

Date – 15 October, 2020

To,

The Reviewers / Editor

Global Journal of Orthopedics

Subject: Revision of manuscript as per reviewers' comment: **Impact of medial open wedge high tibial osteotomy for medial compartment osteoarthritis of the knee - Manuscript 57813**

Dear Sir,

Thank you very much for the constructive critiques. We have noted down the reviewers comments and have revised the manuscript accordingly as per the instructions.

We have also re structured the references as required and added the newer study as advised by honorable reviewer.

Thanking you in anticipation

Sincerely Yours

Sunil Nikose,

Professor of Orthopedics and Director of Centre of Excellence

Of simulation center of university,

Jawaharlal Nehru Medical College, Wardha, India

Ph- +919881555017

Based on the peer review report, a point-by-point response to the issues raised, were corrected as follow:

Reviewer #1

Reviewer's comments:

1. Please highlight better the aim of your study in the abstract and in the introduction section.

Authors' response: Corrected as per the comments in abstract as well as in Introduction

Original Content: To evaluate the results of medial open wedge HTO along with its safety and efficacy over short and long term.

Revised Contents: **In present study we have evaluated the outcomes of medial open-wedge high tibial osteotomy along with autologous bone grafting and buttress plate for the treatment of genu varum due to osteoarthritis of knee in rural population of central India.**

2. Please improve the introduction section, too poor and lack of important information.

Authors' response: In Introduction we have modified and included some additional information to improve the section

Original Content: modified and added more information as follows

Revised Content:

OA is a degenerative disease of the articular cartilage, and it represents one of the most common causes of disability in the world linked to hypomobility [8]. OA can be viewed as the clinical and pathological outcome of a range of disorders that result in structural and functional failure of synovial joints with loss and erosion of articular cartilage, subchondral bone alteration, meniscal degeneration, a synovial inflammatory response, and bone and cartilage overgrowth. Castorina et al [9] used different functional test such as Barthel, MRC, VAS and revealed that the function and movement of osteoarthritis patients were normalized as gradual and progressive improvement over the next 2 months after surgery. The benefits of moderate physical activity in OA patients may have protective roles on joints as a non-surgical and non-pharmacological treatment, re-establishing the physiological function of synoviocytes, preventing the onset of OA, and/or postponing the need for joint replacement [10].

3. Introduction: Osteoarthritis (OA) is among the most common knee joint conditions in a humans and it poses a serious health issue that affects the life quality in people of middle and older age. Please add missing fundamental references as follow: Co-expression and co-localization of cartilage glycoproteins CHI3L1 and Lubricin in osteoarthritic cartilage. Morphological, immunohistochemical and gene expression profile. Int. J. Mol. Sci. 2016 2016, 17, 359.

Authors' response: Reference cited as [1]

Original Contents: Osteoarthritis (OA) is among the most common knee joint conditions in a human being, and it poses a serious health issue that affects the life quality in people of middle or old age

Revised Contents: Osteoarthritis (OA) is a chronic, progressive joint disease with high disability and teratogenicity in the joints. Deterioration of the articular cartilage is the main problem associated with osteoarthritis, which decreases joint space between the two bones [1]. The levels of human cartilage glycoprotein chitinase 3-like-1 (CHI3L1) are known as a potential marker for the activation of chondrocytes and the progression of Osteoarthritis (OA), whereas lubricin appears

to be chondroprotective. These two glycoproteins are functionally associated with the development of OA and in particular with grade 2/3 of OA, suggesting that in the future they could be helpful to stage the severity and progression of the disease [1].

4. It is one of the most common form of joint diseases, and is listed amongst top ten causes of progressive disability worldwide. Please add missing fundamental references as follow: Physical Activity as a Prevention Method for Knee Osteoarthritis and the Role of Synoviocytes as Biological Key. Int J Mol Sci. 2019 Jan 25;20(3). pii: E511.

Authors' response: Reference cited as [3]

Original Contents: This disease is largely distributed over the community and is probably amongst top ten conditions causing significant dysfunction and incapacitation throughout the globe

Revised Contents: While moderate physical activity as a biological key for OA prevention, based on its effects as a natural anti-inflammatory remedy that also enhances joint lubrication. This disease is largely distributed over the community and is probably amongst top ten conditions causing significant dysfunction and incapacitation throughout the globe [3].

