

An audit on the management of patients with acute shoulder dislocation

Oliver Chan

Darent Valley Hospital, Dartford,
Kent, UK

Abstract: Acute shoulder dislocation is a common presenting complaint to the emergency department. Acute shoulder dislocation is a surgical emergency and demands urgent relocation. The aims of the audit were to assess the current performance in the management of patients with acute shoulder dislocation in relation to standards set by the College of Emergency Medicine (CEM). These standards relate to prompt administration of analgesia, diagnosis, and attempt at shoulder reduction. A retrospective audit was carried out at a district general hospital and identified 76 patients presenting with acute shoulder dislocation over a 6-month period. The results showed that patient care could be improved in relation to administration of analgesia and through earlier attempt at shoulder reduction. By suspecting a dislocated shoulder, the triage nurse has the potential to expedite the appropriate investigations and initiate the appropriate management. Through departmental training and the introduction of a management protocol, the treatment of such patients can be optimized.

Keywords: shoulder, dislocation, audit

Introduction

Acute shoulder dislocation is a common presenting complaint to the Emergency Department, accounting for 17 per 100,000 population cases per year in the United Kingdom.¹ Acute shoulder dislocation is a surgical emergency and demands urgent relocation.²

The patient with an acute shoulder dislocation is usually distressed, in severe pain, and unable to move the affected shoulder. Acute shoulder dislocation is usually amenable to closed reduction in the department. The aim of treatment is to reduce the shoulder joint as soon as possible. Not only is this the best method of reducing the patient's pain but failure to reduce a dislocated shoulder properly within 24 hours carries the risk that it will be impossible to achieve a stable reduction without operative intervention.³

Early and appropriate administration of analgesia, prompt diagnosis, and an early attempt at shoulder reduction are paramount in providing the best care to these patients. As such the College of Emergency Medicine (CEM) has published recommendations⁴ in relation to these areas that Emergency departments in the UK should be meeting (Figure 1).

The aim of this audit was therefore to measure current performance in relation to these CEM standards at a district general hospital and to identify any areas for improvement.

Correspondence: Oliver Chan
Darent Valley Hospital, Darent Wood
Road, Dartford, Kent DA2 8DA, UK
Email oliver.chan@doctors.org.uk

Acute shoulder dislocation standards

1. Patients in severe pain (pain score 7 to 10) should receive appropriate analgesia, according to local guidelines,
 - 50% within 20 mins of arrival or triage whichever is the earliest
 - 75% within 30 mins of arrival or triage whichever is the earliest
 - 98% within 60 mins of arrival or triage whichever is the earliest
2. Patients with moderate pain (pain score 4 to 6) should be offered or receive analgesia, according to local guidelines,
 - 75% within 30 mins of arrival or triage whichever is the earliest
 - 90% within 60 mins of arrival or triage whichever is the earliest
3. 75% of patients should have an X-ray within 60 minutes of arrival or triage whichever is the earliest.
4. In 75% of cases 1st attempt at reduction should be within 2 hours and 90% within 3 hours of arrival.

Figure 1 CEM standards for acute shoulder dislocation.

Methods

The audit was carried out at the author's institution, which is a busy district general hospital. Patients presenting to accident and emergency between January and June 2009 were identified retrospectively via booking software in the department. This was done by searching for "shoulder dislocation" as a diagnosis. The respective notes were examined by a single observer and the time the patient booked into the department was noted. PACS (picture archiving and communication system) was used to identify the time at which the diagnostic x-ray occurred and the documentation in the notes was used to obtain patient's pain score, the wait for analgesia, and attempt at reduction. It was assumed that the patient was not offered analgesia by the emergency department if there was no documentation relating to analgesia and if there was no documentation of when shoulder reduction was first attempted, this was assumed to be the time at which a check x-ray was undertaken.

Results

Eighty patients were identified presenting with acute shoulder dislocation between January and June 2009. Four patients were excluded from the audit; three patients were chronic shoulder dislocations, which were not amenable to shoulder reduction, one due to spontaneous reduction prior to being assessed by an accident and emergency doctor.

The results show that the department was performing well in terms of time before a diagnosis with 84% of patients

receiving a diagnostic x-ray within 60 minutes of presentation (Figure 2).

However only 5 case notes (7%) had a pain score documented and the results obtained were below the recommended standards with 19%, 38%, and 74% of patients were offered or received analgesia within 20, 30, and 60 minutes of presentation respectively (Figure 3).

Meanwhile the first attempt at shoulder reduction occurred within 3 hours of presentation in all 76 patients (Figure 4).

