



Mastectomy with Sentinel Lymph Node Biopsy and Prosthetic Breast Reconstruction under Hypnosis Analgesia: A Multistep Approach

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Abstract

With the multimodal therapeutic approach, survival rates have increased among breast cancer patients. However, the use of different treatment modalities is associated with non negligible side effects that might discourage patients to continue their treatment, essentially adjuvant endocrine therapy. Surgical procedures along with general anesthesia are still associated with significant side effects: acute and chronic pain, distress, asthenia, nausea and sometimes vomiting which might discourage the patient from considering having a breast reconstruction. We report here the case of a highly motivated patient undergoing radical modified mastectomy and sentinel lymph node biopsy, while under hypnosis analgesia and loco regional anesthesia (interpectoral level 2 block). The different steps of secondary prosthetic breast reconstruction were also performed while under hypnosis analgesia. The patient's experience was very positive with anxiety and pain scores measured at a very low level. Recovery time was also shortened, compared to patients undergoing the same procedures while under general anesthesia and loco-regional anesthesia.

Introduction

The incidence of breast cancer worldwide is increasing as is the survival rate after breast cancer. This is essentially due to therapeutic progress. However, anticancer treatment is associated with non-negligible side effects related to the different treatment modalities. One of the greatest challenges for the coming years will be to promote the participation of patients in their therapeutic plan and to encourage them to not give up their adjuvant treatment for alternative, inefficient and dangerous therapies. In this context, the use of hypnosis is a very good option among highly motivated patients. Hypnosis is able to decrease side effects induced by surgery, general anesthesia and anticancer treatments and generates an important feeling of satisfaction among patients. Herein, we report the case of a breast cancer patient undergoing a modified radical mastectomy and sentinel lymph node biopsy for an extensive intraductal carcinoma, while under hypnosis analgesia and interpectoral block. The different steps of the prosthetic breast reconstruction and breast symetrisation were also performed with the same modalities of anesthesia.

Case Presentation

A 67-year-old woman was referred to our breast clinic with a diagnosis of extensive intraductal carcinoma of the left breast. Both medical and family history was not relevant.

The mammogram highlighted a large focus (60 mm × 70 mm) of micro calcifications in her left breast. Core needle biopsies showed extensive intraductal carcinoma grade II/III with no infiltrating component. As a breast conservative approach was impossible, a left mastectomy combined with sentinel lymph node biopsy and immediate breast reconstruction was proposed by the multidisciplinary team. The patient firmly refused general anesthesia but she agreed to undergo the surgical procedure while under hypnosis analgesia and loco regional anesthesia.

Our team was accustomed to perform oncologic breast surgery while under hypnosis analgesia. However, until 2016 we had never performed a complete breast reconstruction while under hypnosis analgesia. Due to the limitation of the local anesthetic and by the duration of the total procedure, we proposed a multistep approach. First, the patient underwent mastectomy with

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Received Date: 16 Oct 2018

Accepted Date: 12 Nov 2018

Published Date: 15 Nov 2018

Citation:

Coyette M, Gerdom A, Watremez C, Docquier MA, Roelants F, Lengele B, et al. Mastectomy with Sentinel Lymph Node Biopsy and Prosthetic Breast Reconstruction under Hypnosis Analgesia: A Multistep Approach. *Clin Oncol.* 2018; 3: 1545.

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sentinel lymph node biopsy. The histologic results revealed two foci of in situ carcinoma grade II/III, with no invasive component. The sizes of the foci were respectively 15 mm × 15 mm and 50 mm × 28 mm. All the surgical margins were free. Out of the three harvested sentinel lymph nodes, none showed signs of tumor invasion. No adjuvant therapy was needed. The anxiety score measured on day 0, 1 and 8 by the NCCN DT (National Comprehensive Cancer Network Distress Thermometer) was respectively 8/10, 3/10 and 4/10; The pain score measured by VSA (Visual Analog Score) was 3-2-1 on the same days. One week after surgery, the patient felt very well. Three months later, the patient started her reconstructive procedures always while under hypnosis analgesia. She first underwent a breast reconstruction with an implant; the mastectomy flaps were elevated and a retro muscular pocket was created. An abdominal advancement flap was dissected above the rectus abdominis aponeurosis and pulled up to recreate the inferior shape of the breast. The neo-inframammary fold was defined using the « hammock technique » as described by Sarfati et al. [1]. Finally, a permanent anatomical expander (Natrellé™ 150) was inserted in the retro pectoral pocket. For the second procedure, we performed a contra lateral breast symmetrisation with a right reduction mammoplasty. Autologous fat transfer (lipofilling) was carried out at the same time, aiming to improve the results of the reconstructed breast. Anxiety and pain scores measured at the same period exhibited the same values and were very low in comparison with patients undergoing similar procedures while under general anesthesia.

