Introduction

Shoulder dislocation describes where the head of the humerus is displaced from the glenoid fossa, usually anteriorly (85-98%). The cause for this dislocation is usually traumatic (96%) but is also associated with ligament laxity in 46% (1). There is a high risk of recurrence in those who sustain a shoulder dislocation – 57% overall will go on to have at least one further dislocation (2). It is an emergency and requires rapid reduction, as the likelihood of a successful, stable reduction decrease with time (3).

As a result the College of Emergency Medicine (CEM) has set standards for management of shoulder dislocation in the Emergency Department (4). These give primary emphasis to rapid diagnosis and reduction, but also on pain management and thorough documentation (Table 1).

Methods

All referrals to fracture clinic over a nine month period were reviewed and all patients who were referred for shoulder dislocation were identified as cases. Emergency department records were retrieved for all identified cases. Patients who presented post shoulder dislocation where the shoulder was now in joint were excluded. Data was collected from emergency department notes and from the hospital computerized patient information system as to the time of X-ray, time of relocation, sedation used and documentation of post-reduction follow up. As the cases were identified via their referral for follow up, documentation of follow up arrangements could not be audited.

Results

Over the 279 days examined 50 cases of acute shoulder dislocation were identified. This gives an occurrence rate of 1 every 5.58 days. The age distribution showed highest numbers of dislocations in the 20-29 year age group (20 cases) with a secondary peak in the 60-69 year old age group (Figure 1).

Of these 50 cases in 28 cases it was the first instance of dislocation of that shoulder (56%) and in 22 cases there had been one or more previous dislocations (44%). On presentation to the emergency department 36 cases (72%) had an X-ray to confirm diagnosis prior to reduction and 14 cases (28%) did not have an X-ray prior to reduction of the shoulder. Of those with recurrent dislocations 50% did not get a pre-reduction X-ray to confirm diagnosis, 36% got a pre-reduction X-ray within 60 minutes of arrival, and 14% got a pre-reduction X-ray after 60 minutes. Of first time dislocations 11% received no pre-reduction X-ray, 54% had an X-ray within 60 minutes. Of all 50 cases 36 (72%) had an X-ray prior to reduction of the dislocation, and 23 had the X-ray within 60 minutes of arriving to the department (64% of those who had an x-ray pre-reduction).

Of all 50 cases 100% had a successful reduction in the Emergency department. 34 cases (68%) had a first attempt at reduction within 2 hours of arrival and 40 (8%) had a first attempt at reduction within 3 hours, with 20% being reduced after 3 hours. Of those with recurrent dislocations 77% were reduced within 2 hours and 86% within 3 hours. In first dislocations 61% were reduced within 2 hours and 75% within 3 hours (Figure 3).

Documentation of sedation was complete in 40 cases (80%), with the sedative agent, dose, and time given fully documented. In 7 cases (14%) the dose was not recorded and in 3 cases (6%) neither the dose nor the agent were recorded (Table 2). 7 different sedative agents were used across the 50 cases, with the most frequently used being propofol in 40% and fentanyl in 30%

Discussion

These findings demonstrate that although non-operative intervention for acute shoulder dislocation is highly successful, the CEM targets for management of shoulder dislocations have not been reached in this emergency department. The delay in reduction of dislocation is likely due to a delay in diagnosis as is seen in the reduced time to relocation of those with prior dislocations in whom the diagnosis is more apparent - 50% could be diagnosed without requiring an X-ray. Methods of decreasing time until reduction such as education of staff in a rapid assessment of shoulder injuries and documentation of these, and a lower threshold for diagnostic imaging could be of benefit in improving compliance with these standards.

A limitation of this audit is that follow up could not be assessed as the patients were selected from all those referred for orthopaedic follow up, so those not referred would not be detected. Effectiveness of analgesia was also not assessed.

References


