

## CASE REPORT

# Preoperative psychogenic fever: to operate or not to operate

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## Abstract

Postponing elective surgery because of fever on the morning of the operation is frustrating for patients as well as doctors. It is also not cost effective and the unused operation capacity could have been used on other patients. On the other hand, surgery and general anaesthesia will put unwanted physiological strain on a patient fighting an on-going infection. Preoperative fever therefore poses a dilemma; to proceed with-, or to postpone the scheduled operation. We report a case where a 58-year-old woman, scheduled for prophylactic bilateral mastectomy and primary implant-based reconstruction, was postponed because of a temperature of 37.9°C. The morning of her new operation date, she developed a fever of 39.2°C which fell to 38.2°C shortly after administration of 0.25 mg triazolam. She was diagnosed with psychogenic fever, and we went through with the operation, even though the patient was febrile. The operation was successful, and she had no post-operative complications.

## INTRODUCTION

Postponing elective surgery on the day of the surgery is part of the reality for surgeons and anaesthesiologists. Though often well indicated, it is frustrating for both patient and doctor [1]. If a patient is suffering from an infection, the physiologic strain inflicted by general anaesthesia and surgery is unwanted [2, 3]. For this reason, fever on the day of surgery is a well-known reason for postponing an operation [4].

In this case report, we share our experience regarding a patient where we performed implant-based breast reconstructive surgery without complications, despite the patient being febrile with a temperature of 39.2°C, as we assessed the fever to be psychogenic/stress-related and not caused by an infection.

## CASE REPORT

The patient, a 58-year-old woman, was 9 years earlier treated for invasive ductal carcinoma of the right breast with breast

conserving surgery, axillary lymph node dissection due to macro metastasis on sentinel lymph node biopsy, adjuvant chemo-, and radiation therapy and anti-hormone medication.

When the patient was 57 years old, there were microcalcifications in the right breast, and due to a total risk evaluation, indication for prophylactic bilateral mastectomy with primary breast reconstruction was found. We planned to perform skin sparing mastectomy bilaterally and reconstruct the right breast with a latissimus dorsi flap and a silicone implant, the left breast with a direct-to-implant reconstruction with a silicone implant and a mesh.

After arriving at our department in the morning of the operation, her temperature was routinely measured to 37.9°C with a rectal thermometer. She had no symptoms of infection, but due to the risk of an on-going infection, the operation was postponed. Blood samples taken preoperatively showed normal infection parameters with a white blood cell count (WBC) of  $7.4 \times 10^9$  and CRP < 4 mg/L. A preoperative COVID-19 swab and urine dip stick test was negative.

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The patient was rescheduled for operation 19 days later. At home, 3 hours preoperatively, she measured her temperature with an ear thermometer to 37.0°C. After arrival at the hospital, the temperature rose to 37.9°C measured with an ear thermometer, and further to 39.2°C in the operation theatre, measured with a rectal thermometer. Due to a suspicion of anxiety being the culprit of her fever, a single oral dosage of 0.25 mg triazolam was given, and 45 minutes later a rectal measurement of 38.2°C was taken. The patient had again no symptoms of infection. The fever was believed to be psychogenic, and we decided to proceed with the operation. Together with the consultant anaesthesiologist and the patient, in view of a potential on-going infection, the strategy for the reconstruction was changed to the simpler bilateral expander insertion, to shorten the OR time.

Again, preoperative blood samples showed normal WBC  $5.5 \times 10^9$  and CRP < 4 mg/L, as well as a negative preoperative swab for COVID-19.

The operation went well according to the revised plan. Five hours postoperatively an ear measurement of 38.6°C was made. Every measurement after was within the normal range and the patient was discharged after 4 days. There were no postoperative complications.

## DISCUSSION

Psychogenic fever, or stress-induced fever, may lead to a rise in core temperature up to 41°C in acute situations when the patient is provoked by emotional or psychological stress [5]. The mechanism is thought to be through the autonomous nervous system and differs from the pathway when infection causes fever. This is further elucidated as aspirin, an NSAID blocking prostaglandin synthesis, has no effect on reducing the temperature in psychogenic fever, whereas diazepam is able to lower the temperature in this situation. In case of fever because of infection, it is opposite, with aspirin having a significant antipyretic effect, whereas diazepam does not [6].

The patient describes herself as a person who is easily worried. When going to the hospital for her operation, the situation provoked an anxious feeling, taking her back to her operation for breast cancer in 2011.

A study on the on-day cancellation of operations at a major Australian referral hospital, found that 13.2% of all scheduled elective operations were cancelled or postponed for a number of reasons [7]. This is frustrating for surgeons as well as patients, and postponing scheduled operations is shown to have a depressing effect on the patients affected [1]. It is also not cost effective to have an empty operation theatre, and the capacity could have been used on other patients.

As reconstructive surgery is not acute surgery or a matter of life and death, it is the surgeon and the anaesthesiologist's prerogative to find the best possible timing for the operation. One wants to avoid any risk of on-going infection during the operation, so the physiologic strain put on the patient by the surgery and anaesthesia [2, 3], is not negatively affecting the patients ability to fight the infection.

An important aspect of implant-based surgery, as with other types of surgery where a foreign body is operated into the patient, is the risk of hematogenous spread of infection to this

foreign body, possibly resulting in biofilm formation. In the case of breast implants, this could lead to prolonged antibiotic treatment and/or explanation of the implant or if overlooked could perhaps result in capsular contracture [8].

Even though the patient only had a temperature of 37.9°C, and by definition was not febrile the morning of her original operation date, the considerations mentioned above was taken and the patients' operation was postponed. When she came back for her second appointment and her temperature rose, we were aware of her original preoperative normal CRP and WBC. This, together with her anamnesis lead us to suspect a psychogenic component in her fever. When her temperature fell upon administration of 0.25 mg triazolam orally, this further supported our suspicion.

We hope this case report may help other medical professionals in similar situations. It may be hard to diagnose preoperative psychogenic fever the first time, but it may be possible with increased awareness of the diagnosis, and early WBC and CRP the morning of the operation will help the diagnostic process. Psychogenic fever should be considered, especially in relapsing events.

## CONFLICT OF INTEREST STATEMENT

None declared.

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