

## A Case of Munchausen Syndrome or Central Line–Associated Bloodstream Infection? Or Both?

*To the Editor*—In the United States, hospitals report cases of central line–associated bloodstream infection (CLABSI) to the National Healthcare Safety Network (NHSN), the healthcare-associated infection (HAI) tracking system administered by the Centers for Disease Control and Prevention (CDC).<sup>1</sup> We report a case of Munchausen syndrome in which polymicrobial bacteremia resulted from intravenous self-injection of live organisms. Our considerations involved with the decision to not report this event as a CLABSI are described here.

In March 2014, a 33-year-old woman was admitted to Harbor–University of California, Los Angeles (UCLA), Medical Center with anal pain 2 weeks after a hemorrhoidectomy was performed at an outside hospital. The pain was considered by the medical staff to be appropriate for that surgical procedure, and physical examination was unrevealing. The next day, the patient developed chest pain, and a right internal jugular vein thrombus was found, which was a complication of a central venous catheter used for her surgical procedure. Moderate right heart strain was also found, which was attributed to the thrombus after extensive evaluation for myocardial infarction, pulmonary embolus, and hypercoagulable conditions. The patient also reported a history of Guillain-Barré syndrome that required plasmapheresis at a local hospital. We found no evidence of this admission in records from that facility. The patient also claimed to have sickle cell anemia; however, hemoglobin electrophoresis results were normal.

A right peripherally inserted central catheter (PICC) was placed on the second hospital day. Twelve days later, the patient had a temperature of 38.1°C that increased to 39.9°C the next day. Blood cultures from the PICC grew *Pseudomonas aeruginosa*, *Escherichia coli*, and viridans streptococci. No peripheral leukocytosis was observed, and no other source of infection was identified (including the use of transesophageal echocardiography and deep space imaging). The PICC was discontinued, and antimicrobial therapy was initiated. Three weeks later, on day 37 of hospitalization, a midline catheter was placed in the left arm. The next day, the patient had 2 fevers to 39.4°C over a 48-hour period. Blood cultures grew *Candida albicans* and vancomycin-resistant *Enterococcus faecalis*. No source of the bacteremia was identified for this episode.

The medical team was concerned about the episodes of polymicrobial bacteremia in association with the patient's previous medical claims that were proven false. After the second bacteremic event was discovered, the psychiatry service diagnosed factitious disorder, and a 1:1 sitter was assigned to the patient. Nine days later, on day 51, a syringe was found in the patient's purse that contained 1 cc of hazy

fluid from which *Candida* species and enterococci grew. Three days later, the patient was found injecting contents of a syringe onto a spoon and ingesting the mixture. On further questioning, she admitted to previously injecting sink and drinking water into her "IV lines" during this hospitalization. Her report of the timing of the injections was coincident with the positive blood cultures, but a causal connection could not be definitely determined. The patient left the hospital against medical advice after a 66-day hospitalization.

Simply put, the CDC defines CLABSI as a positive blood culture (with appropriate organisms), obtained from a patient with a central line, that is unrelated to infection at another body site. If infection at another site can be identified, then the bacteremia is considered to be secondary and is not reportable as a CLABSI.<sup>1</sup> Given this definition, some might identify our case as a CLABSI, as was indeed suggested to us by the National Healthcare Safety Network (NHSN; personal communication, June 2014). We did not do so, however, because we believe that the polymicrobial bacteremia found when the patient's PICC was in place was a direct consequence of a psychiatric condition and that to label this case as a CLABSI would violate the spirit of the NHSN goals.

Our case reflects the reality that it can be difficult to determine with confidence whether a particular bacteremic event is a CLABSI as defined by the NHSN. Our diagnosis of factitious disorder was supported by the (1) culture results from the patient's syringe, found in her purse; (2) the patient's admission of injecting herself and independent observation of her ingesting organisms; (3) the occurrence of significant fever and bacteremia only when the PICC (or midline catheter) was in place; and (4) the totality of other medical and psychiatric interview evidence. It should be noted that bacteremias associated with midline catheters are not reportable as CLABSIs, unlike the PICC.

Individual hospitals use different methods to identify CLABSIs, including medical record abstraction, laboratory-based information, administrative data, and/or a combination of the above. As such, surveillance biases and methodologic differences are inherent to the data and thus impact on publicly reported estimates.<sup>2,3</sup> Importantly, the substantial contribution of subjectivity in CLABSI assignment was shown in a 2011 national survey of 373 physicians involved with CLABSI reporting at their hospital, among whom 70% used clinical judgment in the decision process.<sup>4</sup> In addition, the likelihood of actually reporting a CLABSI was very dependent on the pathogen and the type of healthcare provider.<sup>4</sup> Although imperfect, NHSN CLABSI surveillance data provide a robust benchmark for individual hospitals and the nation to evaluate the effectiveness of quality assurance efforts in this area.

It is hoped that nearly all CLABSIs can be prevented through strict adherence to line insertion and maintenance guidelines.<sup>5</sup> In our case, these bacteremias could only have been prevented by in-person or video monitoring 24 hours per day at admission to the hospital, before the patient re-

ceived her diagnosis. Munchausen syndrome (and its pediatric variant, Munchausen by proxy) resulting in bacteremia has been reported many times.<sup>6-9</sup> To our knowledge, the issues involved with reconciling this diagnosis as a contributor to CLABSI have not been previously detailed.

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