

Case Report on Sepsis with Multiple Organ Dysfunction Syndrome

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Abstract:

Introduction: The multiple organ dysfunction syndrome is strongly linked to sepsis-causes death (MODS). Multiple organ dysfunction syndrome affects all-over body organs. The pathogenesis of MODS in sepsis is complicated and poorly understood. Furthermore, tissue oxygen supply is considerably reduced by microcirculatory dysfunction, which is associated with Intravascular blood cell blockage, thrombosis, and perfusion heterogeneity. Through the intestinal lymph system, both of which can fuel MODS.

Main signs and symptoms primary clinical diagnosis:-Fever, chills, and constitutional symptoms of lethargy, malaise, vomiting, worry, or disorientation are all common symptoms of sepsis. These symptoms are not always associated with infection and can occur in many non-infectious inflammatory diseases.

Primary diagnosis therapeutic intervention and outcomes: Microcirculatory failure and mitochondrial depression produce regional tissue distress in severe sepsis with multiple organ dysfunction syndromes and septic shock, and regional dystopia persists as a result. Microcirculatory and mitochondrial distress syndrome (M.M.D.S.) is the name given to this illness. Routine investigations were done, the patient started with higher antibiotics, and another supportive management surgery call was done in view of bed sore, changes patient position four hourly, air mattress water mattress and plastic surgery opinion were given after all case patient is stable with no active complaint so being discharged.

Nursing perspectives:-Intravenous fluid N.S. administered. Monitored vital signs and B.P. on an hourly basis. Maintained the intake and output chart and ensured the patient got enough rest and sleep. As directed by the doctor, administer medication.

Conclusion: Multiple organ dysfunction syndromes is a syndrome for the patient-centered approach to care that can be explained by modern I.C.U. Management. Considering that it is closely associated with the adaptive host response to damage or infection as a syndrome, it is predicted that therapies that can regulate the expression of this response may eventually help improve clinical outcomes. It categorizes the spectrum of actions available to help critically ill patients. It emphasizes the vital significance of identifying the risk of iatrogenic damage inherent in the increasingly complex and technical repertory we employ to care for them as a clinical shorthand.

Keywords: Septicemia. Systemic inflammatory response syndrome.

Introduction:

Sepsis, a primary cause of mortality, continues to be a frequent reason for intensive care unit (I.C.U.) admission.¹ Because patients have the highest chances of life when appropriate therapeutic interventions are given as soon as feasible, this disease is now recognized as a time-sensitive emergency.² The clinical syndrome referred to as sepsis is defined by a systemic response to infection. Mortality increases as sepsis develop into organ failure and cause

sepsis (severe sepsis) or hypotension (septic shock). Sepsis is a significant cause of mortality, morbidity, expense, and use of healthcare resources. Organ dysfunction and death are affected by abnormalities in the inflammation, immunological, coagulation, oxygen level, and utilization pathways. Early identification of septic patients for evidence-based interventions, including goal-directed resuscitation, immediate antibiotics, and activated protein C. Providing appropriate care for sepsis may be easier if this clinical entity is classified into many stages and new delivery structures that cross traditional boundaries are adopted. More specialized medicines will be available with a better understanding of the molecular underpinnings of the illness process.³ The multiple organ dysfunction syndromes are "the development of potentially reversible physiologic derangement involving two or more organ systems not involved in the disorder that resulted in I.C.U. admission and arising in response to a potentially life-threatening physiologic insult." The most likely risk factors of MODS are tissue hypoperfusion, sepsis, and shock from any cause. However, there are many more risk factors as well. MODS occurs due to an immune response that is poorly controlled, or immune paralysis, in which the imbalance between pro-inflammatory and anti-inflammatory responses is altered.⁴

Patient information:

Patient-specific information:

A 45-year-old woman was admitted to the female medicine ward of Tertiary Care Hospital Wardha, with chief complaints of abdominal pain, fever, vomiting,

The primary concern and symptoms of the patient: Patient were admitted outside the hospital with an acute febrile illness with sepsis with multiple organ dysfunction syndromes with bed sore with the chief complaint of fever, abdominal pain since last month, and vomiting.

Medical, family and psychosocial history: Patient belongs to a middle-class family of 5 members. All members are healthy except the patient. The nutrition pattern is good.

Past medical history: Patient has a history of hypertension, T.B., bronchial asthma, and Diabetes Mellitus type 2.

Clinical findings: In a blood test, total white blood cell is 19300, Haemoglobin is 8.9%, total Blood cell is 3.21 cumm, and Total platelets count is 4.87 lakhs. In Urine culture, growth of klebsiella pneumonia is seen.

