Dear Editor and Reviewers,

Thank you for your precious comments and advice. Those comments are valuable and very helpful for improving our paper. We have studied comments carefully and made corresponding amendments. In addition, the point-by-point response to each of the issues raised in the peer review report is provided as following:

Reviewer #1:

Comment 1: Title is bit long- Better to mention site and presentations can be put in case or highlight one rare presentation.

Response: Thank you for your suggestion. According to the requirements, we have corrected it and now the title is “Primary intramedullary melanocytoma in the thoracic vertebra presenting with the lower limbs, defecation and erectile dysfunction: A case report”.

Comment 2: July 2020, we are nearing July 2021 now; latest follow up may be provided. What is the current state of his myodynamia, bladder, bowel and erectile functions?

Response: We are grateful for the suggestion. As suggested by the reviewer, we have added some details about the patient’s current state into the paper by contacting himself and local hospital. On 10th April 2021, the patient received regular review in local hospital without MRI scan. As for clinical symptoms, the weakness involving the bilateral lower limbs got significantly improvement from rehabilitation. As of today the myodynamia of right lower limb was grade 4 and left lower limb was grade 5. Furthermore, the disorder of defecation had relatively significant improvement but erectile dysfunction only acquired mild benefit from the resection.

Comment 3: Abstract & conclusion- “elimination of metastasis” It is not clear what it means here, elimination on pathological examination?

Response: Thank you for pointing this out. Pathological examination can not exclude the possibility of metastasis, but it can only confirm the diagnosis of intramedullary melanocytoma. Therefore, according to the suggestion and in order to avoid misleading or ambiguity, we have rephrased the sentences as following. After diagnosing intramedullary melanocytoma by postoperative pathology, the inspection of whole body contributes to exclude the possibility of metastasis from other regions and further found the diagnosis of primary intramedullary melanocytoma. Complete resection，adjuvant radiation and regular review are critical. In addition, maximal safe resection also benefits prognosis while the tumor is difficult to be resected totally.

Comment 4: “recent 3 months” “for the last 3 months”

Response: We have changed this accordingly.

Comment 5: Relevant Laboratory investigations may be provided in brief.

Response: Thank you for your comments. Total protein was slightly low (63.2 g/L). Triglyceride (1.75 mmol/L) and low density lipoprotein (3.47mmol/L) were a little high. Color doppler ultrasound in the stomach and pelvis indicated single gallbladder polyp (3mm x 3mm) and gallstone (5mm x 4mm), and benign prostate hyperplasia with multiple calcifications. The routine blood, urine and stool tests were normal. Electrocardiogram, chest X-ray, cardiac color doppler ultrasound, pulmonary ventilation function and blood glucose were also normal. We have added some of these data in the part of laboratory examinations.

Comment 6: Tumor size and extent needs to be mentioned.

Response: Before resection, the whole volume of the tumor was 5.5 cm x 1.2 cm x 1.2cm. The size of residual was 1.5 cm x 0.4 cm x 0.3 cm. Therefore, the resection extent approached to 98%. We have supplemented these data into our revised paper.

Comment 7: “hemosiderin adhering to the wall of chamber” how hemosiderin can be identified on naked eyes? Rephrase.

Response: Thank you for your comment. We have rephrased this sentence in our paper and the revised one is as following. During the operation, clear cerebrospinal fluid was visible in the intramedullary cavity with golden yellow substance adhering to the wall of chamber at T5-T8 level.

Comment 8: Treatment will happen first, final diagnosis will be established after the tumor removal.

Response: We have adjusted the sequence of treatment and final diagnosis.

Comment 9: Duration surgery, blood loss, duration of hospital stay and hospital stay related issues to be added.

Response: All these information has been added into the paper. The duration of surgery lasted for 5 hours and the blood loss was 300 ml. The patient did not receive blood transfusion. The hospital stay was 15 days and there was no hospital stay related issues found.

Comment 10: As there was minimum residual tumor left, how the patient was followed up for status/size of this?

Response: Generally speaking, clinical manifestations such as lower limbs, defecation and erectile dysfunction could indicate the status or size of residual because of the expanding growth. In other words, the residual with enlarging volume usually corresponds

to worsened clinical manifestations during follow ups. Therefore, in terms of regular review, the important step is to perform physical examination. In the meanwhile, considering the potential malignance of the tumor, we advised the patient to receive MRI scan, which can help us to measure the volume of the residual and even find the earlier progression or relapse, in case the residual develops.

Comment 11: Can the authors provide distribution % of intramedullary melanocytoma-cervical. Thoracis, lumbar, etc.

Response: Thank you for your comment. After reading the literature cited in the paper carefully, we find one of them lists the distribution percentage of intramedullary melanocytoma with 28.3% in cervical, 52.8% in thoracic and 18.9% in lumbosacral level. We have added these data into our paper.

Comment 12: “corynebacterium parvum” Its used for immunotherapy, not chemotherapy.

Response: We apologize for the confusion. According to the comment, we have rephrased “adjuvant chemotherapy” into “adjuvant therapy”.

Comment 13: Conclusion needs revision in terms of context, grammar and syntax.

Response: Thank you for your advice. We have rephrased the conclusion in the aspects of context, grammar and syntax. Furthermore, the revised manuscript has been reviewed by an associate professor with fluent English. The revised conclusion part is as following.

We report a case of primary intramedullary melanocytoma at T9-T10 level presenting with lower limbs, defecation and erectile dysfunction. In addition, the postoperative progression free survival had reached to 45 mo till the latest follow up. The main therapy strategy includes gross total resection and adjuvant radiation. This case proves evidence that maximal safe resection can provide benefits to prognosis and improve the quality-of-

life, when complete resection is difficult to achieve. Considering the potential malignance, postoperative examination of whole body regions, after the pathological diagnosis of intramedullary melanocytoma, helps us to exclude the probability of metastasis from other regions. Therefore it is reasonable to confirm the diagnosis of primary intramedullary melanocytoma. Based on this case, we would recommend patients to receive adjuvant radiation, which can elongate their progression free survival. Notably, regular follow up is crucial, as physical examination and MRI scan can help us to find early progression or relapse.

Thank you for your careful review. We really appreciate your efforts in reviewing our manuscript during the challenging time due to COVID-19. We felt that these comments significantly improved the clarity and readability of our paper. We wish good health to you, your family, and community.

Best regards.

Yours sincerely,

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