



Editorial

Regeneration is better than the replacement

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1. Editorial

We are happy to announce that the number of regular issues of the Journal of Clinical Orthopaedics and Trauma (JCOT) are being increased from four to six issues per year, from 2019. It has been kept in pace with the increasing number of manuscripts that are coming to JCOT, with the numbers crossing 500 in 2018. The workflow of this journal is also being modified, with some new section editors joining the editorial board and would be primarily handling the manuscripts of their specialty. We have planned to provide special symposium in each issue, based on a specific theme, as a value addition for our readers. The first issue of 2019 has therefore published a focused symposium on the "Regenerative Medicine treatment for Knee Osteoarthritis (KOA)." One of our section editor, Dr. William Murrell (UAE/USA) has been the cornerstone for the success of this special issue, through his excellent contributions and inviting several other world leaders in this field, to also contribute for this issue.

It is known that conventional methods for managing KOA such as non-steroidal anti-inflammatory drugs (NSAID) may not improve pain or alter disease progression and may have adverse side effects. Non-pharmacological management of OA is fundamental to the management of functional limitations and provides effective symptom relief but has not shown that disease progression can be altered. Regenerative medicine is a relatively new approach which aims to induce cellular regeneration and promote self-healing through minimally invasive methods. The use of regenerative medicine has been shown to slow the progression of KOA and revealed significant improvements, yet further investigations are required to optimize the outcomes.¹

There has been a recent upsurge in the knowledge and demand of the 'biologic treatment options' for the knee disorders, as it has been recognized that "Regeneration is better than the Replacement." Hence, regenerative medicine has found its way in the management of the chronic disorders of the knee, like OA. We seem to move from the era of Reconstructive to Regenerative medicine. The present issue includes several exciting and quality articles on this particular theme. This special symposium on regenerative medical

treatment for KOA, include articles on basic science, non-operative and operative treatment. Vitamin D has been believed to have a bearing in the pathogenesis of knee osteoarthritis (OA). In a review article, the role of vitamin D in the causation and progression of KOA has been adequately elucidated.²

Various newer intra-articular injection therapies are now available to manage KOA. In this issue, there are some excellent review articles related to the use Platelet Rich Plasma (PRP), Intraosseous PRP, Platelet Autologous Plasma, Autologous Protein Solution (APS) and micro fragmented adipose injections for KOA.³⁻⁷ Amongst all these injection therapies, PRP has clearly emerged as the leaders as it seems to offer a possible solution that could modify the disease process and offer symptomatic relief in the KOA. The research is focused now on finding the ideal PRP type, dose, frequency of injection and mode of injection. The combination of PRP with other agents like biocompatible carriers/scaffolds like gelatin hydrogel, chitosan and Hyaluronic Acid (HA) appear to be promising, as they probably have synergistic and additive effects.³ APS is a blood-derived product obtained by isolating WBCs and platelets in a small volume of plasma by a commercially available separator. It results in a peculiar formulation differing from other biologic products as it contains high levels of growth factors along with high concentrations of anti-inflammatory mediators and low levels of pro-inflammatory cytokines.⁷

Apart, from some high-quality papers on the Regenerative Medicine, we have included several original research and review articles related to Knee and Hip Arthroplasty, Trauma, Sports Medicine and Arthroscopy.

References

1. Nutritional, metabolic and genetic considerations to optimize regenerative medicine outcome for knee osteoarthritis.
2. Does vitamin D deficiency influence the incidence and progression of knee osteoarthritis? – A literature review.
3. Improving PRP for use in osteoarthritis knee- upcoming trends and futuristic view.
4. Current concepts in intraosseous Platelet-Rich Plasma injections for knee osteoarthritis.
5. Platelet autologous plasma in post-traumatic knee osteoarthritis treatment.
6. Micro fragmented adipose injections in the treatment of knee osteoarthritis.
7. Innovative regenerative medicine in the management of knee OA: The role of Autologous Protein Solution.

Raju Vaishya, (MBBS, MS, MCh, FRCS), Editor-in-Chief, Journal of Clinical Orthopaedics and Trauma

E-mail address: raju.vaishya@gmail.com.