

Case Report**A FOREARM SKIN TEAR DURING REDUCTION OF ANTERIOR SHOULDER DISLOCATION IN AN ELDERLY PATIENT****Cengiz Isik¹, Yasin Emre Kaya¹, Husamettin Cakici¹, Fuat Akpınar¹, Hakan Sarman¹**¹Abant İzzet Baysal University, Faculty of Medicine, Department of Orthopedics and Traumatology, Golkoy, 14280, Bolu, Turkey**Abstract**

Anterior shoulder dislocation is the most common type of joint dislocation. Lots of complications like fracture of greater tubercle and glenoid anterior rim or neurovascular injuries may occur at the time of dislocation or reduction of dislocated joint. We aimed to present a case; 76 year old female with anterior dislocation and fracture ; while we were trying close reduction by traction counter-traction method , we experienced a complication which was a non-circulated degloving like skin tear at dorsal middle part of forearm which was not presented in literature before. Since the thin skin has less collagen and elastin in elderly patients, skin tears with traction might occur easily. The fragility of the skin in the elderly patients has to be taken into consideration with other complications presented in the literature.

Keywords: Elderly patient, shoulder dislocation, skin tear**Corresponding Author:** Hakan Sarman, MD. Abant İzzet Baysal University Medical School. Department of Orthopedics and Traumatology, Bolu / Turkey. E mail: hakansarman@yahoo.com**Introduction**

Nearly 50% of patients presenting to the emergency services with large joint dislocation have shoulder dislocation and 98% of shoulder dislocations which occur commonly after trauma are anterior shoulder dislocations (1). Fracture of greater tubercle and glenoid anterior rim are some of the most frequent injuries seen in case of dislocation and reduction of dislocated shoulder joint (2,3). We presented a case; 76 year old female with anterior dislocation and fracture; while we were trying close reduction by traction counter-traction method under general anesthesia, we experienced a complication which was a non-circulated degloving like skin tear at dorsal middle part of forearm and which was not presented in literature before.

Case Report

76 year old female patient admitted to orthopedics clinic with a history of trauma. She had the trauma two weeks ago and she has pain and deformity on her shoulder in her

examination. She did not have any systemic disease. She has not had a history of drug use and routine blood screen were in normal limits. Her right shoulder was fixed at abduction, external rotation and extension position, and its motions were painful on her shoulder examination. Neurovascular examination was normal. There was no other pathology on physical examination. She had no dislocation or fracture history about her shoulder. We had plain x-ray and computed tomography of her shoulder and we saw anterior dislocation of glenohumeral joint with fracture of greater tubercle and glenoid anterior rim and hill sachs lesion. While we were trying to close reduction by traction counter-traction method under general anesthesia, an 11 cm long skin tear was developed as a degloving injury at dorsal middle part of forearm which was not presented in literature before (Figure 1). Because her skin is thin and fragile, after reduction trial, we checked the radial artery pulse to be sure there is no circulation problem. The skin tear was repaired primarily. It healed without any complication.

