Peer Review File

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Reviewer A

Comment 1: Good report with just a few spelling errors. Would like to see information about patient's symptoms at 6 years and, ideally, functional outcome measures at all time points.
Reply 1: Thank you for your comments. We have added the functional knee scores at pre-surgery and at 2 year and 6 years post- surgery knee functional scores.
Changes in text: The pre-surgery Lysholm score was 45 and the subjective IKDC was 40.2 (Line 69-70). The 2-year post op Lysholm score was 88 and the subjective IKDC score was 92 (Line 103-104). The 6-year post op Lysholm score was 85 and subjective IKDC score was 88. (Line 107-108).

Reviewer B

Thank you for the case report. However, please make note of the following:

Comment 1: As you mentioned, this is a reported condition
Reply 1: We confirm that this has been reported previously as mentioned in Line 117
Changes in text: Nil

Comment 2: There's no functional assessment of the knee pre and post operatively
Reply 2: We have added pre-surgery functional scores and the 2 year and 6 years post-surgery knee functional scores.
Changes in text: The pre-surgery Lysholm score was 45 and the subjective IKDC was 40.2 (Line 69-70). The 2-year post op Lysholm score was 88 and the subjective IKDC score was 92 (Line 103-104). The 6-year post op Lysholm score was 85 and subjective IKDC score was 88. (Line 107-108).

Comment 3: Introduction, What is the correlation between ACL injury and meniscus tear
Reply 3: There is evidence to suggest that acute ACL tears are associated with lateral meniscus injury, while chronic ACL tears are associated with medial meniscal injury. We have added the references. **Changes in text:** The evidence suggests that acute ACL tears are associated with lateral meniscus injury, while chronic ACL tears are associated with medial meniscal injury (Line 48-50).

Comment 4: Does the Pivot shift test really indicate significant laxity, what is your evidence
Reply 4: Recent studies shown that a high grade pivot shift and high grade Lachman and drawer test indicates significant knee laxity. We have added that the patient had an explosive pivot shift and the relevant references to the text.
Changes in text: The Lachman test and anterior drawer test were grade 2+ and there was an explosive pivot shift, indicating significant knee laxity (7, 8). (Line 67-69)

Comment 5: Any X rays done pre and post op, any OA changes?
Reply 5: The radiographs were performed pre-surgery. At 6 years after surgery, the repeat radiographs do not show any OA changes. We have included this in the manuscript. The 6-year MRI also shows that the cartilage surfaces was preserved
Changes in text: The cartilage surfaces in both compartments of the knee were preserved. The 6-year repeat knee radiograph also did not show any progression in knee osteoarthritis (Figure 8). (Line 112-114). Please note that we have also removed Figure 2 in order to accommodate for the new figure.

Comment 6: What was the ACL recon technique?
Reply 6: The ACL was a 4-strand hamstring ACL reconstruction with trans-portal femoral tunnel drilling. The graft was fixed on the femoral cortical button and a tibia bioabsorbable interference screw and backed up with a washer screw.
Changes in text: The ACL was a four-strand hamstring ACL reconstruction with transportal femoral tunnel drilling. The graft was fixed on a femoral cortical button and a tibia interference screw and backed up with a washer screw. (Line 88-90)

Comment 7: Any brace used post op for immobilization? walking aids?
Reply 7: After surgery, the patient was placed in a knee brace that limited the knee range of motion from 0-90 degrees. She was allowed full range of knee motion after 6 weeks.
Changes in text: The patient was placed in a knee brace that limited the knee range of motion from 0-90 degrees for 6 weeks postoperatively. She was allowed full range of knee motion after 6 weeks. (Line 93-95)

Comment 8: How many Fast Fix used for each meniscus repair, How did you repair the anterior horn of the medial meniscus?
Reply 8: Six All-inside devices were used to repair medial meniscus and another 6 all-inside devices were used to repair the lateral meniscus. This has been added into the manuscript. For

the bucket handle that extends into the body, we changed the trajectory through an accessory portal and used the all-inside device to repair

Changes in text: Six all-inside devices were used to repair medial meniscus and another six all-inside devices were used to repair the lateral meniscus. (Line 86-88)

Comment 9: Line 141-143, what is your evidence, How you explain the grade 2 and drawer test?

Reply 9: We have provided a reference for this. The physical findings of grade 2 drawer and Lachman and an explosive pivot shift indicates significant knee laxity. It has been suggested that high grade knee laxity is associated with significant meniscus tears

Changes in text: This has been shown where high grade knee laxity on physical examination is associated with large significant meniscus tears (7, 8). (Line 172-173)

Reviewer C

Comment 1: Interesting case. Can you confirm that the ACL reconstruction was completed concomitantly? Some brief details of the ACL method would be appreciated.

Reply 1: Thank you for your comments. The ACL was a 4-strand hamstring ACL reconstruction with transportal femoral tunnel drilling. The graft was fixed on the femoral cortical button and a tibia interference screw and backed up with a AO washer screw.

