A Surgical Perspective to the Modern Cartilage Repair Techniques

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Hunter [1] in AD 1742 had observed, 'Cartilage once damaged cannot heal' and the orthopaedic community continued to believe in his statement for over 200 years. There were some scattered attempts and observations to heal the cartilage in the later-half of the twentieth century. We have seen an enthusiastic interest with many new modalities showing varying degrees of cartilage repair success in last 25 years. While travelling across Asian countries, I come across many surgeons who have an active interest in the cartilage repair. Young enthusiast surgeons are keen to learn techniques and develop skills for various cartilage repair procedures. But, many of them are unable to do more than the microfracture technique, the first line of treatment [2]. Asian Journal of Arthroscopy, is keen to infuse the basic know-how of commonly done procedures along with a stress on practical approach towards the procedures. Literature is abundant about each of the cartilage repair procedures, but a 'beginner cartilage surgeon' would like to know the basics of case selection, decision making, surgical techniques and tips, along with the possible complications. This special issue on cartilage repair invited different surgeons/ doctors who are doing pioneer work in their respective fields of cartilage repair.

Patil and Jadhav [3] have started this edition of AJA with a detailed understanding of various sequences of MRI that are important for the diagnosis of the cartilage lesions. They have not only described the various zones of cartilage on MRI but have also discussed in detail about the T2 mapping. The various MRI characteristics of a damaged cartilage and repaired cartilage are also discussed along with the MOCART score.

Devin Leland et at [4] have written a nice article on the microfracture technique that is specifically indicated for the small size lesions. They have given a detailed discussion on the indications, surgical steps and the site-specific rehabilitation program; while using the microfracture technique. They have also discussed short and long-term results of the microfracture technique along with a brief discussion on various systematic reviews. To conclude, they have also compared the results of the subchondral drilling technique and the osteochondral grafting.

Amaravathi et al [5] advocate osteochondral cylinder transfer technique for mid-size cartilage lesions. They have put a special emphasis on the proper case selection, pre-operative planning and the surgical technique, along with the detailed tabulated pearls and pitfalls for each. The discussion about long-term results (15 years) of the osteochondral cylinder transfer procedures by various authors is quite promising in favour of the technique. Their suggestion on use of the proximal tibio-fibular joint as the source of the graft will be interesting to watch, with the long-term results in future.

Mats Brittberg [6] has written a very nice article on 3rd generation ACI and has tried to remove the confusion between nomenclature of various methods that fall under the ambit of 3rd generation ACI. He has also introduced the 4th generation ACI with this article that will allow the surgeons to use ACI as a single stage surgery.

Goyal and Modi [7] have advocated the use of the gel based ACI procedure, another 3rd generation ACI, mainly for the large chondral

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lesions with a cautious use in the extra-large lesions. They have heavily emphasised on a very careful selection of the patient using stringent guidelines and a preoperative planning methodology. A detailed step-by-step surgical technique discussion and a postoperative rehabilitation program is also discussed, along with an insight into the possible complications.

Herman et al [8] have stressed the importance of a single stage technique of cartilage repair using hyaluronic acid-based scaffold with the bone marrow aspirate concentrate. They have described the surgical technique along with a detailed understanding of the various phases of the rehabilitation program.

I hope, many youngsters as well as seniors will find this special issue on cartilage repair, useful.

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Conflict of Interest: NIL
Source of Support: NIL

How to Cite this Article

Goyal D. A Surgical Perspective to the Modern Cartilage Repair Techniques. Asian Journal of Arthroscopy Jan - April 2019;4(1):2-3