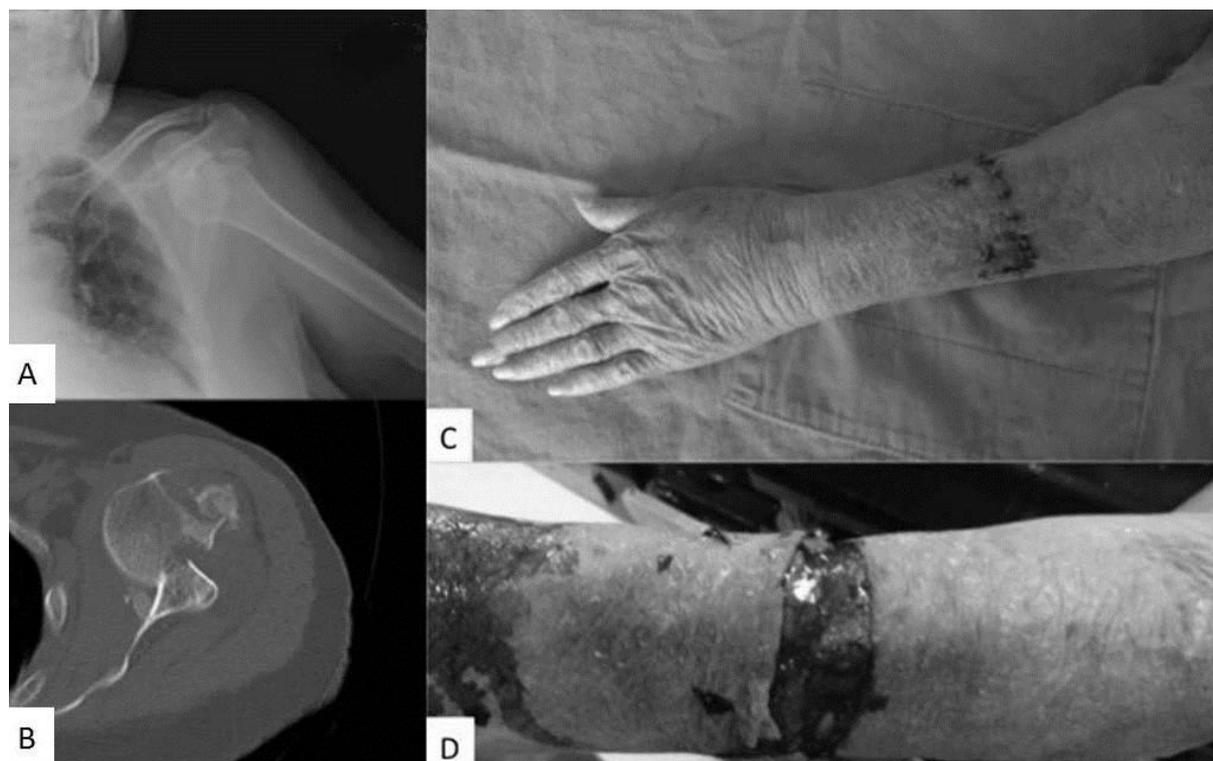


Figure 1: A,B: Shoulder dislocation view of patient. X-ray and CT. C: One week after the repair of the skin tear. D: Patient's forearm skin tear after the reduction of the fracture and dislocation.

Discussion

With aging, decrease of dermal and epidermal thickness and decrease of elastin fibril amount in the skin are predisposing factors for skin tears (4). Skin tears can be seen on extremities of old people with frictional traumas or shear forces (5). Friction or shear force can affect the areas while we are trying traction counter-traction method which is a kind of shoulder reduction maneuver. Complications like as hill sachs lesion, glenoid anterior rim fracture, proximal humerus fracture, Rotator cuff tear, neurovascular injuries can be seen with anterior glenohumeral dislocation or with reduction of them and they were presented in literature (2,3). Onyeka reduced an anterior dislocated shoulder of a 91 year old patient with Kocher's method. At control x-ray, reduction was good but in a few minutes they realized a swelling and pain on patient's shoulder. After examination they realized an injury of anterior circumflex artery which is a branch of axillary artery. They emergently made an exploration with a vascular surgeon and provide hemostasis by ligating the artery. In the current case, firstly

vascular injury came to our mind (6). We checked radial artery pulse and it was normal. There was no swelling or other sign on shoulder to lead us thinking vascular injury. Payne and Martin defined a Payne-Martin skin tears classification system in 1993. They categorized skin tears into 3 groups according to epidermal loss. Category 1 defines only skin tears without tissue loss and it has two subgroups; flap and linear tears. These tears heal spontaneously. Category 2 has two subgroups; middle and limited. If the loss is under 25% of epidermal flap it is called limited, if it is over 25 % it is called middle. Totally epidermal flap loss is seen in category 3 skin tears (7). Our patient's skin tear was in category 1 linear skin tear. Because there was no tissue loss and it was closed primarily. We haven't any statement or warning about a risk of skin tearing in our standard patient consent forms for close shoulder reduction procedures. But the patient had not applied for a formal complaint for her complication. We recommend having a special

statement regarding to potential risk for skin tearing in the patient consent forms for similar procedures.

Conclusion

We present a case of skin tear as a complication that happen during reduction of anterior shoulder dislocation. However it is an uncommon complication. It should be kept in mind while trying close reduction on elderly patients because of the fragile structure of skin and surgeon should wait enough for full relaxation of the shoulder muscles in order to avoid excessive force application.

Conflicts of interest

No benefits in any form have been received or will be received from a commercial party related directly or indirectly to the subject of this article.

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