



Repeated Sepsis in an 83-Year-Old Man With Cancer With Long-Lasting Invasive Treatments



Masoomeh Imanipour¹ , Nasrin Rasoulzadeh², Amin Hosseini^{3*} 

1. Assistant Professor, Nursing and Midwifery Care Research Center, Department of Critical Care, Tehran University of Medical Sciences, Tehran, Iran.

2. Assistant Professor, Department of Medical-Surgical Nursing, Tehran University of Medical Sciences, Tehran, Iran.

3. MSc. Candidate in Medical-Surgical Nursing, School of Nursing and Midwifery, Tehran University of Medical Sciences, Tehran, Iran.

Use your device to scan and read the article online



Citation Imanipour M, Rasoulzadeh N, Hosseini A. Repeated Sepsis in an 83-Year-Old Man With Cancer With Long-Lasting Invasive Treatments. *Case Reports in Clinical Practice*. 2019; 4(4):122-124.

Running Title Repeated Sepsis in Case With Cancer



Article info:

Received: 19 October 2019

Revised: 04 November 2019

Accepted: 10 December 2019

Keywords:

Sepsis; Chronic diseases; colostomy; Tracheostomy; Cancer

ABSTRACT

Sepsis is a life-threatening condition that arises when the body's response to infection damages its own tissues and organs. Sepsis is caused by an inflammatory immune response triggered by an infection. Its risk factors include aging, weak immune system, major trauma, or burns. Treatment of sepsis is often based on fluid replacement and antibiotic therapy. In this study, an 83-year-old man is reported with two times of diagnosis of sepsis during three years. The first sepsis was due to an infection of the colostomy and the second one followed an infection at tracheostomy site. It seems that the disease and the underlying condition of the patient contribute to the occurrence of sepsis. The patient each time was discharged from the hospital after successful response to the treatment.

Introduction

Sepsis is a life-threatening condition that arises when the body's response to infection damages its own tissues and organs. Sepsis is caused by an inflammatory immune response triggered by an infection. Bacterial infection is more common, but fungal, viral, or protozoan

infections are also possible [1]. The common signs and symptoms of sepsis are fever, elevated heart rate and breathing rate, and confusion [2]. There may also be symptoms related to a specific infection, such as coughing due to pneumonia or painful urination caused by kidney infection [3, 4]. The lungs, brain, urinary tract, skin, and abdominal organs are common sites for the primary infection [5]. Risk factors include age (very

* Corresponding Author:

Amin Hosseini, MSc. Candidate

Address: School of Nursing and Midwifery, Tehran University of Medical Sciences, Tehran, Iran.

E-mail: aminhosseini835@gmail.com

young and very old); weak immune system due to the conditions, such as cancer or diabetes; major trauma or burns [6]. Sepsis is usually treated with administration of intravenous fluids and antibiotics. Typically, antibiotics are given as soon as possible. Mechanical ventilation and dialysis may be needed to support the function of the lungs and kidneys, respectively [7, 8].

Case Presentation

Our patient was an 83-year-old man with a history of diabetes, brain stroke, and heart failure, who has been treated with oral chemotherapy, colectomy, and colostomy due to rectal cancer since 3 years ago. The patient suffered from fever and reduced consciousness after diagnosis of sepsis following colectomy and admitted to the internal ward. Following the patient's sepsis, extensive antibiotic therapy was initiated and he was finally discharged with memory impairment. According to the report by patient's son, his disease developed over the course of one year and after that he showed kidney failure and increased creatinine due to the nerve block and taking pregabalin.

The patient was subjected to emergency dialysis, which caused dehydration in patient and was quickly intubated with tracheostomy. After tracheostomy, the patient was bedridden. After two years of tracheostomy, the patient referred to the emergency department of Imam Khomeini Hospital of Tehran University of Medical Sciences with fever symptoms and increased secretion of the tracheostomy area. In addition to tracheostomy, the patient also had a colostomy bag, percutaneous endoscopic gastrostomy and a suprapubic catheter.

The patient with oxygen saturation of 99%, blood pressure of 105/70 mm Hg, heart rate of 86 beats per minute, and body temperature of 38.4°C was transmitted to the hospital's medical department with diagnosis of sepsis. Abnormal laboratory tests results one day after admission to the department were as follows: white blood cells: 10800/ μ L and a large number in the urine, serum calcium: 7.9 mg/dL and serum creatinine: 3.1 mg/dL. In the primary Ear, Nose and Throat examinations and counseling, the tracheostomy tube had plenty of secretions and acted properly, the patient also had a low level of consciousness, eyes opened and reacted to the questions.

