Severe Hypokalemia and Hematuria: A Case of Munchausen’s Syndrome

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INTRODUCTION

The term Munchausen syndrome—named after the famed 18th century Baron Munchausen of Germany, whose wide travels and notorious tall tales have inspired literature pieces, several films, and even a popular game—was originally coined in 1951 by Dr. Richard Asher, a British endocrinologist and hematologist who used the term to refer to patients who feign illness.1 Today, most experts use it to describe a rare form of factitious disorder in which patients actively seek to assume the sick role to gain attention, sympathy, and comfort from medical personnel. It is distinguished from malingering because no clear monetary gain, work avoidance, or similar motives are involved. Munchausen syndrome represents an extreme form of factitious disorder, and these patients typically have multiple diagnoses from multiple practitioners they have visited over a prolonged period. Often, they have undergone numerous surgeries and other interventions before being identified and have a high likelihood of previous healthcare employment.

CASE REPORT

A 47-year-old woman was transferred to our medicine service from an out-of-state hospital for a further work-up of unexplained profound hypokalemia (potassium = 1.9 mmol/L). She was diagnosed while being evaluated for the placement of a gastric pacemaker and was admitted to the outside facility. She had an extensive past medical history, including fibromyalgia, nondiabetic gastroparesis, irritable bowel syndrome, migraines, soft tissue infections, multiple surgeries, depression, and generalized anxiety disorder. In previous years she had been evaluated and followed by dozens of physicians, with multiple admissions to other hospitals. She requested a full work-up at our tertiary referral center in New Orleans, Louisiana.

On admission to the floor, she reported increased generalized weakness over the prior two weeks, with two recent falls. A review of systems revealed intermittent tingling of the hands and lips, cramping of the legs bilaterally, and progressive fatigue over the two-week period. She stated that she vomited about eight to nine times each day and described the vomitus as bilious. She also reported taking potassium (40 mEq orally) and magnesium (unknown dose) at home for chronic hypokalemia and hypomagnesemia that had been diagnosed many months earlier. Her home medications included methadone (for chronic pain), hydrocodone, pregabalin, duloxetine, alprazolam, trazodone, and ondansetron. She reported six drug allergies. Her social history was significant for several previous marriages and prior employment in a hospital as a unit secretary several years earlier. She professed to having moved from across the country so that her elderly mother could care for her. Her conditions had progressed over eight years and now prevented her from working; they had also been the cause of a separation from her husband.

Her physical exam revealed a thin Caucasian woman without visible pain, sitting in her bed and carrying on a normal interview. Speech patterns and tone were normal; there was no tangential content, although she was mildly emotional when discussing her health. Vital signs were normal, and mild diffuse abdominal tenderness with no rebound or guarding was noted. There were positive bowel sounds on auscultation of the abdomen. A neurological examination was unremarkable. Other than a low potassium level (1.9 mmol/L) the metabolic panel and complete blood count were within normal limits. An electrocardiogram revealed u-waves consistent with hypokalemia but was otherwise unremarkable. The patient was placed on telemetry, and potassium replacement was initiated. The patient had already taken 40 mEq of potassium orally before arriving on the floor, and she was given an additional 80 mEq intravenously (IV) over the course of four hours. A repeat
On day 10, the sitter informed nursing staff that she heard popping sounds when the patient was in the bathroom. A search of the bathroom revealed empty blister packs corresponding to 45 laxative pills (Figure 1). When confronted by the intern, the patient became hostile and demanded to leave against medical advice. The resident was called; moments after the paperwork had been completed, the patient passed out. At this point, she was orthostatic. After being given a 2 L bolus of normal saline and additional maintenance fluids, her symptoms improved, and she decided to stay in the hospital.

The following day, her blood and orthostatic pressures were normal, but she now complained of blood in her urine. The consultant nephrologists noted that there was pure blood in the patient’s toilet, which was not fully mixed with the surrounding clear water, inconsistent with hematuria. A small amount of pure blood was noted in a urine collection container (she had previously collected urine for a 24-hour urinalysis). A Foley catheter was inserted and clear yellow urine expelled, inconsistent with hematuria. The specimen was sent for urinalysis and was completely within normal limits. A few hours later, the patient called the nurse complaining that her urine had turned red. On visual inspection the urine collection bag appeared to contain mostly pure blood, with a small amount of red-colored urine. The nurse also noted clots in the Foley tubing.

On laboratory evaluation, the patient’s hemoglobin and hematocrit had dropped from 12.3 gm/dL to 7.8 gm/dL and 35% to 24%, respectively. Two units of packed red blood cells were transfused, and urology was consulted. On examination, the urologist noted that aspiration of the Foley catheter itself produced clear yellow urine, but aspiration of the Foley balloon lumen produced 25 cc of blood. The balloon was still inflated at this point and could not be removed, although nothing else could be aspirated even after the balloon port valve was cut off. At this time, it was suspected that blood had been injected into both the Foley and the balloon port, where a portion of it had clotted. When the patient was confronted by the medical resident with this scenario, she made vehement denials and began screaming from her gurney in the hallway (she was being transported to cystoscopy per urology’s request). She began accusing the physicians of trying to hurt her. At this point she was sedated with haloperidol and taken to the cystoscopy suite, where an unsuccessful attempt was made to puncture the inflated catheter balloon. The balloon was removed via the urethra intact and inflated, and subsequent dissection of it revealed a blood clot of approximately 15-20 cc, in addition to the 25 cc of blood previously removed (Figure 2).