Discussion

The results of this audit show that the department is meeting less than half the standards set by the College of Emergency Medicine. The department is underperforming with regards to analgesia delivery for patients with acute shoulder dislocation. In general pain scores are not being documented and the notes assessed during this audit suggest that some patients did not receive any analgesia until an attempt at relocation was undertaken. It should however be noted that it is unclear whether any patients declined analgesia as no documentation was found regarding this issue. At the time of writing, the College Of Emergency Medicine has released new recommendations in that documentation should be clear should patients refuse analgesia.

The department appears to be performing well in terms of obtaining a diagnostic x-ray for patients suspected of having acute shoulder dislocation, with 84% of patients receiving an x-ray within 60 minutes of presentation. This however

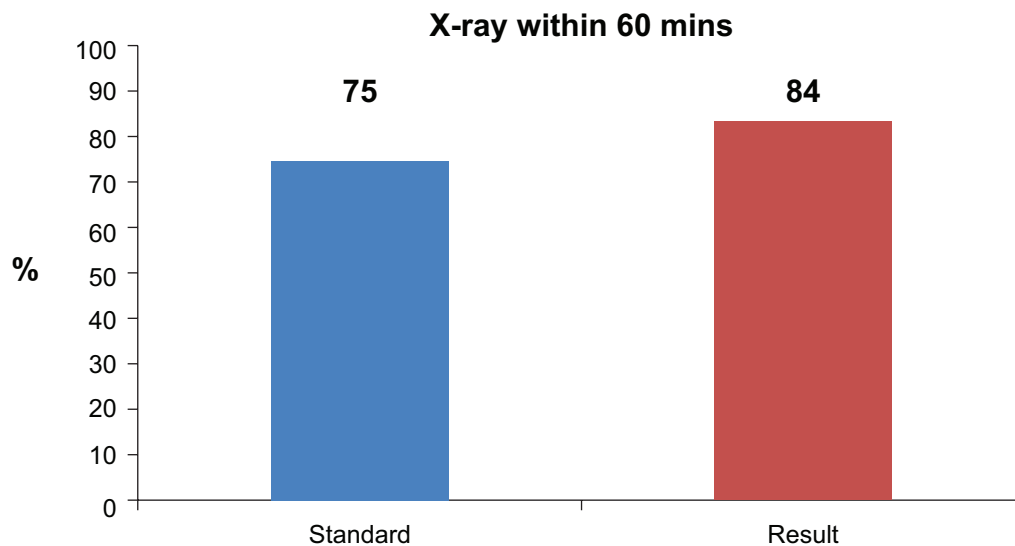


Figure 2 Percentage of patients receiving a diagnostic x-ray within 60 minutes, compared to the standard.

does not appear to correlate completely with an early attempt at shoulder reduction by an emergency department doctor. A possible explanation for this is that a patient with an acute shoulder dislocation may not be being flagged up by the triaging team despite a swift request for a diagnostic x-ray.

In order to improve the treatment of patients presenting with an acute shoulder dislocation, emergency department staff received consultant-led training on how to recognize and manage an acute shoulder dislocation. A management protocol (Figure 5) was also designed and introduced into

the department. The aim of the protocol was to expedite the diagnosis and pain relief for such patients as well as promoting better communication between the triaging staff and emergency department doctors so that this cohort of patients receives an attempt at shoulder reduction as soon as possible.

Re-audit

The department was re-audited for compliance with the CEM guidelines two months after the introduction of the management protocol. Data were collected retrospectively by a single

