

Peer Review File

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Reviewer A

Comment 1: Overall this is a interesting report of an uncommon phenomenon. Although the name "metastatic" is used most authors call these lesions seeding which is not used in the paper. Why was the more common name not used which has already been described?

Reply 1: Thank you for your feedback and suggestions. We agree that "seeding" is a more commonly used term in the context of the phenomenon described in our paper. We have thus revised the relevant sections of the manuscript accordingly.

Changes in the text: we have modified our text as advised (see Page 1, line 2, 11; Page 2, line 30-31, 45; Page 3, line 54; Page 4, line 69-70, 74; Page 8, line 185, 194-195, 204; Page 9, line 221, 228-229, 231, 233, 236-237, 239, 241; Page 10, line 263, 266, 269).

Reviewer B

Comment 2: This case report describes a frontal lobe lesion noted 15 years after surgery for a pituitary tumor. Although an interesting case, this title is inappropriate because we have insufficient clinical information from first operation to determine whether the case is "iatrogenic" or not. Also, we do not know if the frontal lobe lesion is "metastatic" or not because it cannot be determined by imaging that the lesion is not a direct invasion from pituitary lesion. Furthermore, we cannot determine if it is a mature plurihormonal PIT1-lineage PitNET because the histopathology figure is not presented.

Reply 2: Thank you for your feedback and suggestions. The iatrogenic seeding hypothesis was merely speculative on our part. Accordingly, we have revised the title to 'Intracranial seeding of pituitary neuroendocrine tumor: a case report'. Additionally, we have provided histopathology figures confirming this to be a mature plurihormonal PIT1-lineage PitNET.

Changes in the text: We have modified our title as advised (see Page 1, line 2, line 11). We have provided histopathology figures (see Page 13, line 344-345).

Comment 3: insufficient information on initial lesion.

- A. Clinical information on visual field disorders
- B. Information on the size and exact location of the lesion (Knosp grade)
- C. Data for GH and IGF
- D. Lack of information on A-B makes it unclear why a craniotomy was chosen.
- E. The histopathologic subtype of the primary tumor is unknown.

Although it is impossible to determine from the text, if the surgery was performed at the same hospital, tissue material (paraffin-embedded blocks) may have been left behind.

F. The irradiation dose of γ -Knife is unknown.

Reply 3: We sincerely apologize for the inconvenience. The patient's initial consultation

occurred at another medical facility, and unfortunately, the records from that visit have been lost. Following communication with the patient, attempts were made to retrieve the previous medical records from the said hospital, but, regrettably, they were not found. Therefore, information regarding the initial consultation relies heavily on the patient's recollection, including visual acuity, visual field assessment, radiological imaging, laboratory results, rationale for selecting craniotomy, pathological findings, and specifics of subsequent Gamma Knife therapy. We have duly acknowledged this limitation in the discussion section of our manuscript.

Changes in the text: We have duly acknowledged this limitation in the discussion section of our manuscript (see Page 10, line 257-261).

Comment 4: Is the term pituitary-enhanced MRI common? In particular, the left side of Figure 1 appears to be T2 weighted image. Please describe the appropriate imaging conditions.

Reply 4: Thank you for your feedback and suggestions. The term "pituitary-enhanced MRI" is not commonly used in the field. Consequently, we have revised it to a more specialized terminology as brain and pituitary magnetic resonance imaging (MRI) with gadolinium-based contrast agents (GBCAs). In addition, we have provided a revised version of Figure 1, with detailed descriptions included in the figure legend.

Changes in the text: We have modified our text as advised (see Page 4, line 86-87; Page 5, line 108; Page 6, line 152; Page 7, line 163; Page 16, line 382, line 392-393, line 397).

Comment 5: The sphenoid bone forms the sella turcica and cannot be directly evaluated for possible invasion on the presenting images. In order to show the ethmoid and the left side of the sella turcica, it is necessary to add an coronal section to Figure 1 (please present the relationship between the pituitary gland and frontal lobe).

Reply 5: Thank you for your feedback and suggestions. We have added a coronal section in Figure 1 to better demonstrate the invasion of the anterior skull base into the sphenoid bone.

Changes in the text: We have modified our text as advised (see Page 13, line 342-343).

Comment 6: Please show histopathology figures of recurrent/metastatic lesions. To be strictly considered a metastasis, a comparison with the primary tumor is necessary. In this case, the frontal lobe lesion is important, so at the very least, histopathological images should be presented for this lesion.

Reply 6: Thank you for your feedback and suggestions. We sincerely apologize for the loss of the pathological images from the initial surgery. However, we have supplemented the pathological images from the current surgery to confirm that the lesion in the frontal lobe is a mature plurihormonal PIT1-lineage PitNET.

Changes in the text: We have modified our text as advised (see Page 13, line 344-345).

Comment 7: Please double check how the references are listed.

Reply 7: Thank you for your feedback and suggestions. We double check and update our reference list.

Changes in the text: We have double checked and updated our reference list (see Page 11, line 297-298, line 303-312).