Title
Opioid Dependent Malingerer with Self-Induced Sepsis

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Authors
Kesler, Kelly
Langdorf, Mark
Burns, Michael

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INTRODUCTION

Physicians learn to identify and treat disease through pattern recognition. But what if the traditional patterns are violated, and the resulting diseases are unknown? How is a bizarre clinical finding rationalized? We present a case in which a societal epidemic, patient subterfuge and microbiologic mystery all intersected to provide a truly unique case report.

There have been few reports of unusual organism bacteremia in intravenous (IV) drug users, and none that we could find in the emergency medicine (EM) literature. A 2016 comprehensive review from Postgraduate Medical Journal (from the BMJ) of infective endocarditis (IE) lists common culprits as Staphylococcus aureus, Candida albicans and Pseudomonas species, among others, and alludes to saliva contamination among addicts. A 2012 review in the microbiology/ infectious disease (ID) literature lists multiple unusual organisms causing IE, and a 2016 case report in the ID literature describes a case of persistent Bacillus cereus and Flavimonas bacteremia. However, none of these reports identify the organisms found in our patient’s blood. Even though blood culture results return after a patient is admitted from the emergency department (ED), emergency physicians frequently treat IV drug users with malingering behavior, and ferret out unusual causes for life-threatening presentations such as sepsis.

Prescription opioid abuse has risen to epidemic proportions globally. Over the past 2.5 decades, prescriptions for oral narcotics have close to tripled or quadrupled. The United States is no exception; in 2014, 47,055 individuals in this country died from drug overdose with 18,893 of those related to prescription narcotics alone. This staggering number represents a 3.4 fold increase since 2000. In 2008, ED visits for non-medical use of prescribed or over-the-counter medications equaled that of visits related to illicit drugs. The increase in overdoses from opioid pain medications has risen in conjunction with the increase in narcotic prescriptions.

These opioid analgesics can be taken in many forms; traditionally, the pills are taken by mouth but they can also be crushed and snorted or dissolved and injected intravenously (“mainlining”) or subcutaneously (“skin popping”).

CASE REPORT

A 21-year-old woman was transported to the ED via ambulance with a complaint of one week of fever, shortness of breath and generalized weakness. She also had a cough productive of green sputum, chest tightness, and redness to both arms at sites of previous peripheral IV insertions and her current midline catheter (peripheral long line to the axillary vein) in her left arm.

She provided a medical history of pulmonary alveolar proteinosis and asthma, and, per chart review, had a history of pseudoseizures, anxiety, and borderline personality. She had been hospitalized multiple times for pulmonary infections, most recently at another hospital twice in the previous week for similar symptoms. She was treated there for both cellulitis and pneumonia and was discharged home on IV daptomycin. She later received a phone call from the other hospital that IV aztreonam would be prescribed in response to a new positive blood culture. She did not recall the names of the bacteria. She self-administered aztreonam and daptomycin just prior to ED arrival. The patient stated that the other hospital inserted a peripheral IV near her left thumb that was removed when her surrounding skin turned red and drained pus. She reported
frequent infections, citing cellulitis from multiple small 
insults, such as IV placements. She also reported anaphylaxis 
to many antibiotics.

On arrival, her vital signs were blood pressure 99/61 
mm/Hg, heart rate 160 beats per minute, respiratory rate 22 
respirations per minute, oxygen saturation 100% on 4 liters 
nasal cannula (NC, chronic home O₂), and oral temperature 
39.5° C. Physical exam showed moderate respiratory distress 
with the patient only able to speak in short sentences. She was 
tachycardic without audible murmur, had diffuse rhonchi in 
all lung fields, and flushed, warm skin. There was redness to 
her right antecubital fossa at the prior IV insertion site, the 
dorsum of her left hand, the previous PICC site in her left arm, 
and also her left antecubital fossa with tenderness over her 
current home midline IV. In fact, all her current and former 
upper extremity IV sites appeared red. However, there was no 
puerperal drainage, induration, or areas of fluctuance.

In the ED, the patient received IV fluids and antipyretics. 
Electrocardiogram revealed sinus tachycardia. Chest 
radiograph demonstrated hazy bilateral mid and lower lung 
opacities with low lung volumes with possible subsegmental 
atelectasis, although consolidation could not be excluded. 
Serum chemistries measured Na⁺ 128 mmol/L (normal 135-
145 mmol/L), K⁺ 2.8 mmol/L (normal 3.4 -5.0 mmol/L), 
HCO₃⁻ 17 mmol/L (normal 20-29 mmol/L), lactate 0.8 
mmol/L, and Mg²⁺ 1.3 mg/dL (normal 1.8-2.5mg/dL) and 
PO₄⁻ < 1.0 mg/dL (normal 2.5-4.5mg/dL). Complete blood 
count demonstrated: white blood cell count 2.7x 10⁸/uL with 
a normal differential.