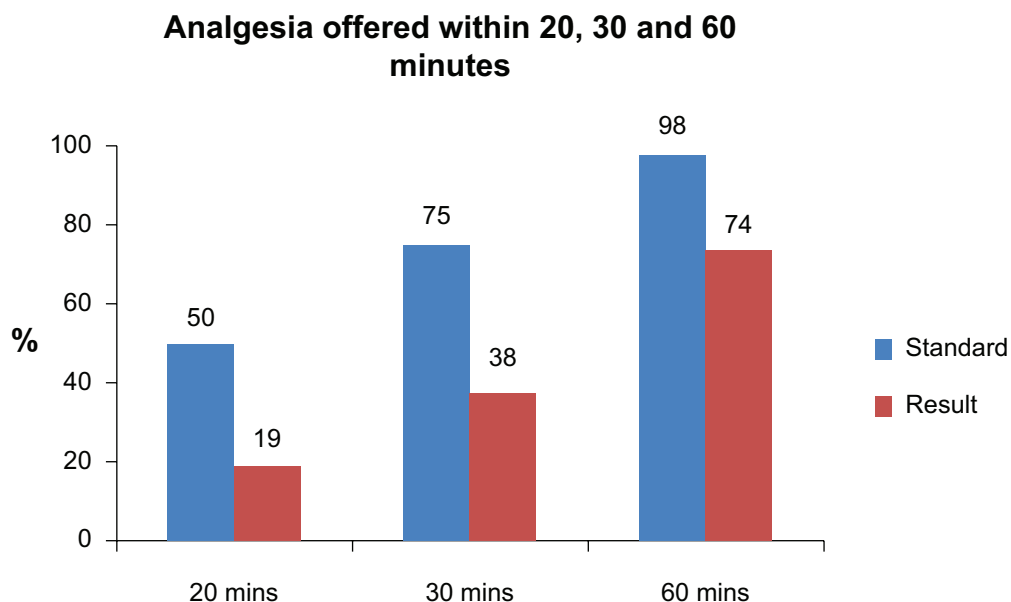


Figure 3 Percentage of patients receiving analgesia within 20, 30, and 60 minutes compared to the standards.

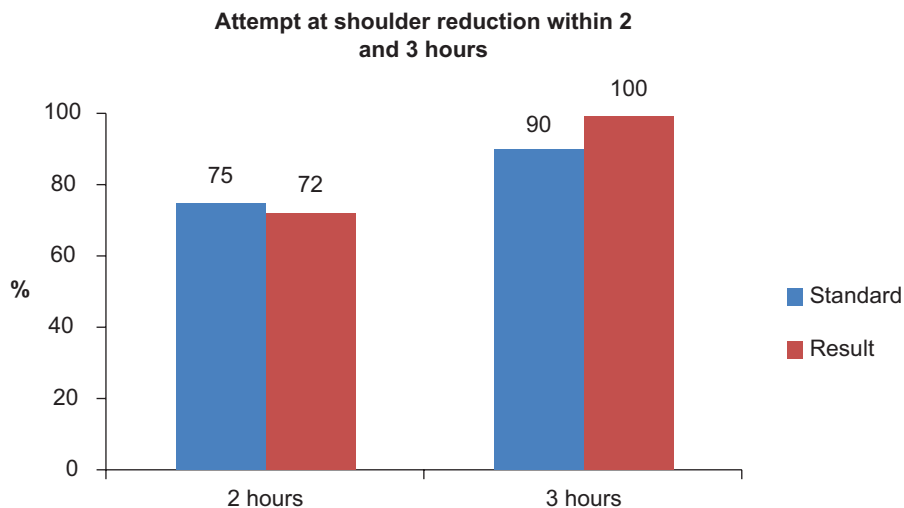


Figure 4 Percentage of patients receiving an attempt at shoulder reduction within 2 hours and 3 hours.

observer over a 6-month period. 62 patients were identified presenting with an acute shoulder dislocation. The results of the re-audit are comparable with regards to a diagnostic x-ray and an attempt at shoulder reduction, with 54 (87%) patients receiving a diagnostic x-ray within 60 minutes, and

50 (81%) and 61 (98%) patients receiving an attempt at shoulder reduction within 2 and 3 hours respectively. Such results meet the CEM standards.

The results of the re-audit also show an improvement with regards to patients receiving analgesia (Figure 6).

