonas, Bactericides fragilis, Escherichia Coli, Klebsiella spp, Streptococci and Staphylococci.⁸ In most of the countries, the sepsis is treated by broad spectrum antibiotics due to non-

availability of facilities if culture and sensitivity testing of pathogens. This causes contradictory effect and develops resistance to antibiotics.⁹ So the patients have limited options of treatment and the results are insignificant. In a study, bacteraemia was reported in 11.2% and common organism involved was *Klebsiella*.^{10,11}

MATERIALS AND METHODS

This is a cross sectional study done at Department of Gyn/Obstetrics Peoples Medical College Hospital (PMCH) Nawabshah from January 2019 to November 2021. Patients were admitted from Emergency Department. They were evaluated by taking detailed history and clinical examination. The patients having pyrexia/sepsis and delivered within 30 days were diagnosed on clinical examination apart from laboratory investigations. Elevated temperature, abdominal distention, dehydration, leukocytosis, foul smelling, platelet count, serum electrolytes were also evaluated. Ultrasound was also done to know intra-abdominal collection and retained products of conception. Abdominal X Rays in erect and supine positions were taken. Malaria and typhoid fever were excluded from the study. All data was registered on case study Performa. Ethical approval was taken from the institutional ethical committee.

RESULTS

The age of patients was between 17-45 years. 10 (16.5%) age was between 17-20 years. 15 (24.5%) patients age was 21-30 years and 36 (59%) were of 31-45 years. 16% patients were primi, 33% were Para 1-4 and 51% were Para 5 and more (Chart No.1).

Table No.1: Age Difference

S.no:	Age of patients	No of patients	Percentage
1	17- 20 Years	10	16.5%
2	21-30 years	15	24.5%
3	31-45	36	59%
TOTAL	n=17-45	n= 61	100%

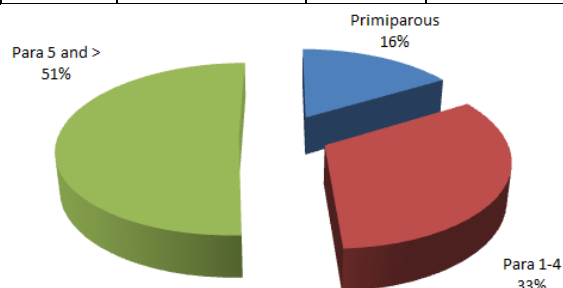


Figure No.1: Parity

42 (69%) patients were un-booked and 19 (31%) were booked (Chart No.2). 57 (93.4%) patients presented with increased leucocyte count, decreased platelets

41(67.2%), fever in 60(98.3%), abdominal distention in 50(82%), anemia positive in 50(82%), wound infection in 30(49%) and positive vaginal swabs in 39(64%) (Chart No.3). Patients developed septicemia in 17(27.8%), peritonitis in 26(42.6%), DIC in 14(23%) and mortality in 9(14%) (Chart No.4).

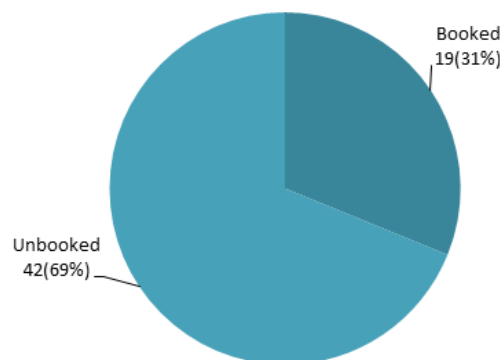


Figure No.2: Book Status

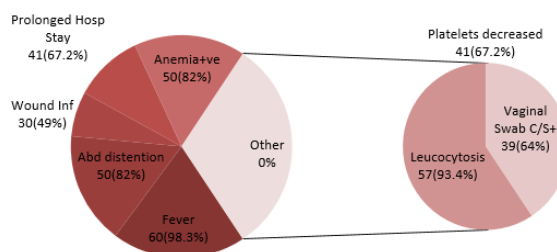


Figure No.3: Clinical, Biochemical and Histo-pathological Spectrum

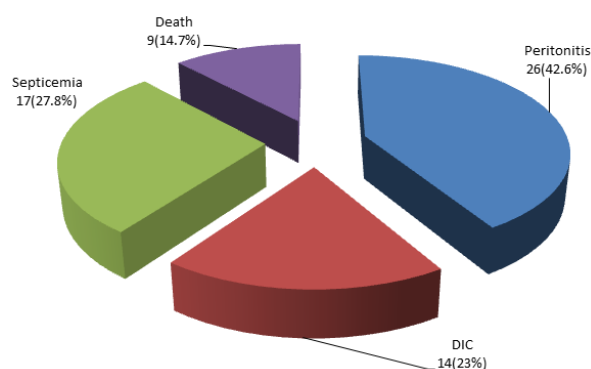


Figure No.4: Complications Of Puerperal Sepsis

DISCUSSION

Puerperal sepsis is one of the leading causes of maternal morbidity and mortality in clinical practice. It is still considered to be the 3rd common cause of maternal deaths. It ensues when streptococci colonizes in genital tract and invade endometrium along with adjacent structures, blood stream and lymphatic.¹² In a study, its incidence was seen among young patients of 15-25 years in 66.3% of all. In another study, the mean age of incidence was 25-35 years in 67% of all patients. In a study, the mean age was 31 years in about 71%. In

