



Surgery

RESULTS OF NEGLECTED POSTERIOR DISLOCATION OF ELBOW TREATED BY OPEN REDUCTION, REGARDLESS OF TIME SINCE INJURY.

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ABSTRACT Neglected old posterior dislocations of elbow are mostly found in developing countries in significant numbers. There is marked scarcity in literature on this condition as far as developed countries are concerned. It poses a great challenge to the orthopaedic surgeons in developing countries as getting a good range of motion and good functional joint is difficult in such cases. We are reporting one of the largest series of 23 cases on posterior old neglected dislocation of elbow in this article. We opened the joint through posterior (Krishnamurthy) approach with a lazy 'S' incision. We also used V-Y plasty in some cases. We also used the K wires to fix the reduced joint^{1,2}.

KEYWORDS : Neglected posterior elbow dislocation, Open reduction, stiffness, V-Y plasty.

1. INTRODUCTION

Neglected old posterior dislocations of elbow are a rarity in developed countries, but are quite common in developing countries. Because of a lot of patients not reaching to orthopaedic surgeons in time, it poses a huge challenge to the orthopaedic surgeons. Neglected dislocation are those which are not treated or reduced within 3 weeks of injury. These patients usually present with very little or no range of movement at the elbow not able to perform daily routine activities. Thus, making it essential, to do some treatment to make the limb more useful. Time since injury and age determine the mode of treatment. Most authors recommend open reduction for late presenting cases upto 3 months after injury. Functional outcome is inversely proportional to the time since injury. No concrete treatment exists for the cases presenting after 3 months of injury, but total elbow replacement, arthrodesis, and excision arthroplasty are advised for such cases. We, in our series, present 23 cases of neglected posterior dislocation of elbow, treated by open reduction¹, regardless of time since injury^{2,4}.

2. MATERIAL AND METHODS

Between the period of 1999 to 2001, 14 males and 9 females, a total of 23 patients, which is one of the largest series reported yet were treated at A M U for neglected posterior dislocation elbow. The time since injury ranged from one to more than twelve months. Almost all patients had taken some or the other form of traditional non medical treatment. They mainly presented with pain and stiffness of elbow joint. Olecranon was prominent and three point relationship of elbow joint was disturbed. All patients were treated with open reduction and K wire fixation¹. In some cases V-Y plasty was also done.

Surgical Operative technique

The patient was positioned laterally on the operation table with arm support at elbow. The procedure was carried out either in general anaesthesia or regional block under tourniquet. Krishnamurthy's approach⁹ was used in all the cases. Posterior lazy- S incision was taken, skin flaps were elevated, ulnar nerve was isolated and protected. Y plasty was carried out for tight triceps in some cases. Fibrous tissue was carefully excised which was filling the olecranon fossa, coronoid fossa and radial head, and collateral ligaments were cut, myositis ossificans was excised when obstructing reduction. Reduction was achieved and fixed with k wires. Wound was closed in layers after thorough washing was done and after applying drain. Dressing was done under strict aseptic precautions and Posterior above-elbow slab was applied.

Drain was removed after 48 hours, i.v. antibiotics were given for three days. Later, the patient was shifted to oral antibiotics for 5 days. Stitches were removed on 12th postoperative day. K wires were removed after 3 weeks. Supination and pronation were started at 3 wks. Flexion and extension were started after 4 weeks. Elbow pouch was continued in between exercises. Muscle strengthening exercises were begun after 6 wks. Results were evaluated on the basis of Robert's criteria¹¹ (1969) considering range of flexion, extension and pain & instability.

3. RESULTS

Most of the cases were below 30 years of age. The majority of patients

were males 61% (14 out of 23). All 23 patients were treated with traditional methods before coming to our hospital. The mean operating time was 80 minutes (range 80 to 140 minutes). The mean follow up period was 12 months. Based on the Robert's criteria 17 had satisfactory result (11 good and 6 fair), while 6 had poor results. The complications were postoperative stiffness (7 patients), infection (2 patients), pain on efforts was minimal, neurological deficit (3 patients).

4. DISCUSSION

Neglected posterior dislocations of elbow are rare in the West but are still quite common in developing countries. Many patients still prefer to go to traditional methods of treatment given by quacks. They do all sorts of massage and forceful manipulations and so on, which increase the risk complications. Most authors agree that closed reduction should be the main stay of the treatment of posterior dislocation of elbow upto three weeks. After three weeks, closed reduction can be more hazardous than beneficial. Most authors advise open reduction from 3 weeks to three months. Thereafter, total elbow replacement, excision arthroplasty, and arthrodesis is recommended. Arthrodesis is recommended for heavy workers while arthroplasty for good range of movement. Open reduction is not recommended after 3 months, but in our study we did open reduction even after that period and were still able to achieve good results⁷. We found that V-Y plasty of triceps tendon was of help in achieving reduction.

Some authors recommend open reduction and hinged external fixation¹⁰ to help in early movements in rehabilitation period with good stability. But we, in our study, with open reduction and k wire fixation with supervised postoperative rehabilitation protocols, have achieved good results. We recommend suture removal at 12 days, removed k wire at 2-3 weeks and started supination - pronation. We allowed flexion - extension at 4 weeks, in between elbow was kept in pouch arm sling. Muscle strengthening exercises were started at 6 weeks.

5. CONCLUSION

The results of open reduction and fixation of neglected posterior dislocation of elbow are both assuring and satisfying irrespective of duration of dislocation⁸, age of patient⁸, or preoperative range of movements, provided a supervised physiotherapy protocol is followed. In our study we were able to achieve good results. So it is really worthwhile to give a thought to open reduction and fixation as a treatment option for neglected posterior dislocation of elbow¹, contrary to popular belief⁶. Only limited literature is available on this topic and much research is required for large common consensus.

Table 1 - Duration And Side Of Injury

Months	No. Of Cases	Right Side	Left Side
1-4 mths	14	11	3
4-9 mths	6	3	3
9-12 mths	2	1	1
> 12 mths	1		1

Table 2 - Roberts (1969) Criteria for result evaluation¹¹

Good	Flexion range 90 deg. or more
	loss of extension 30 deg. Or less
	No Pain or Instability

Fair	Flexion range 60 deg.or more
	loss of extension 30 to 60
	No Pain or Instability
Poor	Flexion range < 60 deg.
	Pain and instability

Table 3 - Results

Duration in Months	No. Of Cases	Results		
		Good	Fair	Poor
1 to4	14	7	4	3
4 to 9	6	3	1	2
9 to 12	2	1		1
>12	1		1	



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