

Osteoarthritis Of the Shoulder: A Case Report

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Abstract: It is a case report of 80 years old male patient diagnosed with chronic rotator cuff arthropathy of the right shoulder which means the cartilage present in the shoulder of the ball and socket gets broken down due to various causes, leading to pain, stiffness, and restricting the movement of the shoulder. Reverse shoulder arthroplasty was done on the patient which has a high success rate when the rotator cuff is intact with fewer complications that are corrected while surgery.

Key Words: —*Osteoarthritis of the shoulder, Reverse shoulder arthroplasty.*

I. INTRODUCTION

The degeneration of articular cartilage and other joint components, such as bone and the joint capsule of the shoulder, results in shoulder osteoarthritis, also known as the degenerative joint disease of the shoulder. As the articular surface ages, friction in the joint worsens, leading to a gradual loss of the typical load-bearing surfaces along with discomfort and impairment (1). It may be primary or secondary. When no risk factors for joint dysfunction are present, primary OA is diagnosed. Chronic dislocations, repeated instability, trauma, surgery, avascular necrosis, inflammatory arthropathy, and severe rotator cuff tears can all lead to secondary OA (2). Age, heredity, sex, weight, joint infection, a history of shoulder dislocation, and past injuries are just a few of the many risk factors for shoulder osteoarthritis. Additional risk factors include certain professions like heavy construction or overhead sports (1). Its prevalence rises with age, Women tend to be more prone to shoulder OA than men (3,6). It has been shown that OA of the shoulder occurs, however it is less common than OA of the hip or knee (4,6). The patient's medical history, physical examination, and radiographic imaging are used to make the diagnosis of shoulder OA. Patients with shoulder OA frequently express chronic discomfort that started slowly.

Common complaints include shoulder stiffness, pain in the morning and with weather changes, and pain with increased activity. Patients could express pain and stiffness that are made worse by a specific injury (5).

Since there are currently no known therapies that can change how early osteoarthritis develops naturally, managing pain and regaining function are the main goals of treatment. Activity modification, rest, and ice are the first steps in the first osteoarthritis therapy plan. Exercises including aerobics, strength training, and physical therapy aid with symptoms (7). The nonselective and selective cyclooxygenase-2 (COX-2) inhibitors, often known as nonsteroidal anti-inflammatory medications, have been the basis of pharmacotherapy for degenerative joint disease (NSAIDs). By using non-operative treatment, arthroplasty can be delayed for 3 or 4 years: PRP, arthroscopy, or visco supplementation (8).

Surgery for the shoulder is frequently performed and has a success rate of more than 90%. Complications are uncommon and infrequent. However, if you have severe OA, your surgical options will depend on how well your rotator cuff is doing. Total shoulder replacement is most likely the best choice if your rotator cuff is still functioning. If your rotator cuff is seriously damaged, the ball won't stay in the socket. This makes it challenging to raise your arms above your shoulder blades. Although a complete shoulder replacement is not a possibility, there are still three surgical possibilities. They are Reverse shoulder, Hemiarthroplasty, and Resection arthroplasty.

II. CASE REPORT

An 80 years old male patient was presented in the Out-patient

Manuscript revised August 08, 2022; accepted August 09, 2022. Date of publication August 10, 2022.

This paper available online at www.ijprse.com

ISSN (Online): 2582-7898; SJIF: 5.59

department (OPD) of Orthopaedics on 02/05/2022 with chief complaints of pain in the right shoulder for 10 years, an increase in severity since 3 months, aggravating in the night associated with difficulty in daily activities. He is a chronic alcoholic for 50 years. On examination the patient was conscious and coherent, afebrile, BP- 130/80mm Hg, PR- 90 beats/Min, H/L- S1, S2 +, BAE+

Ortho examination: B/L- Clavicle, the scapula was normal, CCT, PCT was normal, no spinal tenderness was found.

L/E of right shoulder: swelling -, tenderness+, deformity-, ROM- painful and restricted Upon assessment, he was diagnosed with right shoulder osteoarthritis and was admitted to the Inpatient Unit of orthopedics. The patient was managed with Tab. PCM 500mg, Tab. Rantac 150mg, Tab. Calcium for the first 8 days. Then physician suggested Reverse shoulder arthroplasty.

Table.1. Post-surgery day-wise progress chart and medication prescribed.