The patient was admitted to the internal medicine 
service on a telemetry bed with a working diagnosis of 
sepsis from a pulmonary source. As an inpatient, the 
medicine team obtained her previous medical records. The 
blood cultures from the other hospital grew Cronobacter 
sakazakii (formerly Enterobacter sakazakii) and Candida 
parapsilosis. The current admission blood cultures also grew 
C. parapsilosis as well as Staphylococcus saccharolyticus, 
and the patient was administered micafungin. The patient 
tried to block access to other hospital records and only 
acquiesced if specific documents were not requested (e.g. 
discharge summary) because they were “wrong.” The ED 
CASE was notified by the case manager from the 
patient’s insurance company that the patient was abusive 
toward staff and left against medical advice (AMA) if she 
did not receive IV narcotics. She refused lab draws and 
some antibiotics on the basis of “anaphylaxis” unless she 
also received IV diphenhydramine and threatened to sign out 
AMA from the hospital. Her history of pseudoseizures was 
ultimately confirmed, including resolution of one episode of 
“convulsions” with IV normal saline. She also maintained that 
she required continuous NC O₂, and yet did not desaturate 
when it was discontinued without her knowledge.

She was transitioned to oral fluconazole and levofloxacan 
as recommended by the ID consultant. However, the patient 
refused levofloxicin due to reported anaphylaxis, and she was 
treated with ciprofloxacin.

Due to her history of line infections, the patient was 
placed on a 1:1 sitter for suspected line manipulation. The 
morning of discharge on hospital day 4, the patient was 
discovered with a syringe filled with partially dissolved 
ydromorphine that was hidden under her blankets. The 
sitter reported that the patient had been taking her oral pain 
medication underneath her blanket and, thus, had not been 
observed swallowing the pills. The organisms discovered 
in this patient’s blood, C. parapsilosis, S. sakazakii, and 
S. saccharolyticus, have been found in food and on human skin, 
and in hospital environs. It is likely that the patient 
was injecting her oral pain medications IV after dissolving 
them in her mouth, and contaminated her paraphernalia with 
organisms from her bedding, food, and saliva. She was discharged to home on two weeks of oral 
ciprofloxacin and fluconazole.

DISCUSSION

This patient was so debilitated by her substance abuse 
disorder that she went to extreme measures to potentiate the 
effects of her oral narcotics by injecting them. The patient 
causd substantial self-harm and developed recurrent sepsis 
from pathogens typically found in the mouth, skin and 
environment. This explained the infection of all her former 
and current IV lines.

Cronobacter sakazakii is a gram negative bacterium 
that typically does not cause significant infection in adults, 
but can cause fatal meningitis infections in neonates and 
young children with underdeveloped immune systems. This organism is also found in some foods, especially plants, and 
oral contamination during IV drug use is the likely source of 
this bacteremia.

Candida parapsilosis is a lesser known fungal pathogen 
in the Candida genus that is commonly found on human skin 
and was previously unknown as a source of severe infections. However, it actually can cause significant fungemia and is 
reported to be the second leading cause of fungemia 
behind C. albicans in certain populations. Staphylococcus saccharolyticus is an anaerobic, coagulase negative pathogen found as native skin flora. It has been rarely reported to cause nosocomial cases of bacteremia and infectious endocarditis.

CONCLUSION

The lesson to the astute clinician is to look beyond the 
usual patterns of disease when faced with atypical 
presentations. Given the patient’s pseudoseizures, multiple 
hospitalizations, unusual blood culture results, abusive 
and obstructive behavior, and deceitful information, it was 
prudent to investigate her previous records for malingering.
behavior. Further, the inpatient team astutely assigned a sitter for the patient, who ultimately exposed the root cause of her otherwise puzzling multi-organism bacteremia and sepsis.

Address for Correspondence: Kelly Kesler, MD, University of California, Irvine, School of Medicine, Department of Emergency Medicine, 333 The City Boulevard West, Suite 640, Orange, CA 92868. Email: kkesler@uci.edu.

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