

Response to the comments for the Manuscript (Manuscript ID 86720) entitled "Use of Ilizarov technique for bilateral knees flexion contracture in Juvenile-onset ankylosing spondylitis: a case report"

We thank the Editor and the Reviewers for their constructive comments that have greatly helped to improve the manuscript. We have responded to the comments point-by-point and thoroughly revised the manuscript accordingly. All changes have been highlighted in yellow in the revision.

We hope that the revision has improved the manuscript to a level of quality sufficient for acceptance in "*World Journal of Clinical Cases*".

Comments:

1-The title: Use of Ilizarov technique for bilateral knees flexion contracture in Juvenile-onset ankylosing spondylitis: a case report. The name of the disease is juvenile ankylosing spondylitis, why do you use the word onset. Please, correct the title. It sounds better like: Use of the Ilizarov distraction technique for bilateral knee contracture in juvenile ankylosing spondylitis: a case report.

Reply:

Thank you very much for raising the important question regarding the name of the disease. We acknowledge that when we wrote the title of this article, we were confused whether or not to choose the word onset as part of the name of the disease. Because we found that some of the literature used onset, while others did not [1-2]. Some literature gives a clear definition of the disease. When symptom onset occurs in individuals <16 years of age and individuals go on to develop radiographic sacroiliitis at a later stage, the disease is termed juvenile-onset AS^[3-4]. However, we did not find specific literature on the name specification of this disease. We prefer to use the word onset because it is more capable of enabling the reader to understand the characteristics of the disease from the name of the disease itself.

1. Aggarwal A, Hissaria P, Misra R. Juvenile ankylosing spondylitis--is it the same disease as adult ankylosing spondylitis?. *Rheumatol Int.* 2005;25(2):94-96. doi:10.1007/s00296-003-0417-x.
2. Horneff G, Fitter S, Foeldvari I, et al. Double-blind, placebo-controlled randomized trial with adalimumab for treatment of juvenile onset ankylosing spondylitis (JoAS): significant short term improvement. *Arthritis Res Ther.* 2012;14(5):R230. Published 2012 Oct 24. doi:10.1186/ar4072
3. Stone M, Warren RW, Bruckel J, Cooper D, Cortinovia D, Inman RD. Juvenile-onset ankylosing spondylitis is associated with worse functional outcomes than adult-onset ankylosing spondylitis. *Arthritis Rheum.* 2005;53(3):445-451. doi:10.1002/art.21174.
4. Chen HA, Chen CH, Liao HT, et al. Clinical, functional, and radiographic differences among juvenile-onset, adult-onset, and late-onset ankylosing spondylitis. *J Rheumatol.* 2012;39(5):1013-1018. doi:10.3899/jrheum.111031.

2-Diagnosis: you specify only KFC as a complication, may be associated with severe KFC (HFC was also present) You did not specify the rate of distraction in the text.

Reply:

We thank the reviewer for this comment. I don't quite understand the last sentence, i.e. "specify the rate of distraction in the text". We guess, reviewer want to know why we did not elaborate HFC. The patient had a combination of KFC as well as HFC, but the focus of this case report was on treatment with the ilizarov technique for KFC. Hip flexor deformity incision and release was not the focus of this case report.

In light of the diagnostic and therapeutic integrity, the inclusion of HFC has been incorporated into the diagnosis and highlighted in yellow.

3-There are a lot of spelling and grammar mistakes that should be corrected, I believe. First of all, you use capital letters where it is not needed: Juvenile-Onset ankylosing spondylitis Ankylosing Spondylitis our Orthopedic Clinic and several more instances.

Grammar: However, its use to treat KFC-associated JAS has not been reported. It is JAS-associated KFC. The patient can walk normally until the age of eight. Change for could or was able to walk. Spine plain radiography – better: plain radiographs of the spine. There are several sentences with plain....

Reply:

We thank the reviewer for this comment. We have checked and corrected the grammar and spelling carefully throughout the manuscript. All the revised parts are highlighted in yellow.

4- The sentence about no family history is repeated twice.

Reply:

Thank you for pointing out the issue of repeated family history in the manuscript. We have taken note of this problem and have made corrections in the revised version. We will carefully review and proofread the manuscript to ensure that such errors are eliminated in the final version.

5-In this study, the patient did not develop ????? Wrong notion. The patient presented in this study.... Therefore, we recommend ... (You advice???? or You offered to the patient the plan of your treatment.

