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Sepsis is Serious. Recognize the Signs

Stuart L. Segelnick DDS, MS, CDE
NYSDA, eperiodr@aol.com

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Sepsis is Serious. Recognize the Signs

There can be no delay in seeking treatment if you suspect either you or a patient is afflicted.

Stuart L. Segelnick, D.D.S., M.S., C.D.E.

NYSDJ Associate Editor

A call comes in from an emergency patient soon after you removed a hopelessly infected tooth. Her major concern is having a fever, chills and feeling downright terrible. She has no difficulty breathing or swallowing, though her mouth still feels swollen. Grace is a middle-aged woman who suffers from diabetes and recently finished chemotherapy for breast cancer. She doesn't smoke or drink alcohol. Also, she relates getting home too late to pick up the antibiotics that were prescribed. What should she do?

Grace was fortunate to have gone directly to the hospital emergency room, where she received a CT scan, which didn't show anything unusual. However, sepsis was suspected and IV antibiotics were administered. Feeling much better after a night of observation, Grace went home the very next day with a prescription for oral antibiotics.

Untreated or poorly managed periodontal disease, caries, endodontic and dental alveolar lesions can lead to sepsis. Case reports published in dental literature highlight the morbidity and mortality of dental disease complications. Although rarely reported, post tooth extractions have also been linked to sepsis.^[1] According to the CDC^[2] and the Mayo clinic,^[3] bacterial infections are the leading cause of sepsis (viral and fungal infections have also been implicated). When these microbes overwhelm the immune system, the body fights back, causing overt damage to the organs,

which may progress to septic shock and the accompanying free fall in blood pressure, organ dysfunction and ultimate death.

The World Health Organization (WHO) recognizes the severity of sepsis and reported that in 2017, it accounted for 20% of all deaths globally. In America, the CDC reports almost two million adults develop sepsis, and 350,000 “die during their hospitalization or are discharged to hospice.” One-third of the people who died in the hospital had sepsis during their stay. What's even more frightening is “among adult sepsis survivors, one in three died within a year and one in six experienced significant, long-term morbidity.”^[4]

Higher risks of acquiring sepsis are found in older people (>65 years) and children who are under one year old, as well as those afflicted with chronic medical problems, are immunocompromised, sepsis survivors and people recently hospitalized and with severe sickness. Some of the signs and symptoms of sepsis are fever, chills, shivering, sweating, severe pain, fast heart rate, fatigue, hypotension, confusion and altered mental state.

Tests that your patient's physician or the hospital will perform if sepsis is suspected include a physical exam, blood cultures, full blood work up, X-rays, CT scans and ultrasounds to aid in making a diagnosis.^[5] High temperature, elevated heart and respiratory rate, and high white blood cell counts are red flags for sepsis.

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Sepsis is considered a medical emergency; the most important thing to do is recognize and treat it quickly. Treatment usually includes broad-spectrum IV antibiotics, IV fluids and vasopressors. Monitoring serial lactate measurements is also important. Hospitals must report cases of sepsis to the federal and state government.

According to Mannan et al., “Early antimicrobial intervention is associated with surviving severe sepsis, making it critical for dentists to understand local factors leading to the crisis and the signs and symptoms of the sepsis-septic shock continuum.”^[6]

In a paper by Sato et al., the authors stated, “When an oral infection is suspected in an elderly patient, antibiotics should be quickly administered, the patient’s local and systemic state should be confirmed... If no improvement is observed, medical attention should be quickly sought.”^[7]

Organizations such as End Sepsis the Legacy of Rory Staunton (<https://www.endsepsis.org/>) and the Sepsis Alliance (<https://www.sepsis.org/>) have done amazing work bringing awareness of the seriousness of sepsis. End Sepsis has been successful in advocating for guidelines, regulations and increasing awareness of sepsis.^[8] An article in The New York Times by Emily Baumgaertner^[9] tells how the CDC has developed new guidelines to help recognize and reduce sepsis in hospitals. It notes that “In 2013, New York became the first state to mandate that all hospitals adopt sepsis protocols, known as ‘Rory’s regulations.’” Rory Staunton was only 12 years old when he died from undiagnosed sepsis. His parents subsequently started a foundation and the End Sepsis organization. With these wonderful organizations helping to eradicate sepsis, the future looks promising, so much so that even AI is now being used to detect sepsis.^[10]

A month after my own gall bladder removal surgery, I had returned to my office on a lighter schedule. I was in the office when I started feeling very fatigued and had pain in my right back flank. After three days of decline and pushing myself through the day, I noticed that my hands had started shaking at the end of a patient examination. At that point, I knew I couldn’t continue and had my receptionist cancel the rest of my appointments.

Almost falling to sleep at the wheel, I barely managed to drive home. Once home, I made my way to bed and fell right to sleep. At 1 a.m., I awoke bathed in sweat, simultaneously yet uncontrollably shivering, and feeling downright awful. I knew something was dangerously wrong. I woke my wife and we headed to the hospital ER, where they immediately took my vitals. My blood pressure was extremely low, my heart rate was racing out of control and my temperature was burning up at 103.3 F. The diagnosis was sepsis.

After a CT scan of the abdomen and blood work, I was placed on IV antibiotics. I won't go into the horrible details of eight miserable days in the hospital and four weeks of IV antibiotics, which were delivered through a PICC line inserted into my arm. I thank God every day that I'm alive and able to go back to caring for my family, friends, staff, colleagues, and patients. I am cherishing every moment I'm still in this beautiful world.

It makes me wonder if I, as a healthcare professional, couldn't make a timely diagnosis of my own sepsis setting in, how could the average person? Sepsis is a major, life-threatening event that dentists must be aware of. Be prepared to advise your patients when sepsis is suspected to head to the hospital ER, because that timely response just might save their lives. *///*

Dr. Segelnick's editorial first appeared in the January/February 2024 Second District Dental Society Bulletin. Queries about his editorial can be sent to him at eperio@aol.com.

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