



## COMMON INFECTIONS IN PAEDIATRIC BURN INJURY WOUND

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**ABSTRACT**

**Introduction:** The incidence of burns, their treatment and rehabilitation process have a considerably marked effect on children in both physical and psychological terms. Disruption of homeostatic and barrier functions leaves the underlying tissues highly susceptible to infection. Such local infections, when left unchecked, can quickly result in systemic infection. In the present study discussion on the common infections and the causative organism and its effect on the outcome of the burn patient studied. **Aim and Objectives:** The aim of the study to find out the common infection in burn injury wound and study the common factors precipitating complications in burn injury. **Materials and Methods:** The Data was collected from 86 paediatric patients less than 15 years admitted in GMC, Miraj, Maharashtra during the period from September 2014 to September 2016. The lab investigations were done periodically and as and when required, time to time including Hemoglobin, complete blood count, blood sugar level, blood urea level, serum creatinine, HIV Status, hepatitis B status and weakly wound swab culture were done. **Observations and Results:** In our study a total of 83 patients, almost 32(38.5%) of admitted patients had developed infections and the most common developed infection in the burning patient was wound infection. The most common organism isolated was Coagulase negative staphylococci 18 cases (21.7%) followed by klebsiella Pneumonia in 6 cases. No organisms seen in 51 cases. The coagulase negative staph sensitive to cefoxitin and klebsiella Pneumonia sensitive to imipenem. **Conclusion:** Gram-negative bacteria were the commonest pathogens followed by gram-positives and then fungi. In additional, MRSA was the commonest frequent gram-positive bacteria detected and it is the major cause for infection. Fungal and Gram-negative colonization more associated with higher TBSA burnt and prolonged hospitalization. We recommended that regular microbial surveillance of burn patient and hospital Environment microbiological surveillance of potential nosocomial pathogens indicated inanimate environment of patients should be done to find out the presences of our pathogens which are contaminated.

**KEYWORDS :** Burn injury, Paediatric Age, infections**INTRODUCTION:**

Burn injury is the frequent problem in clinical practice of general surgery. Burns are serious health problems and are frequent injury among pediatric patients.<sup>1</sup> The incidence of burns, their treatment and rehabilitation process have a considerably marked effect on children in both physical and psychological terms. Patients who suffer from burns often will have difficulties due to contractures, deformities and functional limitations caused by Scar tissue. Scar tissue treatment requires a prolonged period and also constitutes a heavy economic burden on families and the government. Loss or disruption of skin function often results in significant mortality and morbidity, putting the individual at significant risk of extended hospitalization and death. Disruption of homeostatic and barrier functions leaves the underlying tissues highly susceptible to infection. Such local infections, when left unchecked, can quickly result in systemic infection.<sup>1</sup> In the present study discussion on the common infections and the causative organism and its effect on the outcome of the burn patient studied.

**AIM AND OBJECTIVES:**

- To find out the common infection in burn injury wound
- To study the common factors precipitating complications in burn injury.

**MATERIALS AND METHODS:**

The Data was collected from 83 paediatric patients less than 15 years getting admitted in our tertiary health care centre (GMC, Miraj, Maharashtra) during the period from September 2014 to September 2016. After obtaining clearance from Institutional ethical committee and dully explained consent from parents or guardians the burn patients from paediatric age group were enrolled for study. A detailed history of each patient is taken with history of present illness, past history personal history, family history and socio economic status was enquired.

The lab investigations were done periodically and as and when required, time to time including Haemoglobin, complete blood count, blood sugar level, blood urea level, serum creatinine, HIV Status, hepatitis B status and weakly wound swab culture were done

**OBSERVATIONS AND RESULTS:**

In our study a total of 86 patients, almost 32(38.5%) of admitted patients (Table 1) had developed infections and the most common

developed infection in the burning patient was wound infection. The most common organism isolated was Coagulase negative staphylococci 18 cases (21.7%) followed by klebsiella Pneumonia in 6 cases. No organisms seen in 51 cases.

The coagulase negative staph sensitive to cefoxitin and klebsiella Pneumonia sensitive to imipenem.

**Table 1: Wound culture and sensitivity testing among subjects**

		Count	Percentage(%)
<b>Wound Culture Sensitivity</b>	Sterile- no organism grown	51	61.5%
	Coagulase negative Staphylococci sensitive to cefoxitin	18	21.7%
	Klebsiella Pneumonia sensitive to imipenem	6	7.2%
	Pseudomonas Aeruginosa Sensitive To Imipenem	5	6.0%
	Sensitive To Vancomycin, Linezolid	1	1.2%
	Coagulase negative staphylococci sensitive to Vancomycin	1	1.2%
	Coagulase Negative Staph Sensitive To Vancomycin	1	1.2%
	Total	83	100.0%

**DISCUSSION:**

As in our study of 83 patients, almost 32 (38.5%) of admitted patients had developed infections and the most common developed infection in the burning patient was wound infection. This finding corresponds with previous study.<sup>2,3</sup> Our study corresponds with the study done by Yavuz et al 2011.<sup>4</sup>

But in the study conducted by Behzadnia S et al. showed that the rate of nosocomial infection in burn patients is more developed in blood stream.<sup>7</sup> Burn patients will facilitate wound infection which is a serious complication occurs in sub-acute period following burn injury.

**CONCLUSION:**

Burn infection is an important cause of morbidity among burn children in hospital. Burn injuries among paediatrics in our community need to critical care and monitoring. Gram-negative bacteria were the commonest pathogens followed by gram-positives and then fungi. In additional, MRSA (Methicillin-resistant Staphylococcus aureus) was

the commonest frequent gram-positive bacteria detected and it is the major cause for infection. Fungal and Gram-negative colonization more associated with higher TBSA (Total body surface area) burnt and prolonged hospitalization. We recommended that regular microbial surveillance of burn patient and hospital Environment microbiological surveillance of potential nosocomial pathogens indicated inanimate environment of patients should be done to find out the presences of our pathogens which are contaminated.

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**Conflict of interest:** None

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