Reply:

Thank you very much for your comments. We apologize that our description was imprecise and confusing. What we want to express here is

that we offered to the patient the plan of our treatment. we have polished our expression in revision. All the revised parts are highlighted in yellow.

6-Conclusion It is better omit generalization in your conclusion and put it in Discussion Squatting gait is clinically rare due to JAS. Premature arthroplasty can increase the need for subsequent replacements in young JAS patients.

Reply:

We thank the reviewer for this comment. We have omitted generalization in our conclusion and made some additions in the revised version. All the revised parts are highlighted in yellow.

7- Some abbreviations are explained by you several times. Please, do it only at first appearance

Reply:

We thank the reviewer for this comment. We have checked the abbreviations carefully throughout the manuscript and found Ankylosing spondylitis and Juvenile-onset ankylosing spondylitis are explained several times in abstract, core tip and introduction. We checked again the basic rules on abbreviation provided by Baishideng. The original statement read:

1) Title: Abbreviations are not permitted. Please spell out any abbreviation in the title.

(2) Running title: Abbreviations are permitted. Also, please shorten the running title to no more than 6 words.

(3) Abstract: Abbreviations must be defined upon first appearance in the Abstract. Example 1: Hepatocellular carcinoma (HCC). Example 2: Helicobacter pylori (H. pylori).

(4) Key Words: Abbreviations must be defined upon first appearance in the Key Words.

(5) Core Tip: Abbreviations must be defined upon first appearance in the Core Tip. Example 1: Hepatocellular carcinoma (HCC). Example 2: Helicobacter pylori (H. pylori)

(6) Main Text: Abbreviations must be defined upon first appearance in the Main Text. Example 1: Hepatocellular carcinoma (HCC). Example 2: Helicobacter pylori (H. pylori)

(7) Article Highlights: Abbreviations must be defined upon first appearance in the Article Highlights. Example 1: Hepatocellular carcinoma (HCC).

Also, we checked other author's case report published in "World Journal of Clinical Cases". We found that some abbreviations are explained several times in abstract, core tips and introduction. For example: Almulhim A, Almoallem B, Alsirrhy E, Osman EA. Unique Roberts syndrome with bilateral congenital glaucoma: A case report. World J Clin Cases. 2023;11(19):4635-4639. doi:10.12998/wjcc.v11.i19.4635.

Abstract

BACKGROUND

Congenital glaucoma associated with Roberts syndrome (RS) is an unusual and unique condition. No previous report describes this association. A multidisciplinary approach including molecular studies were conducted to reach the final diagnosis.

Core Tip: Roberts syndrome (RS) is an extremely rare disease characterized by a combination of deformities in the lower and/or upper extremities in association with other organ abnormalities. We provide here the first reported case of RS associated with bilateral congenital glaucoma. Bilateral non-penetrating glaucoma surgery was performed to control intraocular pressure and the outcome was excellent.

INTRODUCTION

Phocomelia with ocular and internal organ abnormalities are reported as part of Roberts syndrome (RS). RS (OMIM #268300; also known as Roberts-SC phocomelia syndrome) was reported by John Roberts in 1919 and is an autosomal recessive condition characterized by prenatal and postnatal growth retardation, skeletal malformation including tetraphocomelia or mesomelia, mental retardation, and

All the other revised parts are highlighted in yellow.

8 The introduction could provide a brief overview of the Ilizarov technique, particularly for readers less familiar with orthopedic procedures. This would ensure that readers of varying backgrounds can grasp the significance of the method in the context of KFC management. The discussion section could elaborate on the potential implications of this case study for clinical practice and research. Addressing questions such as the broader applicability of the Ilizarov technique for similar cases, its potential benefits compared to other interventions, and the need for further studies to validate its efficacy would enhance the discussion's depth.

Reply:

We thank the reviewer for this comment. Initially we wrote the paper with a brief description of the ilizarov technique in the introductory section. However, upon recognizing that the article surpassed the prescribed word limit, we subsequently abbreviated the content. We agree with the reviewers. And we believe that an introduction to the ilzarov technique is essential, so we have added a brief overview of the Ilizarov technique in the introduction.

The Ilizarov technique has been widely used for fracture management, limb salvage, and limb deformity correction for many years. Compared to other interventions, its potential benefits and disadvantages have been described in

detail in the past literature[1-3], and the present report is an extension of the application of the ilizaarov technique on this basis.To enhance the discussion's depth,we added some sentences to the discussion.

All the revised parts are highlighted in yellow.

