CLINICAL CASE

ARTHROSCOPIC TREATMENT OF SHOULDER ARTHRITIS

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Abstract

Shoulder arthritis is not an uncommon situation. Many elder patients suffer from this disease. Unlikely the hip arthritis, patients with shoulder arthritis remain undiagnosticated, or, in the best situation are treated conservatively which will produce progressive pain and stiffness. Sometimes nonsurgical methods are not enough to release the pain so an alternative treatment is necessary. One option is arthroscopy of shoulder. This is a miniinvasive intervention used to visualize, diagnose and treat problems inside the joint. The purpose is to clean the joint, to release the pain and to improve the motion. Contraindications include active, or recent infection, paralysis of the rotator cuff musculature, chronic osteomyelitis, debilitating medical status and not determinate patient.

Keywords*: shoulder, arthritis, arthroscopic treatment*

Introduction

The shoulder is made from three bones: colar bone (clavicle), upper extremity of humerus (humerus head) and scapula (shoulder blade). Humerus head fits in a round socket of the scapula named glenoid. The clavicle meets the tip of shoulder blade (acromion) forming acromio-clavicular joint. A complex system of ligaments and muscle (rotator cuff) contribute at stability and mobility of shoulder. Practically shoulder joint is composed from three joints: gleno-humeral joint (between glenoid and humeral head), acromio-clavicular joint and scapulo-thoracic joint. Gleno-humeral joint and acromio-clavicular joint can be affected by arthritis. The cartilage is damaged and consecutively appears pain and progressive stiffness.

The word arthroscopy comes from two Greek words, "arthro" (joint) and "skopein" (to look). The term literally means "to look within the joint." This procedure is a mininvasive one and is used in our case for mild arthritis, or for severe arthritis when patient refuses other more aggressive surgical procedure (as arthoplastiy). Also named "key-hole surgery" consists in introducing a small camera in the joint (arthroscope). The camera contains small lens and lighting system to magnify and illuminate the structures inside the joint. Light is transmitted through fiber optics to the end of the arthroscope which is attached to a miniature television camera. The image is taken and put on the TV screen allowing surgeon to visualize inside the joint all structures: cartilage, ligaments, tendons, capsula. Because the instruments used are thin, the incisions are very small, 0,5 cm and local morbidity very low.

Case presentation

Before arthroscopy the shoulder must be carefully evaluated. A thorough medical history, physical examination (Figure 1). Standard roentgenograms should be obtained (Figure 2). This consists usually from anteroposterior views in internal and external rotation, an axillary view and a supraspinoatus outlet view [1]. IRM, or echography evaluate the condition of rotator cuff and ligaments [2]. A CT is seldom necessary.

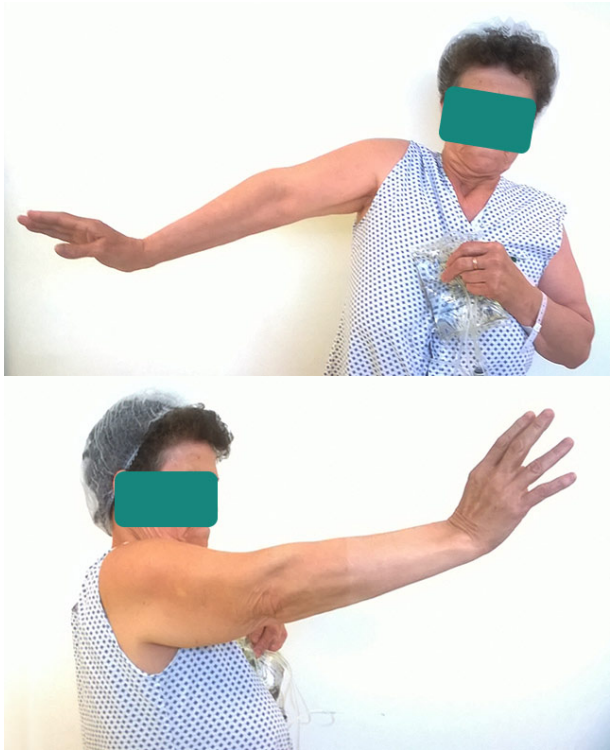

Figure 1 - Patient of 67 years old with severe shoulder arthritis who developed stiffness and pain

The goal in positioning a patient is to have access to the shoulder. For this, patient is placed in lateral decubitus, or as we are used, in beach-chair position [3-4] on the special operating table with cutway section about shoulder to allow more complete access posteriorly and a small moveable arm board on the operative side of the table (Figure3). The entire arm is prepped in a sterile fashion and draped. Operative field must include medial clavicle, base of the neck and under the axilla.

For arthroscopy of shoulder are necessary three main approaches: posterior, anterior and lateral (Figure 3). Sometimes are necessary accessory portals [5]. The incisions are small. After the skin is cut, the instruments are introduced inside. Arthroscopy allows to visualize and clean the joint. Because the space in the join is very narrow, a fluid is introduced inside the joint, this making image very clear.

Figure 2 - Anteroposterior view of shoulder joint (note signs of arthritis)

Figure 3 - Beach-chair position for shoulder arthroscopy. The bones and portals are marked before the beginning of surgery

Figure 4 - Procedure involved small instruments which is less aggressive for the soft tissues

Arthroscopically, the joint can be explored very thorough. Retracted capsula is distended by the fluid, and with help of cautery. Any lose bodies are removed from inside the joint (Figure 4). The cartilage is examined and if the long head of biceps is deteriorated is cut [6-7]. Also the quality of rotator cuff can be appreciated from inside. Joint exploration is completed with exam of subacromial space, eventually followed by a subacromial decompression and distal clavicle excision [8].

After surgery, the shoulder is immobilized in a sling for a few hours. As soon as possible passive and active range of motion are allowed. The patient is discharged from hospital during the same day, or next day after the surgery. The stitches are removed at 10-14 days postop (Figures 5-7).

Figure 5 - Shoulder range of motion 1 day after surgery

Figure 6 - Shoulder range of motion after 14 days

Figure 7 – Shoulder range of motion after 14 days

Discussions

Although uncommon, complications do occur occasionally during or following arthroscopy. Infection, phlebitis (blood clots of a vein), excessive swelling or bleeding, damage to blood vessels or nerves, and instrument breakage are the most common complications, but occur in far less than 1 percent of all arthroscopic procedures(9).

Conclusions

The arthroscopy is a mininvasive procedure with low local morbidity and low rate of complications. The rehabilitation process is very quick after the surgery(10-11). This is the best method for chose in mild arthritis, or for patients with severe arthritis who refuse, or for who another type of surgery are contraindicated.

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