S.No	Vitals	Treatment	Direction
Pod-0 (Postoperative day-0)	Pt- c/c on NIV BP- 100/50 mmHg with noradrenaline 8ml/hr PR-64/m Cvs-s1,s2 + I/O- 1200/700 ml	1. continue NIV 2. Propped up position 3. continue nor adrenaline infusion 4. start dobutamine infusion and taper accordingly I/O monitoring	250mg in 50ml ns@2ml/hr
Pod-1	Pt-c/c NIV BP- 111/60 mmHg with noradrenaline 8ml/hr and dobutamine drip 2ml/hr PR-100/m	1. Continue o2 inhalation 4-6 L/m 2.continue noradrenaline infusion@ 6ml/hr	

	CVS- s1, s2 + I/O- 2200/2000 ml SPO2-96% on 4L O2	3. continue dobutamine @2ml/hr 4. ondansetron 5. spirometry I/O monitoring 6. Inj. piptaz 7. Inj. Metrogyl 8. Inj. amikacin 9. Inj. pan 10. Inj. PCM 11. Inj. tramadol 12.T. Chymoral forte 13. T. ca/MVT	4mg/IV/sos 4.5g/IV/TID 100ml/IV/TID 500mg/IV/BD 40mg/IV/OD 1g/IV/BD 1amp/sos TID OD
Pod-2	Pt-c/c BP- 120/64mmHg With noradrenaline @ 3ml/hr and dobutamine @1ml/hr PR- 88/m CVS- s1,s2 + Spo2- 96% with 4L O2 Hb- 6.6g/dl	Inj. piptaz Inj. Metrogyl Inj. amikacin Inj. pan Inj. PCM T. Chymoral forte T. ca/MVT	4.5g/IV/TID 100ml/IV/TID 500mg/IV/BD 40mg/IV/OD 1g/IV/BD TID OD

	I/O- 3700/1900 ml Blood transfusion- 2pc pint and 2pc pint ffp and blood		
Day-4	PT-c/c Afebrile BP- 130/70mmHg with <u>noradrenaline @0.5ml</u> and dobutamine @0.5ml PR-84/m Spo2- 100% with CPAP Hb- 8.7g/dl	Inj. piptaz Inj. Metrogyl Inj. pan Inj. PCM T. Chymoral forte T. ca/MVT	4.5g/IV/TID 100ml/IV/TID 40mg/IV/OD 1g/IV/BD TID OD
Day- 5, 6, 7	Pt- c/c BP- 110/70 mmHg PR- 90/m CVS- s1,s2 +	Inj. piptaz Inj. pan Inj. PCM T. Chymoral forte T. ca/MVT	4.5g/IV/TID 40mg/IV/OD 1g/IV/BD TID OD
Day- 8, 9 ,10	Pt-c/c BP-120/70 mmHg PR-88/m CVS-s1, s2 +	T. Augmentin T. pan T.PCM T. Chymoral forte T. ca/MVT	625g/PO/TID 40mg/PO/OD 500mg/PO/BD TID OD

T. Pan 40mg/PO/OD
T. PCM 500mg/PO/BD
T. Chymoral forte TID
T. Ca/MVT OD

III. DISCUSSION

In this case, the patient has undergone surgery on reverse shoulder arthroplasty. The etiology of the disease plays a major role in determining the indications for glenohumeral arthroplasties in glenohumeral arthropathies (9). In this case, the patient was suffering from chronic rotator cuff arthropathy of the right shoulder the surgeon suggested reverse shoulder arthroplasty. One of the most important technological developments in shoulder reconstructive surgery during the past 30 years is reverse shoulder arthroplasty (13). This surgery was created primarily to treat complicated fractures or glenohumeral (GH) joint arthritis when they are accompanied by irreversible rotator cuff (RC) injury (10). Reverse shoulder arthroplasty is being recommended more often to treat stiffness, pain and improve function (11). Identical to a standard shoulder replacement, a reverse shoulder replacement switches the positions of the ball and socket in the joint. A reverse shoulder replacement uses the deltoid muscle, which is found at the top of the shoulder, to make up for a weak rotator cuff. There are other arthroplasties such as Total shoulder replacement, Hemiarthroplasty, and Resection arthroplasty. Hemiarthroplasty and total shoulder arthroplasty both have promising short- and long-term outcomes (12). Reverse shoulder arthroplasty gives more success rate than others it indicates when the rotator cuff is intact, osteonecrosis, even in the failure of total shoulder replacement. Modern reverse total shoulder arthroplasty has several important features, including the following:(14)

- a large glenosphere component with no neck, which enables medialization of the center of rotation and reduces torque on the glenoid component;
- a humeral implant with a nonanatomic valgus angle, which moves the center of joint rotation distally, maximizing the length and tension of the deltoid to increase its ability to abduct the humerus while also increasing.
- a greater range of shoulder motion.

Reverse shoulder arthroplasty has good success rates in adults which are positive and helpful. The most frequent RSA

The patient was discharged on the 10th day of post-surgery with medications prescribed and discharge instructions:

T. Augmentin 625mg/PO/TID

complications are instability, infection, notching, loosening, nerve damage, fractures of the acromial and scapular spine, intra-operative fractures, and component disengagement. There should be fewer complications in the future if implant design and surgical technique are carefully considered, including implantation of components in the right version and height, selection of the best glenosphere-humeral bearing match, avoidance of impingement, and adequate management of the soft tissues (15).

IV. CONCLUSION

The latest research suggests that shoulder osteoarthritis patients with an undamaged rotator cuff can benefit greatly from reverse arthroplasty with fewer complications that are corrected while surgery.

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