Changes in text: The ACL was a four-strand hamstring ACL reconstruction with transportal femoral tunnel drilling. The graft was fixed on a femoral cortical button and a tibia interference screw and backed up with a washer screw. (Line 88-90)

Reviewer D

Comment 1: You should add the description about “chronic ACL-deficient knee” in the title.

Reply 1: We have added “chronic ACL-deficient knee” to the title

Changes in text: Title changed to “Concurrent medial and lateral bucket handle meniscal tear repair in a chronic ACL-deficient knee: a case report”

Comment 2: Line 36: You introduced the patient “retired competitive soccer player” in line 36 and “a young athlete” in line 40. These statements are inconsistent. Please modify.

Reply 2: The patient is a young, retired competitive soccer player, who has since returned to recreational play. We have modified it to “young, retired competitive soccer player”

Changes in text: We report a case of a 25-year-old female retired soccer player with bucket handle meniscus tears (BHMT) of both menisci of the right knee and complete tear of the anterior cruciate ligament (ACL). (Line 35-37)

Comment 3: Line 36-40: The first sentence is very long. Please divide.
Reply 3: The sentence has been divided.
Changes in text: First sentence divided at line 37.

Comment 4: Line 38: The word "right" is not appropriate. Please delete it.
Reply 4: The word "right" has been deleted.
Changes in text: The word "right" has been deleted. (Line 37)

Comment 5: Line 42: The word, "stable", should be deleted, because we cannot confirm knee stability from the finding of ACL graft on postoperative MRIs.
Reply 5: We have included the knee examination findings after surgery and have included a post-op image of the ACL graft.
Changes in text: At 6 years after surgery, on physical examination, the patient had full range of knee motion. Her knee anterior drawer test, Lachman test and pivot shift test were negative. (Line 106-107)

Comment 6: Line 52-53. This case was bucket-handle meniscus tear in ACL-deficient knee, so you should not show the description about isolated bucket handle meniscus tears including references. Please focus on bucket handle meniscus tear in ACL-deficient knee.
Reply 6: We have replaced the references with those for BHMT in ACL-deficient knees
Changes in text: The incidence of meniscus injuries in patients with ACL tears is as high as 63%, with higher incidence rates in the young, active population (4, 5). The evidence suggests that acute ACL tears are associated with lateral meniscus injury, while chronic ACL tears are associated with medial meniscal injury (5). (Lines 47-50)

Comment 7: Line 66: As mentioned above, you introduced the patient "retired competitive soccer player" in line 36 and "a young athlete" in line 40. These statements are inconsistent. Please modify.
Reply 7: The patient is a young, retired competitive soccer player, who has since returned to recreational play. We have modified it to "young, retired competitive soccer player"
Changes in text: We report a case of a young, retired competitive soccer player who had undergone all-inside repair of bicompartmental BHMT and concomitant ACL reconstruction.

(Line 55-56)

Comment 8: Line 69: Please describe how her symptoms had worsened in detail. (e.g. more frequent pain or locking)
Reply 8: Her symptoms worsened with increasing frequency of knee pain and instability over the previous few months. (Line 64-65)

Comment 10: Line 72: You should mention when physical examination was performed (e.g. initial visit or during surgery?) Is full knee extension true? Preoperative MRI and arthroscopic findings showed locking. Usually, extension loss is caused by locking of the knee, so it seems to be discrepancy.
Reply 10: The extension was full at the initial visit. That was why the ACL reconstruction was performed in the same setting. Knee locking occurs when the bucket handle gets displaced. We suspect the recurrent knee locking occurs with displacement and possible reduction of the displaced fragment in some instances.
Changes in text: Nil

Comment 11: Line 84: The word “right” is not appropriate. Please delete it, as mentioned above.
Reply 11: The word “right” has been deleted
Changes in text: The word “right” has been deleted (Line 77)

Comment 12: Additionally, please describe surgical procedure of ACL reconstruction including graft type, fixation method and tunnel creation.
Reply 12: The ACL was a 4-strand hamstring ACL reconstruction with transportal femoral tunnel drilling. The graft was fixed on the femoral cortical button and a tibia bioabsorbable interference screw and backed up with a washer screw. This has been included in the manuscript
Changes in text: The ACL was a four-strand hamstring ACL reconstruction with transportal femoral tunnel drilling. The graft was fixed on a femoral cortical button and a tibia interference screw and backed up with a washer screw. (Line 88-90)

Comment 13: Line 85-86: You described that meniscus tears had features of chronicity in this case. Was there a degenerative change in meniscus? Please mention about it.
Reply 13: The features of chronicity of the meniscus were that of rolled edges and scar tissue in the gutter that required release prior to the medial meniscus being able to be reduced. This

is mentioned in manuscript lines 83-84. The meniscus tissue quality was good, despite the chronicity of the tear.
Changes in text: The quality of both menisci tissue was good and amenable to repair sutures. (Line 82-83)