our study, the major incidence was between 31-45 years and it was 59%.¹³

In a study, 58% patients of primi gravida developed puerperal sepsis. Multi-parous involved were 27% and grand multi were only 7%. But in our study, 16% primi, 33% multi parous and 51% grand multi developed Puerperal sepsis. In a study, majority of patients were un-booked. In our study, 69% patients were un-booked and 31% were booked.¹⁴ In a study, 57.3% patients were anemic having hemoglobin level between 8.5-9 g/dl, 22.4% had Hb% level between 6-8 gms/dl and 21.5% had Hb% level below 5 gm/dl. Total leukocyte count (TLC) was more than 11000 cumm² in 72.09%. High vaginal swab C/S report was seen positive in 55.8%. Fever was seen in 90.6% cases and abdominal distention in 21.7% in our study, 82% had developed anemia, vaginal swabs positive in 64%, leucocytosis in 93.4% and fever was recorded in 98.3% patients. Abdominal distention was also seen in 82% cases. Platelets were decreased in 67.2%.¹⁵

In a study, 44.5% developed peritonitis, 4.3% septicemia, 4.3% endotoxic shock, 2.1% disseminated intravascular coagulation (DIC) and 10.8% pelvic abscess. Mortality was seen among 14.2%. In our study, peritonitis was noted in 42.6% patients, DIC in 23%, septicemia in 27.8% and mortality was noted in 14.7%. In a study, hospital stay was recorded more than 10 days in 85.2% patients. In our study, hospital stay more than 10 days was seen among 67.2%.¹⁶

CONCLUSION

It is concluded that patients presenting with puerperal sepsis after Caesarean delivery were of middle aged female, mostly un-booked, and complication commonly seen was peritonitis. As compared to other studies, mortality was decreased in our study.

Author's Contribution:

Concept & Design of Study:	Yasmeen Joyo
Drafting:	Saira Parveen, Samana Aleem
Data Analysis:	Shabana, Rozina Mujeeb, Madiha Rafique
Revisiting Critically:	Yasmeen Joyo, Saira Parveen
Final Approval of version:	Yasmeen Joyo

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

- Majangara R, Gidiri MF, Chirenje ZM. Microbiology and clinical outcomes of puerperal sepsis: a prospective cohort study. *J Obstet Gynaecol* 2018;38(5):635-41.
- Fuchs A, Tufa TB, Hörner J, Hurissa Z, Nordmann T, Bosselmann M, et al. Clinical and microbiological characterization of sepsis and evaluation of sepsis scores. *PLoS One* 2021;16(3): 247-64.
- Wilkie GL, Prabhu M, Ona S, Easter SR, Tuomala RE, Riley LE, et al. Microbiology and antibiotic resistance in Peripartum bacteremia. *Obstet Gynecol* 2019;133(2):269-75.
- Ahmed MI, Alsammani MA, Babiker RA. Puerperal sepsis in a rural hospital in Sudan. *Mater Soc* 2013;25(1):19-22.
- Demisse GA, Sifer SD, Kedir B, Fekene DB, Bulto GA. Determinants of puerperal sepsis among postpartum women at public hospitals in west SHOA zone Oromia regional STATE, Ethiopia (institution BASEDCASE control study). *BMC Pregnancy Childbirth* 2019;19(1):1-6.
- Madhudass CKF, Sirichand P. Maternal morbidity and mortality associated with puerperal Sepsis. *J Liqueur Univ Med Heal Sci* 2008;10(2):121-3.
- Dare A BC. Puerperal sepsis: a preventable postpartum complication. *Aids Res Hum retroviruses* 2015;15(4):92-95.
- Mohamed IMA, Rabie A. Puerperal Sepsis in Rural Hospital Sudan. *Mat Soc Med* 2013;25(1):19-22.
- Abebaw N. Assessment of the prevalence and associated factors of puerperal sepsis among PNC women during post-partum period at dessie referral hospital, Ethiopia. 2018.
- Temesgen F. Incidence and determinants of puerperal fever among Parturients who gave birth in a tertiary teaching hospital. Addis Ababa: Addis Ababa University Institutional Repository; 2015.
- Atlaw D, Seyoum K. Puerperal sepsis and its associated factors among mothers in University of Gondar referral hospital, Ethiopia, 2017. *Int J Pregn Chi Birth* 2019;5(5):190-5.
- Admas A, Gelaw B, Worku A, Melese A. Proportion of bacterial isolates, their antimicrobial susceptibility profile and factors associated with puerperal sepsis among post-partum/aborted women at a referral Hospital in Bahir Dar, Northwest Ethiopia. *Antimicrobial Resistance & Infection Control* 2020;9(1):1-10.
- Caughey AB, Cahill AG, Guise J-M, Rouse DJ. Obstetricians ACo, gynecologists. Safe prevention of the primary cesarean delivery. *Am J Obstet Gynecol* 2014;210(3):179-93.
- Ezugwu FOOH. Prevalence and correlates of maternal morbidity in Enugu. *AJOL* 2010;3(1):121-30.
- Khaskheli MNBS, Sheeba A. Risk factors and complications of puerperal sepsis at a tertiary healthcare Centre. *Pak J Med Sci* 2013;29(4): 972-6.
- Maritim CVJN, Margaret K. Associated factors with puerperal Sepsis among reproductive age women in Nandi County, Kenya. *J Midwifery Reproductive Health* 2017;5(4):1032-40.