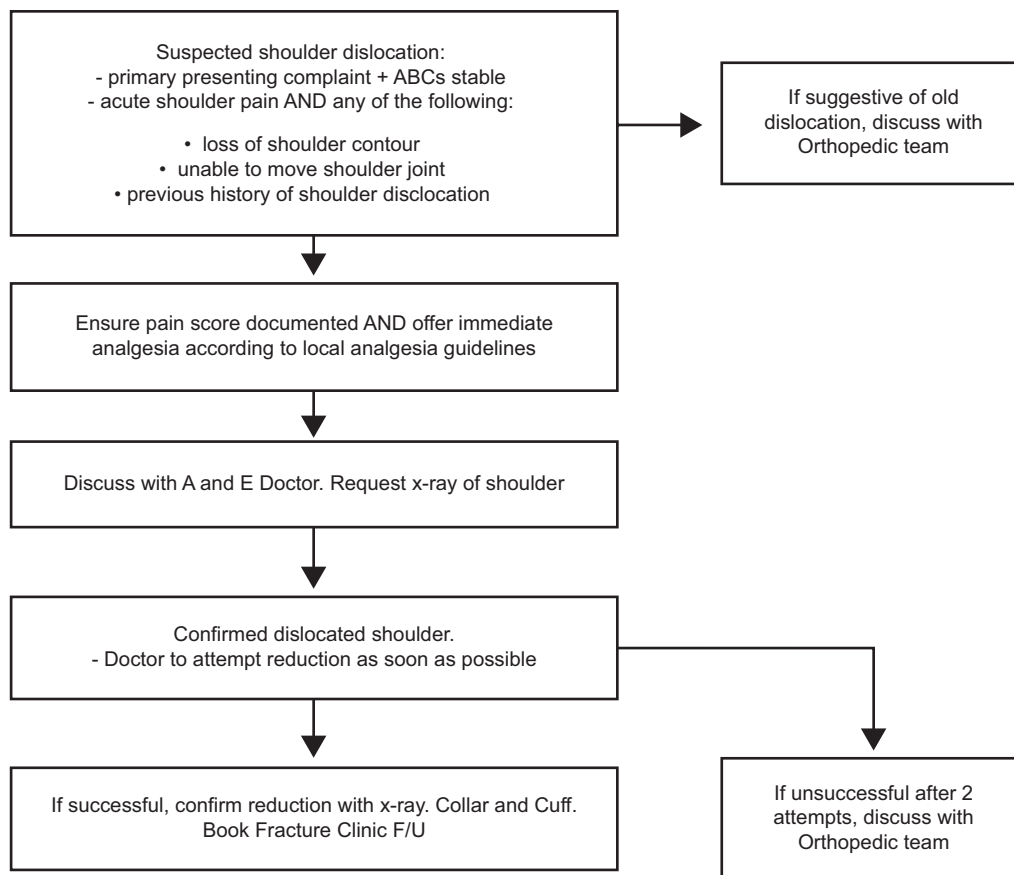


Figure 5 Management protocol for patients with acute shoulder dislocation.

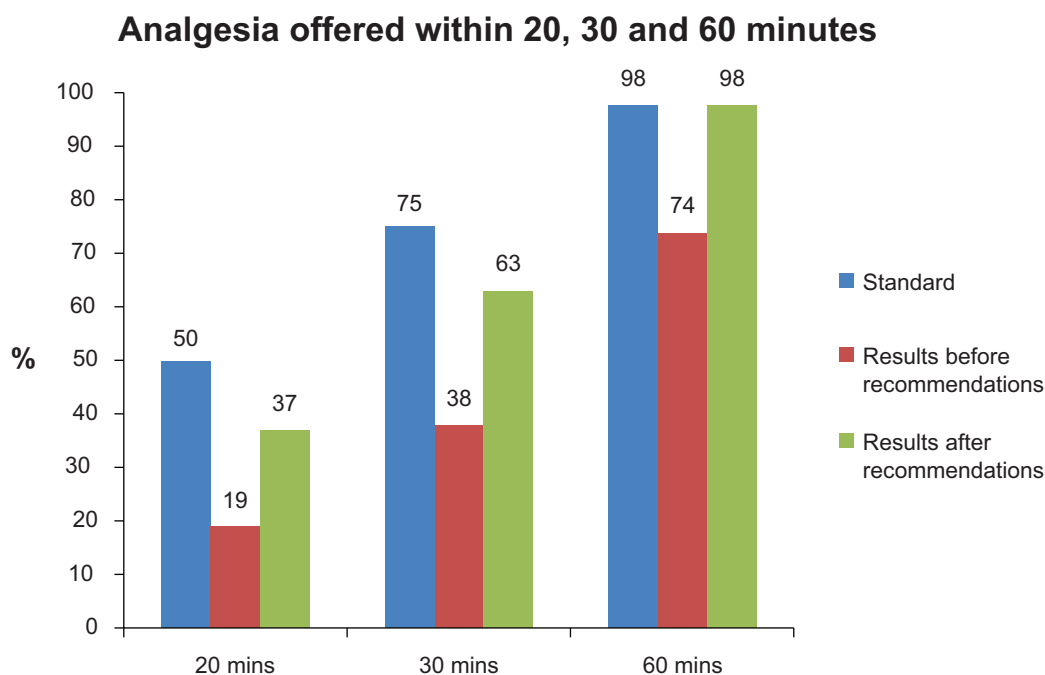


Figure 6 Percentage of patients receiving analgesia within 20, 30, and 60 minutes compared to the standards before and after the introduction of the management protocol.

Fifty-six percent of case notes identified had a pain score documented. This was up from just 7% in the initial audit. Figure 6 shows that the percentage of patients with an acute shoulder dislocation receiving analgesia within 20, 30, and 60 minutes has improved substantially, however the department is still failing to meet the standards set for analgesia within 20 and 30 minutes despite the management protocol circulating in the department. A possible reason for this is the high turnover of accident and emergency staff. It is unknown whether new staff have received training with regards to the management of acute shoulder dislocation and whether they are aware of the management protocol. It is therefore important that new staff are informed about the protocol and receive appropriate training during job induction.

Conclusion

The treatment of the patient with an acute shoulder dislocation can be optimized by establishing a diagnosis early on,

prompt delivery of analgesia, and effective communication and teamwork between different members of the emergency department staff. As shown from this audit, the use of a management protocol can be used to facilitate these areas and ultimately improve the management of patients such as those presenting with acute shoulder dislocation.

Disclosure

No conflicts of interest to report.

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