[1].Devalia KL, Fernandes JA, Moras P, Pagdin J, Jones S, Bell MJ. Joint distraction and reconstruction in complex knee contractures. J Pediatr Orthop. 2007;27(4):402-407. doi:10.1097/01.bpb.0000271313.72750.37.

[2].van Bosse HJ, Feldman DS, Anavian J, Sala DA. Treatment of knee flexion contractures in patients with arthrogryposis. J Pediatr Orthop. 2007;27(8):930-937. doi:10.1097/bpo.0b013e3181594cd0.

[3].Solignac N, Vialle R, Thévenin-Lemoine C, Damsin JP. Popliteal pterygium knee contracture: treatment with the Ilizarov technique. Orthop Traumatol Surg Res. 2009;95(3):196-201. doi:10.1016/j.otsr.2009.01.004.

9 Given the unique nature of the case, discussing any challenges or limitations encountered during the treatment process would be valuable. This could give readers a more comprehensive understanding of the considerations and complexities of managing such cases.

Reply:

We thank the reviewer for this comment.We agree with the reviewer that challenges were encountered during the treatment.The great challenge we countered was knee extension stiffness because of prolonged immobilization of both knee joints. The solution to the problem we put in the treatment part.Other problems such as high lever pain and sleep disturbance which were common complications of external fixation had been added in discussion.

The shortcoming of this case report is the short follow-up period. All the revised parts are highlighted in yellow.

10. The article was well written good description , pictures good outcome a few comments on improving the understanding and quality of the paper Kindly include a few xrays with the fixator at the beginning and end of correction and at follow up.

Reply:

We thank the reviewer for this comment. We agree with the reviewer's comment that x-rays with the fixator at the beginning and end of correction and at follow up should be included in the manuscript. Immediate postoperative lifting of patients for X-rays increases patient distress, so the patients' first postoperative X-rays were taken at one week postoperatively. The patient did not undergo X-ray imaging following the complete extension of the knee, whereas X-ray imaging was performed subsequent to the removal of the external fixation. One year post-surgery, the patient was contacted to attend hospital follow-up appointment and advised to undergo an X-ray examination. However, the patient expressed confidence in their satisfactory recovery and deemed an X-ray examination unnecessary, consequently declining the recommendation. We postulated that the patient's unfavorable financial circumstances could potentially account for their decision.

X-rays of the patient one week after surgery and after removal of the external fixator had been added and showed in image file.

11. Kindly elaborate the range of movement change /improvement with anaesthesia and after soft tissue release.

Reply:We thank the reviewer for this comment.Indeed, this is the case, after soft tissue release the patient's KFC deformity was partly corrected. And the range of movement of the knee joints improved after surgery. But unfortunately, we didn't record a specific value for deformity improvement.

12.The deformity tends to partly correct with gentle manipulation under GA
Kindly discuss why soft tissue release followed by plaster of paris casting and gradual wedging and correction could not be considered. kindly elaborate on the post operative care and emphasis on physiotherapy to maintain ROM

Reply:

We thank the reviewer for this comment.This is a very good question.The main reasons why we used ilizarov ring external fixator instead of casts after partial correction of the deformity are listed as follows:

First of all, Ilizarov ring external fixators could be used to increase the joint width.To prevent compression of the articular cartilage during distraction, knee joint space needs to be stretched[1].

Second,knee distraction may promote the regeneration of articular cartilage [2-3].

Thirdly,The Ilizarov technique continuously and slowly distracts the knee joint.However, plaster of paris casting do not have these features.

The task of preserving knee extension and preventing the reappearance of deformity poses a formidable challenge.We have occupational therapists working for postoperative care and rehabilitation services.But regular follow-up and high level of compliance of patient is the key.



physiotherapist provided physiotherapy for the patient

1. Damsin JP, Ghanem I. Treatment of severe flexion deformity of the knee in children and adolescents using the Ilizarov technique. *J Bone Joint Surg Br.* 1996;78(1):140-144.

2. Flouzat-Lachaniette CH, Roubineau F, Heyberger C, Bouthors C. Distraction to treat knee osteoarthritis. *Joint Bone Spine.* 2017;84(2):141-144. doi:10.1016/j.jbspin.2016.03.004.

Struik T, Mastbergen SC, Brouwer RW, et al. Joint distraction using a purpose-built device for knee osteoarthritis: a prospective 2-year follow-up. *RMD Open.* 2023;9(2):e003074. doi:10.1136/rmdopen-2023-003074