



## Management of Unexpected Acute Postoperative Sepsis in A Case of Wide Local Excision and Skin Grafting: A Case Report

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### Abstract

**Background:** Sepsis is a major cause of morbidity and mortality in modern intensive care units (ICUs). Although several studies have provided epidemiological data on sepsis in ICU patients in the developed world [1-6].

**Objective:** To illustrate the need for early intervention and consultation for added assistance to approach and rule out other possible causes during such a scenario.

**Case report:** Patient presented with ulcer on posteromedial aspect of thigh since two years. Patient underwent uneventful wide local excision with skin grafting under general anaesthesia with epidural and extubated. Patient shifted to HDU for post operating monitoring. After 16 hours in post-operative period patient had hypotension, fever, Difficulty in breathing. Patient intubated and put on ventilator. IV fluid bolus given but Mean Arterial Pressure (MAP) not maintained > 65 mmHg. Patient was still hypotensive and start on inotropic support with noradrenaline. Further Vasopressin infusion also added. Fentanyl infusion started for sedation now patient was shifted to our ICU and managed accordingly and shifted to ward on POD 4.

**Conclusion:** Early recognition of and treatment of sepsis can significantly reduce mortality. Limitations on resources make implementation of finding of clinical trials problematic. However, the most important interventions of aggressive fluid resuscitation, oxygen and early antibiotics, with frequent review to adjust treatment, can be achieved in any hospital.

**Keywords:** *Sepsis; Wide local excision; Hypotension; Early recognition; Case report*

### Introduction

Sepsis is a major cause of morbidity and mortality in modern intensive care units (ICUs). Although several studies have provided epidemiological data on sepsis in ICU patients in

the developed world [1-6], there is limited information on the global burden of sepsis worldwide [7]. Yet, such data are crucially important to

(1) increase awareness of the global impact of sepsis.

(2) Highlight the need for continued research into potential preventive and therapeutic interventions, and

(3) help guide resource allocation. Information on patterns of sepsis around the globe is also of interest, including causative microorganisms, primary source of infection, and associated outcomes.

### **Case Report**

Patient presented with ulcer on posteromedial aspect of thigh since two years. Patient is a known case of post burn contracture on left thigh since childhood.

Outside incisional biopsy report was s/o of poorly differentiated carcinoma. Staging investigations showed it to be non-metastatic. Patient and family was counselled about pros and cons of surgery. Patient underwent uneventful wide local excision with skin grafting under general anaesthesia with epidural and extubated. Patient shifted to HDU for post operating monitoring. After 16 hours in post-operative period patient had hypotension, fever, Difficulty in breathing. Patient intubated and put on ventilator. IV fluid bolus given but MAP not maintained > 65 mmHg. Pt was still hypotensive and start on inotropic support with infusion of inj noradrenalin. Further inj Vasopressin infusion also added. Inj Fentanyl infusion started for sedation. Now pt was shifted to our ICU on pod.

On arrival patient examine thoroughly. GCS was E1VTM1, chest bilateral clear, S1 and S2 normal

no added sound, but bilateral conjunctival chemosis present. CVP line and arterial line placed. CVP and IBP measured and sent all investigations (CBC, KFT, LFT, PT/INR/aPTT, D-Dimer, Cardiac marker Cpk, Cpkmb and Trop T, Trop I, NT pro BNP and procalcitonin). Urgent cardiology review taken. 12 lead ECG and echo done and found IVC dilated, EF was 60% and mild LVH with sinus tachycardia.

Patient was managed as per Sepsis guidelines. Culture send before starting broad spectrum antibiotic (inj MEROPENEM and inj TEICoplanin) and measure serial level of lactate via ABG. Now as per IVC dilated IVF restricted and close monitoring of input and output. In investigations NT proBNP, TLC, procalcitonin, Lactate level raised and rest investigations are within normal limit.

On POD 2 Patient responded well and gradually taper off inotropic support and weaning started from ventilator.

On POD3 patient was haemodynamically stable without any inotropic support, after meeting all criteria of weaning protocol spontaneous breathing trial given and patient extubated well. All provisional culture report were sterile.

On POD4 Patient haemodynamically stable and shifted to ward.

### **Discussion**

WLE of ulcer and SSG cover, a gold standard technique used to treat post burn non healing ulcer, has an increased risk for developing

bacteremia and sepsis.

Postoperative sepsis is very rare condition which only affect up to 1% of patients who have a routine operation. Patients who need emergency surgery or have major bowel surgery, for example to treat peritonitis have a slightly increased risk of 5-10%. It is important to note that not every patient who suffers post-operative sepsis as a complication will progress multi-organ failure.

The normally 'friendly' bacteria can spill out into the other cavity and become harmful when they reach into the wrong place. Despite the surgeon washing the area with sterile fluid, the bacteria can still multiply and cause severe infection which can trigger the body response causing sepsis.

A patient can develop an infection in another organ during post-operative period, unrelated to the original surgery. For example, when a patient is unable to move sufficiently or take deep breaths after surgery, their chest may become infected leading to pneumonia and sepsis.

Any patient who has a problem with their immune system (immuno-compromised) is at increased risk of sepsis like patient on steroid or on a chemo therapy.

Early recognition of and treatment of sepsis can significantly reduce mortality. Limitations on resources make implementation of finding of clinical trials problematic. However, the most important interventions of aggressive fluid resuscitation, oxygen and early antibiotics, with

frequent review to adjust treatment, can be achieved in any hospital.

### Conclusion

In conclusion, we have identified several elective surgical procedures that demonstrate a greater risk for the development of postoperative sepsis. We have further defined procedures associated with the greater mortality after sepsis develops. We have also noted disparities in the occurrence of sepsis on a population level with regard to patient demographics and institutional characteristics. We have identified opportunities among several high-volume elective procedures where both improved clinical outcome and reduced costs could provide social benefits. Further focused studies and root cause analyses will be required to decrease the rates of postoperative sepsis and delineate targets for process level improvements.

Good hygiene practices and hand washing can help prevent healthcare associated infections. Identifying infections early and treating appropriately can prevent the development of sepsis.

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