5. Please add a sentence regarding the importance of the movement in osteoarthritis: Please quote the following recent and interesting papers or others:

Clinical evidence of traditional vs fast track recovery methodologies after total arthroplasty for osteoarthritic knee treatment. A retrospective observational study. Muscles Ligaments Tendons J. 2018 Jan 10;7(3):504-513.

The Synovium Theory: Can Exercise Prevent Knee Osteoarthritis? The Role of “Mechanokines”, A Possible Biological Key. J. Funct. Morphol. Kinesiol. 2019, 4, 11.

The “Journal of Functional Morphology and Kinesiology” Journal Club Series: Highlights on Recent Papers in Exercise and Osteoarthritis. J. Funct. Morphol. Kinesiol. 2019, 4, 7.

Authors' response: Reference cited as [8,9,10]

Added more additional information in introduction to make the section more informative

Revised Contents: OA is a degenerative disease of the articular cartilage, and it represents one of the most common causes of disability in the world linked to hypomobility [8]. OA can be viewed as the clinical and pathological outcome of a range of disorders that result in structural and functional failure of synovial joints with loss and erosion of articular cartilage, subchondral bone

alteration, meniscal degeneration, a synovial inflammatory response, and bone and cartilage overgrowth. Castorina et al [9] used different functional test such as Barthel, MRC, VAS and revealed that the function and movement of osteoarthritis patients were normalized as gradual and progressive improvement over the next 2 months after surgery. The benefits of moderate physical activity in OA patients may have protective roles on joints as a non-surgical and non-pharmacological treatment, re-establishing the physiological function of synoviocytes, preventing the onset of OA, and/or postponing the need for joint replacement [10].

6. Methods: Please add more information on ethical issue/committee.

Authors' response:

The ethical information included in materials and method section as follows

The ethical approval was obtained from the Departmental ethical committee of the hospital.

7. In the conclusion section please highlight better the scientific/clinical relevance of your work.

Authors' response: Conclusion CORRECTED AS PER THE COMMENTS.

Original Contents: Medial open wedge HTO is a, reliable safe and feasible treatment for people who tend to squat and sit cross legged due to their lifestyle and is associated with excellent outcomes in short term and long term follow up for osteoarthritis in genu varum knees. It was also revealed that MOWHTO furnishes sufficiently good proportion as regards to union along with unobjectionable and few complications whilst contrasted with conventional approach and preserves the bone stock to an ideological advantage for a subsequent conversion to a total knee arthroplasty (TKA) in case the need arises. We believe that with proper indications and due considerations a bone and joint preservation technique would be much beneficial as compared especially to the Unicompartmental knee arthroplasty (UKA).

Revised Content: It has been revealed that a better coordination and collaboration between the orthopedic surgeons, physiatrists, physical therapists and patients would possibility to achieve a faster recovery of patient that underwent TKA. These collaborations would normalized the function and movement of osteoarthritis patients with reduced hospital stay and improving ROM, pain score, knee score and functional score. We continue to study this method improving the surgery and the rehabilitation program. In this way we can really perform better results and, probably, we can have soon more data that will help the recovery, pain and ROM of the patients.

Medial open wedge HTO is a, reliable safe and feasible treatment for people who tend to squat and sit cross legged due to their lifestyle and is associated with excellent outcomes in short term and long term follow up for osteoarthritis in genu varum knees. It was also revealed that MOWHTO furnishes sufficiently good proportion as regards to union along with unobjectionable and few complications whilst contrasted with conventional approach and preserves the bone stock to an ideological advantage for a subsequent conversion to a total knee arthroplasty (TKA) in case the need arises. We believe that with proper indications and due considerations a bone and joint preservation technique would be much beneficial as compared especially to the Unicompartmental knee arthroplasty (UKA).

Thanking you in anticipation

Sincerely Yours

Sunil Nikose,

Professor of Orthopedics and Director of Centre of Excellence

Of simulation center of university,

Jawaharlal Nehru Medical College, Wardha, India

Ph- +919881555017