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Case Report

Salmonella infection of breast implant associated with traveler's diarrhea: A case report

Bradley R. Hall[a], Katherine L. Billue[b], Stacey E. Sanders[b], Bria R. Meyer[a], Perry J. Johnson[b,*]

[a] Department of Surgery, University of Nebraska Medical Center, Omaha, NE 68198-3280, USA
[b] Department of Surgery, Division of Plastic and Reconstructive Surgery, University of Nebraska Medical Center, Omaha, NE 68198-3280, USA

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ABSTRACT

We present the first case of traveler's diarrhea resulting in breast implant infection. An otherwise healthy 34-year-old female underwent breast augmentation. Five months later, while vacationing in Cancun, Mexico, she developed abdominal pain and diarrhea that progressed to include fevers and chills. Her symptoms persisted until she returned to the United States, at which point her primary care physician evaluated her on the fourth day of her illness. An abdominal CT scan was unremarkable; however, a complete metabolic panel demonstrated elevated transaminases. Her symptoms soon resolved without treatment. Fourteen days after symptom resolution, the patient developed right breast pain. She was evaluated in the surgical clinic where the breast was tender to palpation, swollen and without erythema. An ultrasound demonstrated a small amount of homogenous fluid surrounding the implant. She was prescribed amoxicillin–clavulanate 875–125 mg BID; however, she presented three days later with worsening pain, swelling and new erythema. She was taken to the operating room, where the abscess was incised, drained and the implant removed. Cultures grew *Salmonella* serogroup C. Patients should be counseled regarding the potential for hematogenous seeding of the breast cavity and implant following severe illness and bacteremia. It may be reasonable to provide patients with breast implants who are

* Corresponding author.
E-mail address: pjjohnson@unmc.edu (P.J. Johnson).

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traveling to areas at high-risk for traveler's diarrhea or areas with limited medical resources with an antibiotic to take if moderate to severe symptoms of traveler's diarrhea were to develop while away.

Introduction

The number of breast augmentation procedures performed in the United States has increased by 41% since the year 2000 and is now the most common aesthetic surgical procedure performed in the United States.[1] Post-operative infection rates are low and estimated to occur following 1–2% of all cases with lower rates seen in patients undergoing aesthetic breast augmentation.[2] Most infections occur in the first two months after surgery;[2] however, infections can occur several months to years later, often in the setting of either systemic bacteremia or an invasive diagnostic or therapeutic procedure.[3,4] For patients with artificial joints or other synthetic material, the risk of prosthesis infection resulting from hematogenous seeding is well established;[5] however, few cases have ever been reported for patients with breast implants. Here, we report the first case of a breast implant infection following a case of traveler's diarrhea in a young healthy female.

Case presentation

A 34-year-old otherwise healthy non-obese female with hypomastia and asymmetric breasts elected to undergo bilateral breast augmentation with left-sided crescentic lift (Figure 1). Two grams of intravenous cefazolin were administered prior to making a 5 cm incision in the inframammary fold centered below the areola. A 485 mL smooth silicone implant was chosen for the right breast and a 445 mL smooth silicone implant was chosen for the left. Both the subglandular prepectoral spaces and implants were irrigated with antibiotic solution containing gentamycin, bacitracin and cefazolin prior to insertion using a Keller funnel. Interrupted 3–0 absorbable braided sutures were used to close the deep dermal space and a running 5–0 absorbable monofilament suture was used to close the subcuticular layer. A left-sided crescentic lift was then performed to elevate the left nipple-areolar complex and the skin layers were closed in a similar fashion. Sterile dressings were applied, and the patient was discharged to home after recovering from anesthesia. No post-operative antibiotics were prescribed.

She was seen for follow up one week after surgery and noted to be doing well except for mild muscle spasms of the left breast that resolved with diazepam. Approximately five months later, the patient vacationed in Cancun, Mexico, during which time she developed abdominal pain, fevers, chills and diarrhea. Her symptoms persisted after returning to the United States and her primary care physician evaluated her on the fourth day of her illness. At that time, a complete metabolic panel was significant for elevated transaminases and an abdominal CT was unremarkable. A stool sample was not collected nor was she prescribed antibiotics. Five days later, repeat labs were obtained, which demonstrated an improvement in her transaminase levels and she reported resolution of her symptoms. Fourteen days after her symptoms resolved, she developed right breast pain and swelling (Figure 2). She was seen in our clinic and on exam, her right breast was swollen, tender to palpation and without erythema. No drainage was noted from her incision and the left breast was unremarkable. An ultrasound demonstrated homogenous fluid surrounding the implant (Figures 3 and 4). She was prescribed amoxicillin–clavulanate 875–125 mg BID; however, three days later, she presented with a large abscess in the inferior pole of the right breast with worsening erythema and prominent fluctuance. That day, she was taken to the operating room, where the abscess was incised and drained and the implant removed. During surgery, 200 mL of grossly purulent material was drained. Cultures