The patient's secretions decreased due to serum and antibiotic therapy (vancomycin and ciprofloxacin) 6 days later and on the seventh day of admission, his body temperature reached 36.5°C. On the 10th day, the

culture of the tracheostomy area was positive (Imipenem-resistant Klebsiella). On the 12th day, the antibiotic therapy period was completed; however, the patient's white blood cells in serum rose again to 17500/ μ L. On the 17th day, it reached 8400/ μ L within normal range. On the 20th day, the patient with sustained vital signs, creatinine of 1.7 mg/dL and white blood cells of 6.6 in the serum and 1-2 in the urine was discharged.

Discussion

Sepsis can cause poor organ function or insufficient blood flow. Insufficient blood flow may be evident by low blood pressure, high blood lactate, or low urine output, which can eventually lead to kidney failure. In this case, we saw that the serum creatinine of the patient in both referrals reached above the normal and emergency dialysis was performed for him in the first time [9, 10].

Other conditions that medical staff should consider are some underlying conditions leading to sepsis, like cancer or diabetes, major trauma or burns. The patient had cancer and diabetes, which were the underlying causes of sepsis. In addition to other risk factors of sepsis, the weakness of the immune system due to aging has reported, which in our case has led to sepsis [1]. The final point is that in hospitals and treatment centers, the care of the colostomy bag and tracheostomy should be trained to prevent the infection [11].

Ethical Considerations

Compliance with ethical guidelines

All ethical principles were considered in this article.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interest

The authors declared no conflict of interest.

References

- [1] Afshar M, Arain E, Ye C, Gilbert E, Xie M, Lee J, et al. Patient outcomes and cost-effectiveness of a sepsis care quality improve-

- ment program in a health system. *Critical Care Medicine*. 2019; 47(10):1371-9. [DOI:10.1097/CCM.0000000000003919] [PMID]
- [2] Crilly J, Robinson J, Sharman V, Cross J, Romero B, Teasdale T, et al. Recognition, response and outcomes of sepsis: A dual site retrospective observational study. *International Emergency Nursing*. 2019; 46:3. [DOI:10.1016/j.ienj.2019.06.005]
- [3] Zhou J, Bai Y, Wang X, Yang J, Fu P, Cai D, et al. A simple risk score for prediction of sepsis associated-acute kidney injury in critically ill patients. *Journal of Nephrology*. 2019; 2019:1-10. [DOI:10.1007/s40620-019-00625-y]
- [4] Komori A, Abe T, Kushimoto S, Ogura H, Shiraishi A, Deshpande GA, et al. Clinical features of patients with candidemia in sepsis. *Journal of General and Family Medicine*. 2019; 20(4):161-3. [DOI:10.1002/jgf2.250] [PMID] [PMCID]
- [5] Rumbus Z, Garami A. Fever, hypothermia, and mortality in sepsis. *Temperature*. 2019; 6(2):101-3. [DOI:10.1080/23328940.2018.1516100] [PMID] [PMCID]
- [6] Alcamo AM, Pang D, Bashir DA, Carcillo JA, Nguyen TC, Aneja RK. Role of damage-associated molecular patterns and uncontrolled inflammation in pediatric sepsis-induced multiple organ dysfunction syndrome. *Journal of Pediatric Intensive Care*. 2019; 8(1):25-31. [DOI:10.1055/s-0038-1675639] [PMID]
- [7] Peng X, Ding Y, Wihl D, Gottesman O, Komorowski M, Lehman LH, et al. Improving sepsis treatment strategies by combining deep and kernel-based reinforcement learning. *AMIA Annual Symposium Proceedings Archive*. 2018; 2018:887-96. [PMID] [PMCID]
- [8] Obonyo NG, Schlapbach LJ, Fraser JF. Sepsis: Changing definitions, unchanging treatment. *Frontiers in Pediatrics*. 2018; 6:425. [DOI:10.3389/fped.2018.00425] [PMID] [PMCID]
- [9] Wu J, Ren J, Liu Q, Hu Q, Wu X, Wang G, et al. Effects of changes in the levels of damage-associated molecular patterns following continuous veno-venous hemofiltration therapy on outcomes in acute kidney injury patients with sepsis. *Frontiers in Immunology*. 2019; 9:3052. [DOI:10.3389/fimmu.2018.03052] [PMID] [PMCID]
- [10] Cho AY, Yoon HJ, Lee KY, Sun IO. Clinical characteristics of sepsis-induced acute kidney injury in patients undergoing continuous renal replacement therapy. *Renal Failure*. 2017; 40(1):403-9. [DOI:10.1080/0886022X.2018.1489288] [PMID] [PMCID]
- [11] Misheva B, Hajjar R, Mercier F, Schwenter F, Sebahang H. Conservative management of pelvic sepsis with severe shock and multiple organ dysfunction syndrome after rubber-band ligation of internal haemorrhoids: Surgery is not the only option. *Journal of Surgical Case Reports*. 2018; 2018(8):rjy199. [DOI:10.1093/jscr/rjy199]