At this point, a thorough search of the patient’s room was conducted by two charge nurses under the supervision of hospital security. The search revealed bottles of outside medications in the patient’s bag, including a few potassium pills that had been administered but not taken. The search also revealed empty packaging for hundreds of laxative pills and two bloody syringes (without needles) that the patient had used to aspirate blood from her IV lines and to inject into

serum potassium test a few hours later was <1.5 mmol/L. She was transferred to intensive care, where a central line was inserted and she was given 280 mEq of potassium chloride by IV over 1½ days. Her serum potassium level rose to 3.7 mmol/L, and she was transferred back to the medicine floor the following afternoon.

Over the week, the patient’s potassium dropped despite aggressive daily replacement, including more than 1,400 mEq of IV potassium and more than 500 mEq of oral potassium. It was noted that that patient’s potassium level would transiently rise with the administration of IV potassium, but oral preparations did not increase her serum potassium levels.

Nephrology evaluated the patient and found urinary electrolytes inconsistent with renal disorders such as Bartter’s or Gitelman’s syndromes. Although she noted vomiting several times a day, it was felt that vomiting alone could not explain the rate of potassium loss. Furthermore, the floor nurses had never seen the patient vomit or the products of her vomiting. When asked to save her vomitus, she produced an emesis basin with contents appearing as if she had poured in water or another beverage. Often, whole, dry pills or undigested food floated in the liquid without stomach contents. She showed this to the medicine team; when informed that the substance did not appear to be vomitus, she became quite defensive and critical of the attending and senior members of the team. At this point, the attending became suspicious.

On day seven, a nurse noted that the patient’s 21-year-old daughter, who was staying in the room with her, had brought in four packages of 60-count bisacodyl laxatives. The nurse confiscated the laxatives. When asked about this, the patient noted that Wal-Mart was having a “sale of the century” on laxatives and the family was “stocking up.” Wary, the attending and the senior resident developed a plan that included ordering a 24-hour sitter for the room.

Figure 1. Among medications found hidden in patient’s room were empty laxative blister packs (lower left).
Figure 2. Paraphernalia used by the patient to produce factitious hematuria: a. syringes; b. Foley catheter filled with blood; c. clotted blood removed from the dissected balloon of the Foley. See text for explication.

her Foley catheter and the Foley catheter balloon. She likely was unaware that the balloon port did not communicate with the bladder or catheter themselves (Figures 1, 2).

Subsequently, the patient’s son, who had just arrived from out of state, revealed that his mother had a history of anorexia nervosa, for which she had been hospitalized in her 20s, as well as narcotics and laxative abuse. He had been traveling to Mexico regularly to smuggle pain medications for his mother and had been purchasing approximately 200 laxative tablets for her each week. He noted that she obtained additional laxatives from other relatives as well. Throughout her hospital stay the patient had complained of constipation, but her daughter revealed that her mother was having several bowel movements daily. Family members appeared genuinely shocked, however, that the patient had been self-phlebotomizing and injecting blood into her Foley catheter to feign hematuria, attempting to deceive the medical staff, and causing herself harm. The attending physician visited with the patient and discussed her actions, including tapping into the already strained blood supply and abusing a disproportionate amount of staff attention and hospital resources.

A Physician’s Emergency Certificate was signed and the patient transferred to the in-patient psychiatry unit. Her catheter was removed, visitors were limited and monitored, and her access to laxatives and other outside medications was restricted. The patient’s hematuria immediately self-corrected. After further monitored potassium replacement, her hypokalemia quickly resolved. The patient then underwent intensive psychiatric evaluation and treatment; she was discharged after 15 days with close outpatient psychiatric care to follow. When gently confronted with her behavior by the physicians, she consistently diverted conversations about her own actions with accusations regarding her physicians’ incompetence and her disappointment in their inability to find an organic etiology of her disease. In particular, she seemed overly concerned about a trace of pedal edema that had arisen after her blood transfusion.

DISCUSSION

Both hypokalemia and factitious hematuria occasionally have been reported in Munchausen syndrome but never in the same patient. Hypokalemia secondary to surreptitious laxative and/or diuretic abuse was first reported by Leigh in 1974. Laxative abuse has since been recognized as an unusual cause of chronic diarrhea, abdominal pain, and electrolyte and fluid imbalances. More than 90% of laxative abusers are female; many have worked in the healthcare industry. Laxative abuse is often associated with other psychiatric diagnoses. Hypokalemia secondary to surreptitious laxative abuse has been noted to coexist with anorexia, and the combination increases the likelihood of poor outcomes.

