

How to Kill a Flap: Munchausen Syndrome — A Silent Trap for Plastic Surgeons

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Introduction

Munchausen syndrome (MunS) is described as a factitious disorder, where the patient presents with recurrent self-inflicted illnesses or injuries, for the purpose of assuming the sick role and gaining medical attention. Even though MunS can be a rare disorder, a plastic surgeon must always stay cautious for alarming symptoms that can point to it, so as to avoid involving the patient in unnecessary operations and procedures, as well as wasting the institute's resources.

In this report we describe a case with MunS who underwent flap reconstruction of her hand wound. The case was diagnosed as MunS only after two flaps failed in an unconventional pattern and at unusual time frame during the

postoperative period. This is the first case in English literature where a MunS patient creates necrosis in a flap intended to reconstruct the self-inflicted wound.

Case Report

A 29-year old otherwise healthy female nurse presented with a non-healing wound of the dorsum her left hand. The initial trauma which happened 18 months ago was shattering of a light the back of her hand. She had undergone a total of 7 surgeries, including multiple debridements, washouts, removal of glass pieces and a ray amputation of the index finger due to complete necrosis after one of the debridements. Past medical history included minor depression.

The examination showed a 5×6 cm non-healing ulcer with an eschar on the dorsum of her left hand with diffuse superficial necrosis and scant granulation tissue (Fig. 1). Vascular supply to the hand was normal. Plain x-rays showed no foreign material, osteomyelitis, fractures or air in the hand. Her blood panel was within normal limits.

She initially underwent a debridement of the superficial layer of the wound down to healthy tissue and application of negative pressure dressing. After the dressing was removed the wound bed contained new necrotic tissue. Following this she underwent 3 more debridement/negative pressure dressing cycles each resulting in necrosis of the wound bed. After a 5th debridement down to healthy tissue a split thickness skin graft was applied which was covered with a bolster dressing for 3 days. After removal of the dressing there was only 10 % take on the skin graft and the rest of the wound was still necrotic. An MRI scan did not show any evidence of osteomyelitis. Several wound biopsies showed chronic inflammation, adjacent skin biopsy was normal and tests for autoimmune diseases were negative. A rheumatology consultation did not reach a diagnosis.

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Fig. 1 Initial presentation of the patient. There is a central necrotic area with eschar. The fingers and rest of the hand appear healthy and well perfused without any superficial skin problems

In order to bring healthy vascularized tissue to the wound a posterior interosseus artery adipofascial perforator flap was performed (Fig. 2). The flap was viable and adhered to the wound bed well. However, the flap had a sudden necrosis on the evening of the 12th postoperative day without any apparent reason (Fig. 3). The shape and location of the necrosis was the same as the initial necrotic area on the dorsum of the hand. It was unusually round and contained a thin layer of healthy tissue at the periphery, which arose suspicion of a self-inflicted injury. In four months, she underwent a delayed abdominal flap reconstruction which also went to necrosis in a similar pattern on the postoperative day 10.

She was then referred to psychiatry, where during the interview she was asked questions relating to self-inflicted nature of wounds. After this she was aggressive and immediately left the hospital. It is worth mentioning that the patient had been persistently requesting either a free flap or an amputation of her hand. It was later found out that the patient underwent an unsuccessful free flap operation and eventually underwent a limb amputation at the wrist level.



Fig. 2 Reconstruction of the dorsal defect with reverse posterior interosseus artery perforator adipofascial flap. Note that the dorsum of the hand is debrided down to healthy tissue



Fig. 3 Flap necrosis on the 12th postoperative day. Note that instead of a linear demarcation line of necrosis the necrotic area is round and surrounded by a thin crescentic healthy tissue. The transition between healthy tissue and necrotic tissue is abrupt. The eschar resembles a 3rd degree burn rather than a necrosis of a vascular origin

