Author’s response to reviews

Title: Sternal resection and reconstruction for metastasis due to breast cancer: The Marlex sandwich technique and implantation of a pedicled latissimus dorsi musculocutaneous flap

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Author’s response to reviews:

Comment for Reviewer #1:

I have some comments and questions as follows:

# I think that the mass was mainly located in the ICS not in the sternum on the CT and PET scans. The destroyed cortex of bone and osteolytic or osteoplastic changes were not observed on the CT. Why did the authors diagnose it as sternal metastasis? Was percutaneous biopsy for the sternum or 99mTc bone scintigraphy performed?

Exactly, the mas was located in the ICS and the sternum on CT and PET scans. A percutaneous biopsy was performed, and the mass was diagnosed as solitary metastasis due to breast cancer. This sentence was written in the the case presentation.

Minor revisions:

# PET revealed the SUV to be 7.30 at the mass in the sternum. Was the value the mean or the maximum? The issue should be described in the Case presentation.

I added the sentence “the maximum of” the standardized uptake value of [18f]-fluorodeoxyglucose to be 7.30 at the mass in the sternum.

# How long was the length between the surgical margin and the resected edge?
The length was over 5mm between the surgical margin and the resected edge. Therefore, I expressed “negative surgical margins at the stump of the sternum and costochondral cartilages were noted”.

# I think that the tumor did not invade the pectoralis major muscle and the subcutaneous layer was not involved. Was myocutaneous flapping necessary in this case? I think that muscle flapping played the satisfying role of the replacement material.

We could not assert that the tumor was not infiltrating the pectoralis major muscle and the subcutaneous layer. Therefore, we resected these muscles. Because the pectoralis major muscle and skin were removed, latissimus dorsi myocutaneous flap was transpositioned to cover the prosthesis.

I added the sentences in the case presentation.

# What was the presternal skin incision and concomitant resection of the skin made of? These issues should be described.

I added the sentence “We could not assert that the tumor was not infiltrating the pectoralis major muscle and the subcutaneous layer”.

# Were there malignant cells in the sternum?

There is a sentence “A histological examination revealed that viable cells of metastatic breast cancer account for 30% of total cells, and cicatrization of metastatic breast cancer accounts for 70% of total cells in the sternum and the intercostal spaces.”

Comment for Reviewer #2: congratulation to the all of authors for a very good work and results in this article

this report is clear and accurate in surgical technique and results

however, I suggest the authors to make more focus on prosthesis in the figure 4 a for better view and understanding

I changed the figure 4.

Thank you
Comment for Reviewer #3: Dear Authors

I read with interest your case report detailing management of a delayed sternal metastasis from a treated breast cancer.

I found it to be well written. You have reported success with your approach and the picture with the final surgical result is indeed impressive.

Please could you add a comment about your follow-up plans.

1. what were the oncology MDT recommendations with regard to adjuvant chemotherapy/radiotherapy

Because the surgical margins were negative, we decided not to do adjuvant therapy.

The sentence was added.

2. duration of follow-up with modality planned - CT / PET CT etc.

We added the sentence “We planned to take CT every half year”.

Many thanks for your submission