

Dear Editors:

On behalf of my co-authors, we thank you very much for giving us an opportunity to revise our manuscript, we appreciate editor and reviewers very much for their positive and constructive comments and suggestions on our manuscript entitled “Application of 3D-printed injection-molded PEEK lunate prosthesis in the treatment of stage III Kienböck’s disease: a case report”. (MS:76799).

We have studied reviewers comments carefully and have made revision in the paper. We have tried our best to revise our manuscript according to the comments. Attached please find the revised version, which we would like to submit for your kind consideration.

Reviewer reports:

Reviewer #1:

Scientific Quality: Grade B (Very good)

Language Quality: Grade A (Priority publishing)

Conclusion: Minor revision

Specific Comments to Authors: The paper is well written, the case is of interest and organized in a well structured manner. Please briefly discuss the role (introduction or discussion) of an exogenous material that can act as a drug, a vector, a foreign body etc. etc.. In this regard quote as follows:-Early Immune Response in Foreign Body Reaction Is Implant/Material Specific. Söhling N et al. Materials (Basel). 2022 Mar 16;15(6):2195. doi: 10.3390/ma15062195. PMID: 35329646 - Foreign body response to synthetic polymer biomaterials and the role of adaptive immunity. Kyriakides TR et al. Biomed Mater. 2022 Mar 4;17(2). doi: 10.1088/1748-605X/ac5574. PMID: 35168213 - Application of 2D-DIGE to formalin-fixed diseased tissue samples from hospital repositories: results from four case studies. Tanca A et al. Proteomics Clin Appl. 2013 Apr;7(3-4):252-63. doi: 10.1002/prca.201200054. PMID: 23090899

Answer: We have discussed the role of an exogenous material that can act as a drug, a vector, a foreign body in introduction and discussion.

Reviewer #2:

Scientific Quality: Grade C (Good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Minor revision

Specific Comments to Authors: The manuscript is interesting and the topic is appropriate for this journal. However, some modifications and improvements are needed to enhance the quality of the case report before it can be accepted publication in the World Journal of Clinical Cases. 1. The description of 3D-printed PEEK lunate prosthesis was inappropriate in this manuscript, as the PEEK prosthesis was injection molded through a 3D-printed mould. The 3D-printed PEEK prosthesis means direct 3D printing technology made prosthesis, which is a different concept from 3D-printed injection molded PEEK prosthesis.

Answer: I have changed it into the article.

2. The authors need to give a specific follow-up time rather than “at the last visit”.

Answer: I have changed it .the specific follow-up time is one year after operation.

3. The identification of B, C, D and E in the Fig.3 was confused and needed to be revised. The postoperative lateral wrist X-ray view of F showed slight anterior dislocation of prosthetic lunate relative to the distal articular surface of radius, that need to be explained.

Answer: I have changed The identification of B, C, D and E in the Fig.3, Due to poor recovery of extensor muscle strength after operation. After rehabilitation exercise, the muscle strength recovered and the joint matching returned to normal.

4. How does the author get the ROM and GF of Healthy wrist? As far as I know, they should all be a range value.

Answer: This is my mistake, The table mainly shows the maximum range of motion of the wrist. We have changed the range of motion of the wrist joint to the preoperative, postoperative and healthy side.

5. Drawbacks/limitations or future prospects of the PEEK based substitute implant for the treatment of Kienböck’s disease should be added in the Discussion.

Answer: I have changed it.

Highlight section:

because of PEEK has the advantages of high strength, high stiffness, corrosion resistance, and hydrolysis resistance.our study analyze the clinical efficacy of application of 3D-printed injection-molded PEEK lunate prosthesis in the treatment of stage III Kienböck’s disease and provide a good therapeutic choice for Kienböck’s disease.A PEEK lunate prosthesis was prepared

by 3D printing and injection molding, and then it was inserted into the original anatomic position after removing the necrotic lunate bone. The pain and function of wrist, the anatomic suitability of lunate prosthesis, and the complications were evaluated and analyzed postoperatively. the range of motion, grasp force, visual analogue scale score and Cooney score of the affected wrist were significantly improved. The postoperative X-ray examination indicated that the lunate prosthesis had good anatomic suitability for adjacent bony structures.