BSH 2020 VIRTUAL
9 -14 NOVEMBER
British Society for Haematology
Listening • Learning • Leading
60 1960–2020

Optimising diagnosis and management of acute chest syndrome in sickle cell disease through a full cycle audit of adherence to the BSH guidelines

T. WESTERMAN[1], N. HYARE[2], J DAVIES[3], D WARCEL[1], E DRASAR[3]
1. University College London Hospital 2. North Middlesex Hospital 3. Whittington Health, London, UK

NHS Whittington Health NHS Trust

INTRODUCTION

Acute chest syndrome is a sickle cell disease (SCD) complication with a high mortality and morbidity, especially if there is a delay in diagnosis or management. It accounts for 25% of premature deaths in SCD patients.

The aim of this project was to assess adherence to the 2015 British Society of Haematology guidelines for treating acute chest syndrome in a London teaching hospital trust.

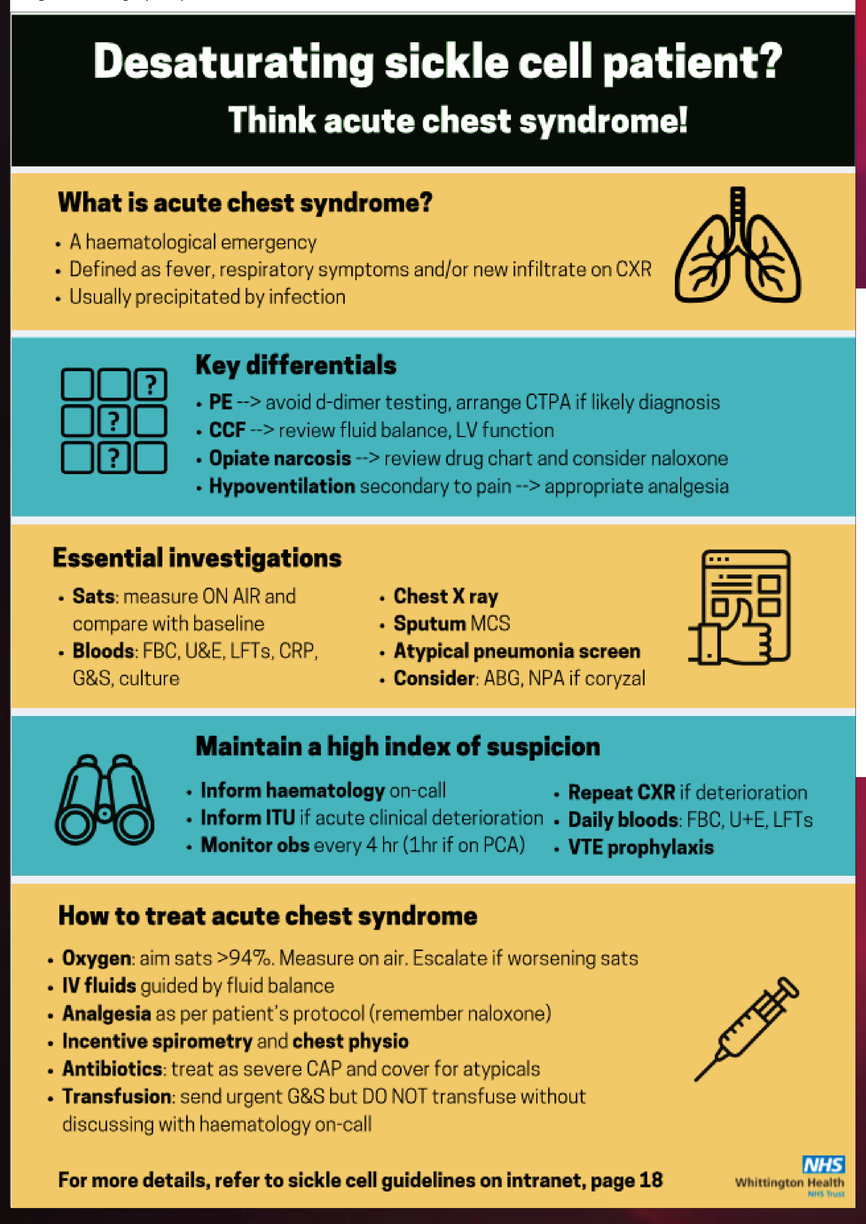
METHOD

Each audit cycle included a patient notes review for the last 20 consecutive SCD admissions and the last 10 consecutive ACS cases. For each patient, adherence with BSH guidelines in terms of diagnosis, investigation and treatment was assessed.

