Introduction: involuntary, idiopathic, recurrent posterior shoulder subluxation is a rare entity. Subluxation of the shoulder joint occurs with every elevation movement of the hand with a certain level of pain. Active abduction and anteflexion are possible only to 90°. Only surgical treatment produces results. Goal: The goal is to show that timely commenced, continuously conducted rehabilitation of the shoulder after surgically repaired involuntary, idiopathic, recurrent posterior subluxation of the shoulder, leads to restitution of function.

Case outline  R.M. patient 24 years old, was admitted to the Institute for Orthopaedic Surgery and Traumatology, Clinical Center in Belgrade, for surgical treatment. Previously was treated conservatively. ROM (anteflexion 70° abduction 60°) with persistant pain in shoulder. Rehabilitation started first postoperative day. Result: - 2.5 months post surgery - ROM (active movement) anteflexion 165°, abduction 140°, without pain and no tendency of posterior subluxation. - 3.5 months post surgery, full active movements were achieved, except external rotation of -20°. - 5 months post surgery, the patient had full range of motion in all directions. The last control was performed one year after surgery. The patient has no symptoms, lives normal life and is engaged with sports.

Keywords: shoulder, recurrent posterior subluxation, surgical treatment, rehabilitation.

INTRODUCTION

Dislocations of glenohumeral joint represent 50% of dislocations of all joints of the body. Anterior dislocations are represented by 90-98%, and posterior dislocations with only 2-10%.

Posterior dislocations of the shoulder can be:
- acute posterior luxations-with or without anteromedial defect on the humeral head.
- inverted posterior dislocations - with a large defect on the humeral head. They are called "locked" and they are one of the most overlooked dislocations of joints in the body.
- recurrent posterior subluxations, which are rare and represent less than 5% of shoulder dislocations.

Recurrent posterior subluxations can be:
- Willing - they occur during adolescence. Painless, performed consciously, usually on both shoulders and described as "habitual."
- Involuntary - occurring in less than 2% of dislocations in the shoulder.
- Positional - provoked by the certain hand position (elevation with internal rotation). They are accompanied by pain in the shoulder.
- Muscular - They appear in early adulthood, usually between 20 and 25 years. They are accompanied by pain and result in elevation of the hand, between 60° and 90°. This group is the rarest and occurs in less than 1% of shoulder dislocations.

Goal - The goal is to show that timely commenced, continuously conducted rehabilitation of the shoulder after surgically repaired involuntary, idiopathic, recurrent posterior subluxation of the shoulder, leads to restitution of function.

CASE OUTLINE

Involuntary, posterior shoulder subluxation we diagnosed with the patient R.M., age 24. The patient was treated by physical procedures for several months because of painful blockage of movement in the right shoulder, i.e. due to dislocation of the shoulder joint, which occurs with each raising of the arm. She was examined previously in another hospital, but was dropped out from the surgery.

First symptoms in her right shoulder occurred at 22 years, and gradually, with no obvious cause progressed over several months.
We found that with the elevation of the right hand of about 60° involuntary, posterior subluxation of the shoulder joint occurs, accompanied by pain.

Further elevation was disabled by resulted malposition of the humeral head. When returning hands along the body, spontaneous repositioning of the joint occurs.

Comparative AP recordings do not indicate bone changes.

MR imaging of the right shoulder was performed. Horizontal section of the shoulder joint confirmed partially increased retroversion of the glenoid.

Is that the cause of this involuntary subluxation remains a question.

General attitude of literature is that the causes of posterior shoulder instability are still not documented and proved enough, and that in practice it is very difficult to identify them preoperatively.

Possible causes of posterior shoulder subluxation:
- laxity of the posterior part of joint capsule and labrum
- increased retroversion of the glenoid
- erosion or avulsion of the posterior edge of the glenoid - existence of anteromedial defect on the humeral head
- localized posterosuperior hypoplasia of the glenoid
- increased retroversion of the humeral head

METHODS OF TREATMENT FOR POSTERIOR SUBLUXATIONS OF THE SHOULDER:

Most patients respond by reducing or disappearance of symptoms with physical therapy. Therefore, physical therapy remains the initial treatment. Surgical treatment has a bad reputation, due to frequent failure and complications, however, for patients whose symptoms do not disappear with non-operative procedures, surgery remains the only option.

When examining the patient R.M. we noticed that she can elevate extended hand, which is in full supination, up to 140°, with no tendency for the dislocation of the humeral head. Based on this observation, the idea of derotational osteotomy of proximal humerus have imposed, as a way of solution of this disorder.

