

Potpourri - Recent and relevant literature in 2017

Potpourri is an attempt to provide precise summary of relevant literature published in last one year related to various aspect of Orthopaedics

Recent Trends in Arthroscopy

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Hip Arthroscopy

Hip arthroscopy is evolving and showing good outcomes in specific pathologies around the hip region in the last decade. In the current scenario the trends of utilization and its outcomes in terms of repeat hip arthroscopy as well as subsequent conversion to total hip arthroplasty was evaluated in a paper by Maradit Kremers et al [1]. Hip arthroscopy rates increased significantly over time from 3.6 per 100,000 in 2005 to 16.7 per 100,000 in 2013. As the exposure in hip arthroscopy is increasing the number of subsequent surgeries are also increasing, 2-year cumulative incidence of subsequent hip arthroscopy and THA was 11% and 10%, respectively. In long term the incidence of THA post hip arthroscopy is 35% in individuals aged 55-64 years. The indications of hip arthroscopy should be limited to femoral osteochondroplasty and labral repair which results in predictable good outcomes in young patients < 40 years of age. Elderly patients with age > 40 years operated for hip arthroscopy showed higher conversion rates to

THR. This was shown by Horner NS et al [2] in their meta-analysis comprising of 16,327 patients, including 9,954 patients age 40 or older. Another Multicenter Arthroscopic Study of the Hip (MASH) Study Group by Kivlan BR et al [3] in their study of 1738 patients showed similar outcomes with Labral tear as the most common diagnosis, and most often it was addressed with repair. Briggs KK et al [4] in their commentary also mention impact of age on outcomes after hip arthroscopy. The rise in hip-preservation operations in nonarthritic patients 60 or older has been associated with encouraging improvements in patient-reported outcome scores as shown by Ortiz-Declet V et al [6]. None the less, everything that is introduced for benefit of the patients comes with its share of complications. Fluid extravasation is a rare but potentially life-threatening complication of hip arthroscopy. Most patients require interventional management by surgery or paracentesis, but some stabilize with conservative management. Ekhtiari S et al [5] in their systematic review of 1286 patients showed 1.6% incidence of fluid extravasation (21 patients). Signs of fluid extravasation included abdominal distension, hypothermia, hypotension and metabolic acidosis. Haskins SC et al [7], in their series showed that the incidence of intra-

abdominal fluid extravasation was very high about 16% in a cohort of 100 patients with none requiring any surgical intervention.

Thromboprophylaxis in Arthroscopy

The use of thromboprophylaxis to prevent clinically apparent venous thromboembolism after knee arthroscopy or casting of the lower leg is debatable topic. Various studies have been published debating the effectiveness and benefit in preventing venous thromboembolism and subsequent PE. The incidence of symptomatic venous thromboembolism after knee and hip arthroplasty is high as compared to arthroscopy. Van Adrichem RA et al [10] in their randomized controlled trial included 1543 patients, showed no significant benefit of prophylaxis with low-molecular-weight heparin for the 8 days after knee arthroscopy or during the full period of immobilization due to casting. Rebecca E. Berger et al [9] also showed that the benefit of LMWH for prophylaxis must be weighed against its side effects of bleeding and inconvenience to take the dose, not all patients to receive it but selective patients. Giuseppe Lippi et al [8] showed that low molecular weight heparin is not effective for preventing venous thromboembolism, whereas thrombotic episodes may be significantly reduced using direct oral

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anticoagulants.

Inappropriate use of arthroscopic meniscal surgery in degenerative knee disease.

Osteoarthritis of knee and degenerative knee changes are on a rise. A degenerative meniscus lesion is a slowly developing process typically involving a horizontal cleavage in a middle-aged or older person. To relieve pain and mechanical symptoms arthroscopic debridement and partial meniscectomy is being done. Muheim LLS et al [11] in their paper suggest that arthroscopic knee surgery has no added benefit compared with non-surgical management in degenerative meniscal disease. Beaufils P et al [12] also came out with the consensus that arthroscopic partial meniscectomy is not indicated in patients with non-traumatic meniscal tear typically involving a horizontal cleavage tear.

Femoroacetabular impingement and arthroscopy

Femoroacetabular impingement (FAI) as a cause of hip pain and secondary osteoarthritis has rapidly evolved since Ganz's description in 2003. FAI is a important condition where hip arthroscopy can help to relieve impingement and prevent progression to hip arthritis in younger age group patients. Open surgical dislocation continues to play a role in the treatment of complex FAI. Nwachukwu BU et al [13] gave a predictive preoperative and diagnostic postoperative outcome scores for the substantial clinical benefit that can be used to manage patient expectations and grade outcomes, this is a useful objective criteria for defining clinical success after arthroscopic FAI treatment. Menge TJ et al [14] in their study of 10-year outcomes and hip survival following hip arthroscopy for FAI and to compare labral debridement (n=75) with labral repair (n=79) with

satisfactory outcomes at 10 years. Elderly patients, hips with < 2 mm of joint space preoperatively, and patients requiring acetabular microfracture had significantly higher prevalences of THA (34%). In a systematic review with meta-analysis Kierkegaard S et al [17] showed that postoperative patient satisfaction ranged from 68% to 100% in terms of pain, activities of daily living and sport function. Anthony CA et al in their study of 1325 patients showed a complication rate of 16 (1.21%) had at least 1 complication, and 6 (0.45%) had at least 1 major complication. Bleeding resulting in transfusion was the commonest complication.