Physicians should have a high index of suspicion for laxative-abuse-induced hypokalemia when other organic causes, especially renal and adrenal disorders, have been ruled out. Normally, hypokalemia triggers decreased urinary excretion of potassium as the kidneys reabsorb potassium to maintain serum levels. In cases where renal loss or mineralocorticoid excess is suspected, urinary potassium concentration is increased (usually >10 mmol/L). In patients abusing laxatives, urinary potassium levels are usually low. Potassium supplementation or other treatment of hypokalemia can often complicate the analysis, so ideally urinary potassium levels should be measured before replacement. Further complications have been reported when excessive gastrointestinal losses of water and sodium trigger increased renin secretion and secondary hyperaldosteronism results. The kidneys then begin to conserve sodium at the expense of potassium, creating the so-called pseudo-Bartter’s syndrome. A similar effect can be seen with diuretic abuse.

The collusion of family members in surreptitious laxative abuse and self-induced electrolyte disturbance, as in this case, has also previously been reported but is extremely rare. Such coercion speaks to the cunning of these patients and the degree of their often-subconscious drives. It also
complicates diagnosis and treatment. At least initially, treatment should involve a separation from involved family members, and counseling should be offered to them.

Factitious hematuria most often involves the direct contamination of a voided urine sample with the patient’s own blood, often to feign kidney stones or other renal abnormalities.[15] Cases of patients’ contaminating samples with others’ blood or other red substances, such as ketchup, also have been reported.[16,17] Self-inflicted injuries to the urethra in order to produce bloody urine also have been described,[18] as have cases of patients using warfarin sodium surreptitiously to induce hematuria.[19]

The self-infusion of one’s own blood into the bladder to simulate hematuria, as in this account, has been previously reported in only two other cases.[20] We have been unable to find any reported instances of patients injecting blood into a Foley balloon or of any case of a patient actively causing a Foley catheter to be retained.

Physicians should consider factitious hematuria in cases where other causes have been ruled out or are less likely. One of the biggest clues is hematuria rapidly alternating with normal urine production.[15] Our patient alternated between gross hematuria of mostly frank blood with clots and absolutely clear yellow urine with a normal urinalysis in a period of a few hours. Such dramatic changes in urine quality, especially when several cycles occur over the day, also should raise suspicions.

Treating factitious disorders is daunting. Often when discovered, Munchausen patients will react in ways ranging from ambivalence to hysteria. Most often, they will leave their physicians to seek care elsewhere, starting the entire process of diagnosis and discovery again.[21,22] Those who agree to treatment pose many challenges to physicians. Unrealistic expectations of both patients and practitioners should be addressed up front. All treating physicians and staff must adhere to a consistent treatment plan, which should include medical and psychiatric treatment. Physicians should set firm boundaries while being cognizant that their patient’s behavior represents an emotional disorder, not just malingering or maliciousness.[23,24] It is important to realize that Munchausen patients also have real, organic illnesses; their complaints should not be written off as part of their emotional condition without a thorough medical investigation.

One must ask why the patient seeks the sick role. In this case the patient had been married several times and was separated from her current spouse. One might consider whether she had a history of being in either physically or mentally abusive relationships. If this presumption is correct, the patient’s gain could be placement in an environment that is “safe” for her: the hospital where she received support and attention from medical staff, caring and attention lacking in her previous and/or current relationships. Another possibility, noting that the patient moved across the country so that her elderly mother could care for her in her illness, is that assuming the sick role might have placed her in a situation that mandated the attention and care that her mother may not have given her in childhood.

Such issues raise the importance of conducting a thorough patient social history that includes inquiries about education, functional status, employment, and marital status. For example, in this case it was discovered that the patient had been employed in the medical field as a ward clerk; knowledge of this helped fill in the missing pieces of the puzzle and led to the room search.

At what point can you search patients’ rooms if you think they may be harming themselves or harboring illegal substances or items? Do you have to give notice to the patient? Must the physician who is caring for the patient order a search? Who does the search? What if the patient refuses to allow the search? Can you search personal items? Can you confiscate personal articles of the patient? Because of an earlier situation, the issue had already been raised with hospital counsel.

Whether to perform a search in the first place depends on a large degree on the situation and the suspected level of risk to the patient in question. At our facility, any patient’s room may be searched at the staff’s discretion (not necessarily by a doctor) after notifying security and the nursing administrator on call. The nursing staff should attempt to notify the patient’s physician before a room search is undertaken, but a search can be conducted even if the physician of record cannot be reached. Two staff members are required to perform a search. Security personnel, of course, should be asked to assist if the nursing staff believes they are at risk for possible harm.

Regarding patient’s rights, the patient involved in the room search may or may not be informed beforehand. The patient may be asked to remain present during the search, and personal articles are fair game. One question not addressed by the policy is whether a patient can be strip searched. But the overall approach is that common sense rules the day, and the obligation to protect all patients from harm takes priority. But before acting, consult the hospital’s legal team.

CONCLUSIONS

The prognosis of factitious disorders varies but is generally better for those with few coexisting psychiatric diagnoses as compared to those with many mental health problems.

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REFERENCES


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