In respect of the doubt that increased retroversion of the glenoid is the reason for posterior subluxation, neck scapula osteotomy, through posterior approach, was the expected technique. However, from derotational subcapital osteotomy- we expected more.

R.M. was operated on 19.3.2007. at the Department of Shoulder Surgery, Clinic for Orthopedic Surgery and Traumatology, Clinical Center, Belgrade.

The joint was explored. There were no signs of clear changes that could explain the instability of the joint. Then, subcapital osteotomy of the humerus was performed. The humeral head was rotated way outwards by 30 degrees. The place of osteotomy was bridged with "T" plate and bolts. The shoulder of our patient was immobilized by triangle scarf after the surgery.

During the rehabilitation was applied the protocol from Johan Hopkins University in Baltimore. The specific rehabilitation protocol was initiated on the first postoperative day - with active exercises for the distal parts of the operated limb exercises and general fitness exercises. Passive shoulder exercises were carried out on the second postoperative day. Then, self-assisting exercises, isometric exercises, active exercises, then stretching exercises and strength exercises.

By initiating active movements (3.5 weeks post operation), the patient was discharged from the department to outpatient physical therapy at the Clinic for Physical Medicine and Rehabilitation CCS.

DISCUSSION

Since that this entity is rare, that causes of occurrence can be various; published papers describe various surgical procedures, but on the small series of patients.

Bone operating procedures have varying degrees of success and many failures.
The most common complications associated with surgery treatment are:
- renewed instability of the shoulder joint (15-20%)
- pain and limitation of movement due to excessive tightening of posterior musculo
capsular structures of the bone block
- errors during glenoid or humeral osteotomy
- pseudoarthrosis at the place of osteotomy
- injuries of n. axillaris
- injuries due to inadequate rehabilitation

Based on results published in the literature, we notice that also with successfully operated patients, in which stability of the shoulder joint is achieved, more than 50% of them have more or less restricted movements in the operated shoulder.

Recommendations from the literature are that immobilization lasts about 6 weeks.

It is achieved with thoracobrachial orthosis with a hand in neutral rotation and abduction between 45° and 60°, to achieve complete relaxation of the muscle structures. After 6 weeks begins the physical treatment.21,22,23,24

RESULTS

- 2.5 months post surgery - ROM (active movement) anteflexion 165°, abduction 140°, without pain and no tendency of posterior subluxation.
- 3.5 months post surgery, full active movements were achieved, except external rotation of -20°
- 5 months post surgery, the patient had full range of motion in all directions. The place of osteotomy healed after one month of operation, and removal of osteofixational material was performed after 10 months of operation. The last control was performed one year after surgery.

The patient has no symptoms, feels great, lives normal life and is engaged in sports.
CONCLUSION

The decision and the plan of the surgical treatment of posterior shoulder subluxation, should be based on anamnesis, and detailed examination of patients.

During examination, the possibility of elevation of the hand at full supination should be examined, because this test, if the elevation is feasible without subluxation of the joint, indicates derotational subcapital osteotomy of the humerus as an ideal way of solving the problem.

Timely commenced, continuously conducted rehabilitation of the shoulder after surgically repaired involuntary, idiopathic, recurrent posterior subluxation of the shoulder, leads to restitution of function.

SUMMARY

REHABILITACIJA BOLESNICE NAKON OPERATIVNO LEĆENJE IDIOPATSKÉ RECIDIVANTNE ZADNJE SUBLUKSACIJE RAMENA


Prikaz bolesnika - Bolesnica R.M. stara 24 godine, primljena na Kliniku za ortopedsku hirurgiju i traumatologiju KCS u Beogradu, radi operativnog zbrinjavanja. Predhodno je lečena konzervativno. ROM (antefleksija 70°; abdukcija 60°), uz stalno prisutan bol u ramenu. Re- habilitacija je započeta prvog postoperativnog dana. Re- zultat: - 2,5 meseca od operacije- ROM (aktivni pokret) antefleksija 165°; abdukcija 140°, bez bolova i bez tende-

FIGURE 6
X-RAY AFTER OPERATION-DEROTATION OSTEOTOMY

FIGURE 7
THREE STAGES OF OPERATION

ncije zadnje sublukacije - 3,5 meseca od operacije, pos- tignuti su puni aktivni pokreti osim spoljašnje rotacije od 40°. - 5 meseci od operacije bolesnica je imala pun obim pokreta u svim pravcima. Poslednja kontrola učinjena je godinu dana nakon operacije. Bolesnica nema nikakvih tegoba, živi normalno i bavi se sportom.

Ključne reči: rame, recidivantna zadnja sublukacija, operativno lečenje, rehabilitacija
REFERENCES