Author's response to reviews

Title: An unusual case of metastasis of a pulmonary undifferentiated pleomorphic sarcoma to the right ventricle: a case report

Authors:

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Author's response to reviews: see over
Dear editors and reviewers:

Thank you for your review of our manuscript (Manuscript ID:1844533781878722). We appreciate the concerns and suggestions provided by the editors and reviewers, and have revised our manuscript accordingly. Our point-by-point responses are provided below, and text that has been added or modified from the original text is shown in the revised manuscript with the changes coloured. We know that your journal has high publication standards, so we have already had the language of this paper corrected by a professional language editing service that specializes in scientific manuscripts. At this time, we have re-submitted the revised manuscript through the Author Center. Upon review of our revised manuscript, we hope that you will find it acceptable for publication in *Journal of Medical Case Reports* and we look forward to your response.

Sincerely yours,

Guodong Xu
Response to Editor’s comments:

Editor:

1. Please remove any text from figure 2 which may reveal the patient’s identity (e.g. patient’s number, patient’s name, dates, hospital etc)

Answer:

We appreciate your comments and apologize for our carelessness. We have modified the figure 2 in order to avoid exposing the patient’s privacy. Thank you for your concern again.

Response to the reviewer’s comments:

Reviewer #1:

1. Abstract

Cardiac neoplasms are rare, and the vast majority are metastatic in origin. The majority of cardiac neoplasms are primary, not secondary, at least in Cardiothoracic clinical practice. Secondaries might predominate in the post-mortem room but that is not of any interest to cardiac surgeons.

Answer: Thank you for your comments. Primary cardiac tumors are rare (incidence in autopsy series, 0.001–0.03%). Among them, malignant neoplasms account for <25%. While, cardiac metastases of other tumors are found at autopsy in 6%–20% of patients with malignant neoplasms. Most cardiac metastases are asymptomatic. Only 10% of patients with cardiac metastasis have symptoms, which are typically related to cardiac function. Our patient presented with dyspnea because of right ventricular
outflow tract obstruction. In most cases, surgical resection is not an optimal option for patients with metastatic involvement of the heart because of the poor prognosis.

Surgical excision was selected for our patient not only because she had had a good outcome after undergoing chemo- and radiotherapy 4 years ago but also to prevent intracardiac blood flow obstruction and congestive heart failure. Six months after the surgery, she had recovered well, with no evidence of tumor recurrence on CT and echocardiography. The surgical operation was helpful to our patient. Therefore it remind us that surgery can be used in some patients with cardiac metastases. Thank you for your valuable comments again.

2. Case Presentation

How was the diagnosis of sarcoma in the right lung made? ie was it biopsied or resected?

Immunohistochemical analysis demonstrated that the tumor cells were strongly positive for vimentin and CD68, and moderately positive for Ki-67(+). Focal staining for actin and desmin was also observed, but S-100, CD34(-), CK(pan), CAM5.2 and EMA were all negative.

The detailed pathology report pertaining to the original right sided pulmonary sarcoma should also be specified.

Answer: We appreciate for your valuable comments and feel sorry for our errors. The patient was diagnosed by fiberoptic bronchoscopic biopsy. Immunohistochemical analysis of the biopsy specimen was accordingly with the results of the metastasic
heart tumor which were strongly positive for vimentin and CD68, and moderately positive for Ki-67(+). Focal staining for actin and desmin was also observed, but S-100, CD34(-), CK(pan), CAM5.2 and EMA were all negative. Relevant contents were added to the revised manuscript in the Case presentation part. Thank you for your valuable suggestion again.

3. Discussion

*Histopathological examination of the surgical specimen in our patient clearly showed that the cardiac tumor was a metastasis from the lung cancer.*

*I think the authors mean the pulmonary sarcoma.*

**Answer:** Thanks for your comments. Just as you say, I mean the cardiac tumor was a metastasis from the pulmonary undifferentiated pleomorphic sarcoma.

4. Further comments

*If the authors can substantiate their claim that the original right sided pulmonary lesion was the same as the cardiac lesion histologically, then it is an interesting case.*

Whether or not the right ventricular lesion was present at the time of the original right sided pulmonary lesion should be addressed – was there an ECHO scan carried out at that time showing no tumour in the RV? Rather than the lesion being a metastasis, it should also be accepted that it could have been a second primary sarcoma arising primarily in the right ventricle. Personally I think either scenario is very interesting and worthy of publication providing the above points are clarified.
Answer: We appreciate for your valuable comment and feel sorry for not clarifying this question. Firstly, Transthoracic echocardiography revealed no right ventricular tumor at the time of the original left lung cancer was diagnosed (See Fig2a). Secondly, Histopathological and immunohistochemical examinations of the lung biopsy specimen were accordingly with the results of the metastatic heart tumor. Based on the above evidence, I think the right ventricular tumor was metastasized from the left lung 4 years ago.

Reviewer #2:

1. Could you please clarify the lobe of the lung when the patient presented with lung cancer (you have mentioned left lung only)...

Make more clear (in the discussion) the differences of primary pulmonary artery sarcoma and metastatic lung disease at the same area...

Otherwise quite well written case presentation...

Answer: We are sorry for not clarifying this question. The patient was presented with lung cancer which was located in the left upper lobe.

The main differences between primary pulmonary artery sarcoma and metastatic lung disease at the same area are that metastatic lung disease normally has a history of lung cancer and histopathological and immunohistochemical examinations should be accordingly with the primary lung cancer.

We know that your journal has high publication standards, so we have already had the language of this paper corrected by a professional language editing service that
specializes in scientific manuscripts. Many grammatical or typographical errors have been revised again. All the lines and pages indicated above are in the revised manuscript.

Thank you and all the reviewers for the kind advice.

Sincerely yours,

Guodong Xu