Comment 14: Line 106-110: Only results on postoperative MRIs were revealed as clinical outcomes, which was inadequate. Please show more detailed clinical results, such as ROM, muscle strength and laxity evaluated by knee arthrometer or physical examinations.
Reply 14: We have added her Lysholm and subjective IKDC scores at 6 years. We have included her knee physical examination at 6 years.
Changes in text: At 6 years after surgery, on physical examination, the patient had full range of knee motion. Her knee anterior drawer test, Lachman test and pivot shift test were negative. The 6-year postoperative Lysholm score was 85 and subjective IKDC score was 88. (Line 106-108)

Comment 15: Line 107: There was no information of postoperative ACL graft, so please show us an image of ACL graft on MRI as an additional figure.
Reply 15: We have included a post-op MRI picture of the ACL graft (Fig 5)
Changes in text: Changed Figure 5 (Please note that Figure 2 has been deleted to accommodate for a new Figure 8 which is a 6-year postop knee radiograph as requested by reviewer B)

Comment 16: Overall, sentence flow was not smooth and thus you had better add key words at the beginning of every paragraph to understand easily what you discussed about.
Example for “Regarding diagnosis of BHMT” in line 117 or “In terms of the duration from injury to surgical treatment” in line 134.
Reply 16: The discussion has been reformatted for better flow of information. The key words have also been added to the beginning of each paragraph.
Changes in text: Entire Discussion section has been reformatted for better flow

Comment 17: In addition to that, only the results associated with return to sports and findings on MRI, which is insufficient to conclude the good mid-term results in this case. You should reveal objective and subjective results or score, including physical examination (e.g. swelling, ROM, Lachman/Pivot shift test), anterior laxity evaluated using knee arthrometer, KOOS and Lysholm.
Reply 17: We have added her Lysholm and subjective IKDC scores at 6 years. We have

included her knee physical examination at 6 years.
Changes in text: At 6 years after surgery, on physical examination, the patient had full range of knee motion. Her knee anterior drawer test, Lachman test and pivot shift test were negative. The 6-year postoperative Lysholm score was 85 and subjective IKDC score was 88. (Line 106-108)

Comment 18: Line 132: You should emphasize that this case report was the first report about mid-term results after bi-compartmental bucket handle meniscus tear repairs.
Reply 18: We have done this in Lines 133-134
Changes in text: To our knowledge, this case report is the first to report on mid-term results after bi-compartmental BHMT repairs with clinical outcomes and a 6-year post-operative MRI. (Line 133-134)

Comment 19: Line 134-139 and 145-149: The duration from injury to repair or tear location is one of factors for meniscal healing. In this case, meniscus tears were chronic. However, tears were in vascular zone. It may lead to success for repair on MRI. You should discuss about them.
Reply 19: We have mentioned the chronicity of the lesion and discussed the importance of the peripheral nature of the tear in relation to repair success. (Line 158-163)
Changes in text: Nil

Comment 20: Line 141-143: In this report, the author did not evaluate postoperative anterior laxity. So, this paragraph should be removed. Or you should show the result of postoperative anterior laxity.
Reply 20: We have included the knee examination findings of negative anterior drawer, negative Lachman test and negative pivot shift. We have also included her functional scores at 6 years after surgery.
Changes in text: At 6 years after surgery, on physical examination, the patient had full range of knee motion. Her knee anterior drawer test, Lachman test and pivot shift test were negative. The 6-year postoperative Lysholm score was 85 and subjective IKDC score was 88. (Line 106-108)

Comment 21: Line 179: The word, “stable”, should be deleted, because we cannot confirm knee stability from the finding of ACL graft on postoperative MRIs as mentioned above.
Reply 21: Knee stability was confirmed on physical examination and included in the manuscript. We have also included the MRI image of her ACL graft. (Figure 5)

Changes in text: At 6 years after surgery, on physical examination, the patient had full range of knee motion. Her knee anterior drawer test, Lachman test and pivot shift test were negative. The 6-year post op Lysholm was 85 and subjective IKDC was 88. (Line 106-108)

Comment 22: Figure 6. There was hydrops in the knee joint. The author did not mention about it. Please explain it.
Reply 22: There was no effusion clinically. Our apologies for using a wrong image. We have amended the picture. Figure 5 is now a T1 image of the reconstructed ACL as requested.
Changes in text: Figure 5 updated (Please note that Figure 6 has become Figure 5 – Figure 2 has been deleted to accommodate for a new Figure 8 which is a 6-year postop knee radiograph as requested by reviewer B)

Comment 23: Figure 7. From this coronal image, it is difficult to confirm good reduction and fixation of meniscus as well as stable repair. Please change it.
Reply 23: We have amended the image to a Sagittal image of the repaired medial meniscus
Changes in text: Figure 6 updated (please note that Figure 7 has become Figure 6)

Comment 24: Figure 8. Posterior segment of lateral meniscus seemed to be separated. Was repair stable? Please mention it.
Reply 24: The posterior segment of the repair was stable and did not redisplace. There was post-surgical scar changes seen but the lateral meniscus was not separated. We have amended the image to a T1 Sagittal image of the posterior horn lateral meniscus. (Figure 7)
Changes in text: Figure 7 updated (please note that Figure 8 has become Figure 7)