Anterior shoulder instability with bone defect, treatment options and returning to sports activity

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Abstract:
STABILITY of the shoulder joint depends on the position of the arm as well as the activities of the muscles around the shoulder. Capsulo-ligamentous structures are the main stabilizers of the glenohumeral, especially at the end of joint amplitude, whereas the negative intra-articular pressure and the "compression-concavity" effect are the main stabilizers while the arm is injured in the middle of the articular amplitudes. Any defect in one of these two mechanisms will lead to instability in the form of subluxation or glenohumeral dislocation. If such a glenohumeral dislocation becomes recurrent or frequent, it may be associated with a large bone defect in the posterior-superior part of the humeral head (Hill Sachs lesion) with or without antero-inferior glenoid bone loss. Anterior shoulder instability with bone loss can be a difficult problem to treat. Also, after first-time anterior dislocation, glenohumeral deficiency (humeral head defect, glenoid defect or combination of both) has been found in up to 70% of patients(1). While small defects tend to have limited implications on overall stability, there is a significantly increased risk of instability as the size of the humeral head lesion or glenoid deficiency increases(2,3).

The incidence of shoulder instability in the population is estimated to be as high as 2% (4). While many first-time dislocations can be managed conservatively, there are specific patient groups that have a higher risk for dislocation after a single event and may benefit from surgical stabilization. For example, Taylor et al(5), found increased risk of recurrence in overhead athletes and participants in contact sports. In addition, hyper-laxity has been an identified risk factor (6). Of the risk factors for recurrence, the most predictive is age at the time of first dislocation. Increasing instability risk has been found to be inversely proportional to the age of the patient (7). For example, in older patients the risk of instability ranges from 10% to 20%(8); yet in skeletally immature patients, Marans et al(9) found a re-dislocation rate of up to 100%.

Biography
Mohamed Aly is an Egyptian orthopedic and sports medicine surgeon by profession, works at one of the private hospital in KSA, holding the MBBCH medicine and General surgery from Alexandria faculty of Medicine in Egypt, worked for 18 months in public hospital and around 9 years in private hospitals. Since December 2014, working in sports medicine field, arthroscopy and all kinds of sports injuries of shoulder and knee. Studied diplôme of superior studies interuniversity of sports medicine and arthroscopy in Marseille faculty of Medicine in France 2017DESIU, currently studying Diplôme of upper limb surgery at Marseille university. Fellow of Claud Bernard Lyon 1 university orthopedic and traumatology. Has a great exposure to all kinds of sports injuries of knee and shoulder joints with most of updated different types of techniques of surgical and conservative treatment.

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