Physical examination and essential clinical findings:- The glass coma scale score is 15, which is normal, and the patient is fully conscious. The patient is well oriented to time, place, and person. Height is 169 cm, and weight is 50 kg. Temperature is 99°F, the pulse is 74 beats per minute, blood pressure 110 /70 mmHg o, and respiration is 24 breaths per minute. She was not jaundiced and was febrile. Ultrasound revealed several gallbladder stones with average wall thickness and a dilated common bile duct in the patient. There was no free fluid in the peritoneal cavity. The liver and kidneys are in good shape.

Timeline:

In the present case, a history of lethargy, malaise, vomiting, worry, or disorientation are all common symptoms of sepsis. These symptoms are not always associated with infection and can occur in several non-infectious inflammatory diseases. Then he visited the city hospital in Yavatmal for management. Blood tests and sonography, radiographic test, and C.T. scan can be done and diagnosed sepsis with multiple organ dysfunction syndromes after that came to A.V.B.R.H. hospital in O.P.D.

Diagnostic assessment:-

Diagnostic method:

Hb% 8.9gm% , WBC 10900cumm, RBC 5.55 , platelets 4.87. Radiometer ABL800 basic blood gas value, Oxymetry value, oxygen status, and acid-base status reports are normal.

Prognosis: His prognosis was good.

Therapeutic intervention: Patient has iv linezolid 600 mg iv B.D. for five days, Inj. Colistin 3 million international units iv B.D. for seven days, Inj. Pantaprazole 40 mg iv OD , Inj. Emset 4mg T.D.S., Tab. Dolo 650 mg T.D.S., Daily bed sore dressing is done, and given daily physiotherapy. The patient feels better after all therapeutic interventions.

Follow-up: for complete recovery doctor prescribed her to come for a followup after eight days.

Outcomes: after all therapeutic interventions, quality nursing care was given then the patient was stable and discharged.

Discussion:

Instead of being a single event, Multiple Organ Malfunction Syndrome (MODS) is a succession of increasing degrees of physiologic malfunction in individual organs.⁵ Organ dysfunction or severe organ failure can affect how well an organ function. Clinical implications of organ dysfunction severity are significant.⁶ For the prevention and treatment of MODS, several non-specific treatments are available. If the patient is in shock, the shock must be

quickly treated, and antibiotics must be administered immediately. If there is an infection present, that must be removed. All of these measures decrease the inflammation that leads to the rise of MODS.⁷⁻¹⁵

Sepsis is a clinical condition characterized by widespread tissue damage and systemic inflammation that aggravates a severe infection. From sepsis through septic shock and MODS, there is a severity scale. 10 Clinical phase typically begins with an infection, which can progress to sepsis and organ dysfunction. Symptoms of the respiratory and neurological systems include acid-base imbalance, renal function loss, electrolyte disturbance, tissue and organ ischemia and hypoxia, shortness of breath, blood pressure drops, and electrolyte disruption. If early signals are ignored, MODS and even mortality may ensue from them.¹⁶⁻²⁴

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In addition, a prior study discovered that sepsis patients with cardiovascular disease, diabetes, hypertension, or other chronic illnesses were more likely to develop MODS than sepsis patients who did not. Another essential indication of sepsis development is the level of serum creatinine. Systemic inflammatory responses brought on by infections can quickly change the circulatory system. As a result, there is an increase in serum creatinine levels, a decrease in renal function, and a decrease in renal blood flow. As well as reducing blood flow and dilating blood arteries also lowers blood pressure. 11 As per our findings, the MODS group's serum creatinine level was significantly higher than the non-MODS group. Microcirculation healing and early renal function protection are essential for the patient's survival.²⁷⁻²⁹

Conclusion:

Present case the 45-year-old woman with Case report on sepsis with multiple organ dysfunction syndromes had symptoms such as abdominal pain, fever, vomiting, and tachypnoea with proper treatment, now the patient's condition is good. We can conclude from this case report by diagnosing multiple organ dysfunction syndromes. Physicians can uncover underlying etiology that may require specific therapy. When MODS is identified, doctors should be motivated to identify the underlying cause that might necessitate a particular treatment. It is essential to consider whether symptomatic management of organ dysfunctions interacts with other failing organs on a systemic level. Although there is a lack of long-term outcome data with critically ill children with MODS, 60% of survivors are seen to lead relatively everyday lives with few health problems. Although first, we need to identify the risk factors and lifestyle modifications, health education and awareness can reduce the risk of illness.

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