Discussion

The criteria for a factitious disorder as described by the *DSM-IV-TR*, are the intentional production or feigning of physical or psychological signs or symptoms, the motivation to the behavior to assume the sick role, and the absence of external incentives [1]. Patients suffering from Munchausen syndrome (MunS) either exaggerate symptoms they are suffering from, or self-inflict injuries or illnesses to themselves, to gain medical attention. They present with recurrent acute or chronic symptoms, and travel from one institution to another, willingly accepting and sometimes even asking for, invasive diagnostic and therapeutic procedures. These patients can pose a real challenge to the surgeon, who must stay on alert for some alarming symptoms that can point to MunS, such as a long unexplained course of the disease with multiple operations, along with the patient's extreme willingness to undergo operations, especially with the exclusion of a hematological or immunological disease that can explain the disease course [2]. Approximately 50 % of patients with MunS are healthcare



Fig. 4 Postoperative day 10 of the delayed abdominal flap. Note the circular nature of the necrotic eschar. The periphery as well as the distal aspects of the flap is well perfused and viable

workers or have a family member who is part of this field, with women being 4–20 fold more prone to this condition than men [3, 4].

The presenting clinical picture of MunS patients to the surgeon varies. One of the most common presentations is recurrent chronic non-healing ulcers, which can be confused with malignancy, infection, vasculitis, intrinsic wound healing problems or autoimmune diseases [4, 5]. Wallace et al. described the SHAFT syndrome for hand patients as a variant of MunS, in which *Sad, Hostile, Anxious, Frustrating, and Tenacious (SHAFT)* patient will try to convince the surgeon to operate on their hands for secondary psychological or financial gain [6]. Typically the patients were operated multiple times by various surgeons in different hospitals. Kasdan et al later expanded the SHAFT syndrome to include multiple invasive procedures, absence of objective findings, multiple physicians, medications, psychiatric treatment, disproportionate self-characterization and verbalization of symptoms, history of being off work, history of crying with pain, family history of disability and history of abuse [7, 8]. A more detailed past observation of the patient after the correct diagnosis, made us realize that she indeed had disproportionate self-characterization and verbalization of symptoms, history of being off work, crying with pain along with other findings. Delay in the detection of MunS as the main cause of the patient's symptoms can unnecessarily consume the institute's resources, expose the patient to more invasive procedures as well as lead to litigation of the surgeon [3].

In the present case, many of the aforementioned alarming clues for MunS were present. However, due to the rarity of the problem it's only a diagnosis of exclusion. It was only after when the pattern and timing of flap necrosis was recognized to be "unnatural", was the diagnosis of MunS considered (Figs. 3 and 4). The patient had multiple hospital visits, with several unsuccessful operations, for a non-healing ulcer along with her background as a healthcare worker. Second, a clinical picture that neither matched the history provided by the patient nor the laboratory and radiological work-up that was done, which concluded that there was no reason for the necrosis seen. However, the main clue was the pattern of the necrosis itself, which oddly started at the center of the flap in a rounded pattern, while the periphery of the flap including the distal most aspect was intact and well vascularized (Figs. 3 and 4). In addition, the necrosis was superficial on the flap and did not inflict the deeper layers, which was in contact with the original wound itself. However, because the diagnosis of MunS was not made and still an intrinsic problem with the wound bed was thought, as second flap was attempted to bring healthy vascularized tissue to the area. If there was an intrinsic

problem with the wound itself, it should have started at the wound bed, not on the surface. However, the flap was well adherent to the wound bed. Strangely enough, the first flap underwent necrosis on the 12th post-operative day, just on the night of the patient's anticipated discharge, where the flap had showed 100 % viability the day before. All of these clues led to the belief that the patient was self-inflicting the wound, probably by a round heated object (e.g. base of a cup). The eagerness and the persistence of the patient to have either a free flap or an amputation of the hand were also quite worrisome, making her actually a candidate for a diagnosis of the aforementioned SHAFT syndrome.

Overall, the unsuccessful outcomes in this patients care were not intrinsically related to failure of otherwise successful flaps, but rather due to the delayed diagnosis. If the correct diagnosis was made earlier, an attempt would be made to treat her psychiatrically before proceeding with closure of these treatable wounds.

Conclusion

Munchausen Syndrome should always be kept in mind by every plastic surgeon when the clinical picture contradicts the diagnostic evidence available.

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