

First of all, we would like to express our sincere gratitude to the reviewers for their constructive and positive comments.

### **Replies to Reviewer 1**

1. Page 5, Imaging examination, at the end of the first paragraph: write “figure 1 C and D“, instead “Figure C and D”.

**Response:** Thank you for your suggestion. I have replaced this with “Figures 1C and 1D”.

2. Page 7: Outcome and follow-up. It would be useful to have some specification about immunohistochemical study. - what was the fixative, - what was the method used (indirect, I guess), - what were the Antibodies 1, Antibodies 2 used, - what was method of staining: peroxidase with DAB, other... - what were performed the negative control.

**Response:** Thank you for your suggestion. I have standardized the immunohistochemical study methods.

3. Figure 2: a scale bar added to the image would be useful and more accurate than the magnification of the lens used shown in the legend.

**Response:** Thank you for your suggestion. I have added a scale to Figure 2.

### **Replies to Reviewer 2**

1. Case presentation Subheadings, such as Chief complaints, History of present illness, History of past illness..., waste limited space. I suggest deleting these headings and writing continuously.

**Response:** Thank you for your suggestion. I have deleted these subheadings.

2. Outcome and follow-up Did this patient undergo pathological examination of the lung tumor at their or local hospital? If he did it, please show the findings.

**Response:** Thank you for your suggestion. At that time, when we communicated with the patient, he said that he did not undergo a pathological examination of the lung tumor at his local hospital.

3. Discussion This patient had hyperprolactinemia. Was there any possibility that the function of the hypothalamus to suppress prolactin secretion was disturbed by the metastatic tumor? If there was even a little, it may be mentioned in the discussion section.

**Response:** Thank you for suggestion. It was possible that the hypothalamic function was affected, and the secretion of prolactin was increased. However, in our case, the tumor was mainly located below the hypothalamic area in the sphenoid sinus. But we reviewed the literature and discussed the hyperprolactinemia of the patient.

4. Figure 1 These images are too small to distinguish the intracranial structures. Please replace them with magnified ones.

**Response:** Thank you for your suggestion. I have replaced the images with magnified ones.

### Replies to Reviewer 3

1. CASE PRESENTATION “had lost 10 kg body weight within the last 3 months.” >> Please also provide the baseline body weight so the readers can calculate the percentage of body weight loss which is an important prognostic marker for lung cancer patients [Ann Oncol . 2015 Feb;26(2):278-88].

**Response:** Thank you for your suggestion. I have provided the baseline body weight on page 4.

2. Discussion “pituitary are that of breast and lung [5,7].” >> or “pituitary are that of breast and lung [5-7].”?

**Response:** Thank you for your suggestion. I have modified this in the manuscript.

3. Discussion “The most common cancers metastasizing to the pituitary are that of breast and lung [5,7]. ... is used as a diagnostic criteria for prolactinoma [11].” >> or “The most common cancers metastasizing to the pituitary are that of breast and lung [5,7]. ... is used as a diagnostic criteria for prolactinoma [8].”?

**Response:** Thank you for your suggestion. I have modified this in the manuscript.

4. Discussion “As shown in Table 2” >> or, “As shown in Table 2 [8,9,10,12]”? . Please also clarify how the studies in table 2 were identified. Were the authors performed a systematic review by themselves? If that is the case, please report in the manuscript.

**Response:** Thank you for your suggestion. I have modified this in the manuscript and clarified how the studies in Table 2 were identified.

5. ref-2=ref-7= J Neurooncol. 2016;126(2):219–224 [ie, duplicated].

**Response:** Thank you for your suggestion. I have modified this in the manuscript.

6. Please clarify the gender “A 53-year-old male patient was admitted in our department ” & “The author would like to thank the patient for agreeing and providing her medical history.”

**Response:** Thank you for your suggestion. I have corrected the typo.

7. please document the staging of this patient [T2N0M1b?]

**Response:** Thank you for your suggestion. I have documented the staging of this patient on page 6.

8. please document the performance status of the patient as this is another important prognostic marker for lung cancer patients [Ann Oncol . 2015 Feb;26(2):278-88].

**Response:** Thank you for your suggestion. The patient could walk freely and engage in light physical activity but could not engage in heavy physical activity (ECOG: 1).

9. please clarify the molecular status [EGFR, ALK, PDL1, ROS1, BRAF, See Annals of Oncology 29 (Supplement 4): iv192–iv237, 2018].

**Response:** Thank you for your suggestion. At that time, when we communicated with the patient, he refused further diagnosis and treatment. Thus, genetic testing could not be

performed.

10. if tumor markers [such as carcinoembryonic antigen, CEA] had been checked, please report.

**Response:** Thank you for your suggestion. Because the economic condition of the patient was poor and he was not willing to undergo further examination and treatment. Thus, testing for tumor markers could not be carried out.

**Replies to 4.6 Requirements for references:**

Please provide the PubMed numbers and DOI citation numbers to the reference list and list all authors of the references. Please revise throughout. NOTE: The PMID is required, and NOT the PMCID; the PMID number can be found at <https://pubmed.ncbi.nlm.nih.gov>. (Please begin with PMID;) The DOI number can be found at <http://www.crossref.org/SimpleTextQuery/>. (Please begin with DOI: 10. \*\*).

**Response:** Thank you for your suggestion. I have added the DOI and PMID numbers of the articles to the reference list.