Locoregional anesthesia and hypnosis procedures were performed at each surgical step according to the study protocol designed and used daily in our institution. One hour before surgery, premedication with lorazepam 0.5 mg was proposed to the patient. At the time of the surgical procedure, the patient was monitored classically (ECG, non-invasive blood pressure measurement, blood oxygen saturation assessment (SpO₂) and capnography) and an interpectoralis nerve block level 2 with a combination of levobupivacaine 0.25 % and lidocaine 1 % was performed. Oxygen was administered. Once the patient was comfortably installed on the operating table, the anesthesiologist induced hypnosis, as described by Milton Erickson. The patient was invited to focus her eyes on a point in front of her, before finally closing her eyes. Guided by the anesthesiologist, the patient had to focus her attention on a positive recollection. By using a calm and monotonous voice, the anesthesiologist constantly talked to help the patient relive a dream or experience so that she remained as detached as possible from the reality surrounding her. A state of intense wellbeing had to be reached and maintained during the whole procedure. The peri-incisional skin was injected with a local anesthetic comprising of 0.5% lidocaine combined with 0.25% levobupivacaine. A continuous infusion of remifentanyl, a μ -opioid agonist, was started at a rate of 0.05 μ g/Kg/min. (a dose about ten times lower than the one used for general anesthesia), and was modified or stopped as required. If needed, midazolam was titrated 0.1 mg/0.1 mg, if an anxiolytic effect was needed. A pre-established communication system between the anesthesiologist and the patient allowed her to express any discomfort. If this was the case, the hypnotic state was strengthened, the surgeon could improve local anesthesia or the infusion rate of remifentanyl could be increased.

Once the procedure was completed, the anesthesiologist gave the patient recommendations (posthypnotic suggestions) in order to preserve her comfort in the postoperative period, to have a correct healing, to keep the wound dry and to give the patient the opportunity

to reuse hypnosis during her cancer treatment.

Discussion

To our knowledge, this is the first report in the literature of both a mastectomy and a breast reconstruction entirely performed while under hypnosis analgesia and loco regional anesthesia. Our team has already published data demonstrating benefits for patients undergoing breast oncologic surgery while under hypnosis analgesia in terms of shorter length of stay, faster recovery time, lower anxiety scale and decreased side effects induced by adjuvant therapies [2]. However, the weakness of our trial was the fact that we could not randomly assign the patients in a double-blind fashion. Actually, it was hardly possible to impose a general anesthesia to highly motivated patients or hypnosis sedation to patients who were reluctant or too stressed about this approach. Some published randomized studies [3,4] used preoperative hypnotic sessions, but randomization was not performed for surgery itself. The baseline psychological differences between the patients enrolled in our previous study might partly explain the observed differences. However, there was no difference between the two groups' « anxiety scales » at day 0. This patient was included in a second prospective trial approved by our local ethics committee and registered on clinicaltrials.gov with NCT 003330717. The time dedicated to surgery itself is not significantly different comparing hypnosis analgesia to general anesthesia. Nevertheless the patient needs to be concentrated during the entire procedure, which is particularly demanding. In addition, there is a limited amount of local anesthesia which can be used and this explains why we didn't perform an immediate breast reconstruction. In this case, the patient's first experience with hypnosis analgesia was so positive that she did not hesitate to undergo the reconstructive procedures under the same modalities. The loco regional anesthesia procedure = interpectoralis block level 2 - was used for the three main surgical steps. Analysis of anxiety scale, pain score and recovery time were extremely favorable. Patient's satisfaction rate was also impressive. These data support the preliminary outcomes observed in our study [2,5].

Conclusion

We can say that mastectomy with sentinel biopsy and prosthetic breast reconstruction can be safely performed, while under hypnosis analgesia and interpectoralis block, among highly motivated patients. However, performing this kind of procedure requires a well-trained team which ensures the patient's safety.

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