

Responses to Reviewer comments

The authors appreciate the comments and suggestions of the reviewers/editors and hence have revised the manuscript accordingly. We presented this misdiagnose PVNS aimed at improving the understanding of the characteristic of diffuse subtalar joint PVNS at the early stage, which included the physical signs and the X-ray, especially the characteristic of the X-ray, which has not been reported in previous reports.

The Main revisions in the manuscript as suggested by the reviewer have been highlighted in red font, with the authors' responses (*in italic font*).

Reviewer #1:

Scientific Quality: Grade D (Fair)

Language Quality: Grade C (A great deal of language polishing)

Conclusion: Major revision

Specific Comments to Authors: Although the authors introduced the Pigmented villonodular synovitis (PVNS) as a rare and benign tumor, "synovitis" generally denotes "inflammatory lesion". Thus, that sentence is confusing for the general readers. PVNS is generally considered is an uncommon proliferative disease with an uncertain etiology and also called as "Tenosynovial giant cell tumor (TGCT)". The authors described that the subtalar joint's involvement in PVNS is quite rare in their introduction. However, several case reports of "subtalar joint's PVNS" are found in Pub-Med searching using the term of "PVNS" and "subtalar joint". The authors should summarize the previous series of subtalar joint's PVNS. The novelty and/or clinical implications of submitted manuscript is not so high.

Response: *We are grateful for your candid opinion.*

We accept all the constructive criticisms. In our revised manuscript, we have clearly described the definition of PVNS according to your comment(Introduction segment: PVNS also called tenosynovial giant cell tumor(TGCT) is an uncommon proliferative disease with an uncertain etiology.). We acknowledged that this case report is not the first

report of diffuse subtalar joint PVNS, however, we devoted ourselves to this case report from the perspective of how to avoid misdiagnosis at the early stage of diffuse subtalar joint PVNS. We analyzed the reasons for misdiagnosis at the first visit, and then pointed out the characteristics of the diffuse subtalar joint PVNS at the early stage, based on the physical signs and X-ray. We confirmed that no report related to the subtalar joint PVNS focused on these aspects through literature review, and no report has pointed out the X-ray characteristics of the diffuse subtalar joint. (Discussion segment: Diffuse PVNS is an uncommon disease with 75% of reported cases involving the knee. Cases involving the subtalar joint are rare^{8, 9}). At present, MRI is a specific method for the preliminary diagnosis of diffuse PVNS. However, the role of physical signs and X-ray in the suspected diagnosis of diffuse subtalar joint PVNS should not be ignored. This is because, some X-ray characteristics distinguish PVNS from osteoarthritis, thus guiding physicians to make an early suspicious diagnosis of PVNS. Our patient presented with a chief complaint of discomfort while walking on the right ankle at her first visit 18 mo before the second visit. There was swelling in the right ankle, but no significant mass formation. The first X-ray revealed osteophyte formation at the margin of the subtalar joint and a small amount of soft tissue calcification; however, the soft tissue calcification was not as apparent as it was on the second visit. The abnormal signs in the X-ray were ignored and no further MRI examination was recommended. Hence, she was misdiagnosed with right subtalar joint osteoarthritis.)

Reviewer #2:

Scientific Quality: Grade C (Good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Accept (General priority)

Specific Comments to Authors: It is a well written case report regarding an 64 years old woman with

pigmented villonodular synovitis. No comments.

Reviewer #3:

Scientific Quality: Grade C (Good)

Language Quality: Grade A (Priority publishing)

Conclusion: Minor revision

Specific Comments to Authors: This is an important case report regarding the pigmented villonodular synovitis. The American Orthopaedic Foot and Ankle Score 97 may be explained more in detail in Abstract.

Response: Thanks a lot for your suggestion.

We have added the explanation of the American Orthopaedic Foot and Ankle Society(AOFAS) Ankle-Hindfoot score in the abstract. (At 6 mo postoperatively, the patient only complained of discomfort after walking three blocks. The American Orthopedic Foot and Ankle Society Ankle-Hindfoot score was 97.)

Reviewer #4:

Scientific Quality: Grade D (Fair)

Language Quality: Grade B (Minor language polishing)

Conclusion: Accept (General priority)

Specific Comments to Authors: This is a short description of subtalar villonodular synovitis. The conclusion is clear. The main concern is the fact that this is a case-report. and further patients need to be included in support of the author's conclusions

Response: We appreciate your comments very much. So far, we've only found one case of diffuse subtalar joint PVNS.