Rotator cuff tear

Rotator cuff injuries are a major cause of shoulder dysfunction in young age group. Repair of the rotator cuff to regain normal strength and function in the shoulder joint is of prime importance. Open or arthroscopic repair is indicated depending upon the training of the surgeon. Liu J et al [18] in their comparative study of arthroscopic and mini open rotator cuff repair, showed no significant difference in the outcomes a long-term follow up. Galasso O et al [19] in a cohort of 95 patients showed that when there is an irreparable supraspinatus but there is still the possibility to repair the infraspinatus and subscapularis, the arthroscopic partial cuff repair should be considered as an effective surgical option. Robinson HA et al [20] in his series of 1600 patients treated with arthroscopic rotator cuff repair reported significant improvement in functional outcomes in terms of overhead pain levels irrespective of the repair integrity at 6 months. They had 13% re-tear as confirmed by ultrasound. Yang J et al [22] in a meta-analysis compared clinical outcomes between intact and return rotator cuffs after arthroscopic single-row and double-row repair.

Patients with a full-thickness rotator cuff re-tear exhibited significantly lower clinical outcome scores and strength compared with patients with an intact or partially torn rotator cuff. Audigé L et al [21] devised a structured core set of local events associated with Arthroscopic rotator cuff repair has been developed by international consensus.

Special Articles:

1. Acute native knee septic arthritis is a joint-threatening emergency. Operative treatments can be by open or arthroscopic technique. The literature to date has primarily consisted of case series and no large study has yet compared these methods. Johns BP et al [23] in their study compared open (n=43) and arthroscopic (n=123) treatment for acute native knee septic arthritis and showed that arthroscopic treatment for acute native knee septic arthritis was a more successful index procedure and required fewer total irrigation procedures compared with open treatment. Long-term postoperative range of motion was significantly greater following arthroscopic treatment.
2. Appropriate management for patients with a degenerative tear of the rotator cuff remains controversial, but operative treatment, particularly arthroscopic surgery, is increasingly being used. Carr A et al [24] in this paper compared the effectiveness of arthroscopic with open repair of the rotator cuff in a randomized study of 273 patients with 2 years post-operative evaluation by the Oxford Shoulder Score. They showed no evidence of difference in effectiveness between open and arthroscopic repair of rotator cuff tears. The rate of re-tear was high in both groups, for all sizes of tear and ages and this adversely affects the outcome.
3. Various device modalities are available for post-operative treatment

following arthroscopic knee surgery; however, it remains unclear which types and duration of modality are the most effective. Gatewood CT et al [25] in their systematic review aimed to investigate the efficacy of device modalities used following arthroscopic knee surgery. They showed that cryotherapy, Neuromuscular electrical stimulation and surface electromyography are recommended for inclusion into rehabilitation protocols following arthroscopic knee surgery to assist with pain relief, recovery of muscle strength and knee function, which are all essential to accelerate recovery. Continuous passive movement is not warranted in post-operative protocols following arthroscopic knee surgery because of its limited effectiveness in returning knee range of motion, extra-corporeal shock wave therapy has a doubtful role.

4. Arthroscopic surgery of the knee is one of the most frequently performed orthopaedic procedures. One-third of these procedures are performed for meniscal injuries. Monk P et al [26] in their systematic review which includes 9 RCT's and 8 systematic reviews showed

that No difference was found between arthroscopic meniscal debridement compared with nonoperative management as a first-line treatment strategy for patients with knee pain and a degenerative meniscal tear. Thus, more research is urgently needed to support evidence-based practice in meniscal surgery in order to reduce the numbers of ineffective interventions and support potentially beneficial surgery.

5. Clement RC et al [27], in their paper identified and quantified patient- and procedure-related risk factors for post-arthroscopic knee infections using a large database. 595,083 arthroscopic knee procedures were evaluated. Deep postoperative infections occurred at a rate of 0.22%. Superficial infections occurred at a rate of 0.29%. Tobacco use and morbid obesity were the largest risk factors for deep and superficial infections. Patients undergoing relatively complex procedures, men & diabetic patients adds to the post-operative co-morbidity group. This knowledge may allow more informed preoperative counseling, aid surgeons in patient selection, and facilitate infection

prevention by targeting individuals with higher inherent risk.

6. Meniscal tears are frequently repaired during anterior cruciate ligament reconstruction. Westermann RW et al [28] in their meta-analysis of 1126 patients. There was statistically significant difference in the failure rate for all-inside meniscal repair performed concurrently with ACLR was 16% (121/744) compared with 10% (39/382) for inside-out repair. Implant irritation and device migration were the most common complications reported for all-inside repair.

7. Axillary nerve exploration is a routine procedure performed. Standard open exploration of the nerve is commonly done but it lacks exploration of the nerve in its middle course where it is known as the blind zone. Maldonado A et al [29] in their study of fresh cadaveric shoulder joint showed the feasibility to visualize all segments of the axillary nerve (including the blind zone) using this novel approach that combines the use of the standard posterior approach to the nerve with dry arthroscopic exploration.

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