Between the first and second audit cycle we initiated several educational initiatives with the aim of improving adherence:

1. Teaching for junior doctors
2. Posters in clinical areas (Fig.1)
3. Warning box on patient protocols with hyperlink to local ACS guidelines (Fig. 2)
4. Updated local ACS guidelines with a simplified management flowchart

Figure 1. Infographic poster for clinical areas



RESULTS

On re-audit, we found a significant improvement in adherence to the BSH 2015 diagnostic criteria (Fig. 3).

In terms of investigations, we maintained 100% compliance with basic investigations for ACS and showed improvements in both ABGs and blood cultures (Fig. 4).

For treatment, there were significant improvements in adherence with correct antibiotics, blood transfusions where indicated and HDU/ITU review for deteriorating patients (Fig. 5). As hydroxycarbamide use is usually discussed in outpatient clinics it may not have been fully captured in this audit.

Figure 3. Adherence with BSH diagnostic criteria for ACS

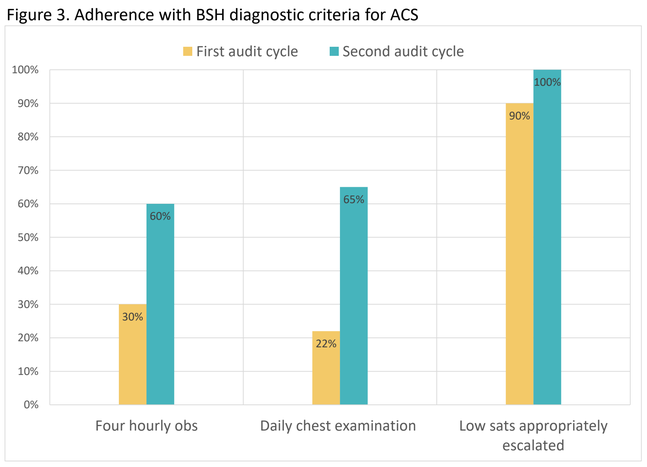


Figure 4. Adherence with BSH investigation criteria for ACS

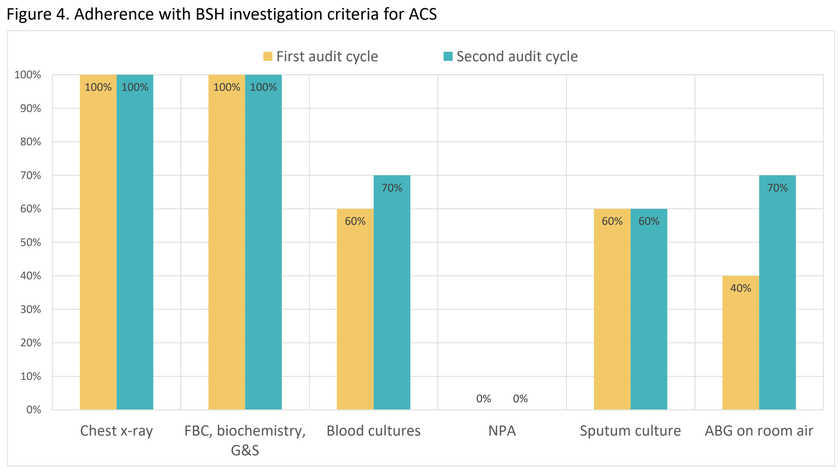


Figure 5. Adherence with BSH treatment criteria for ACS

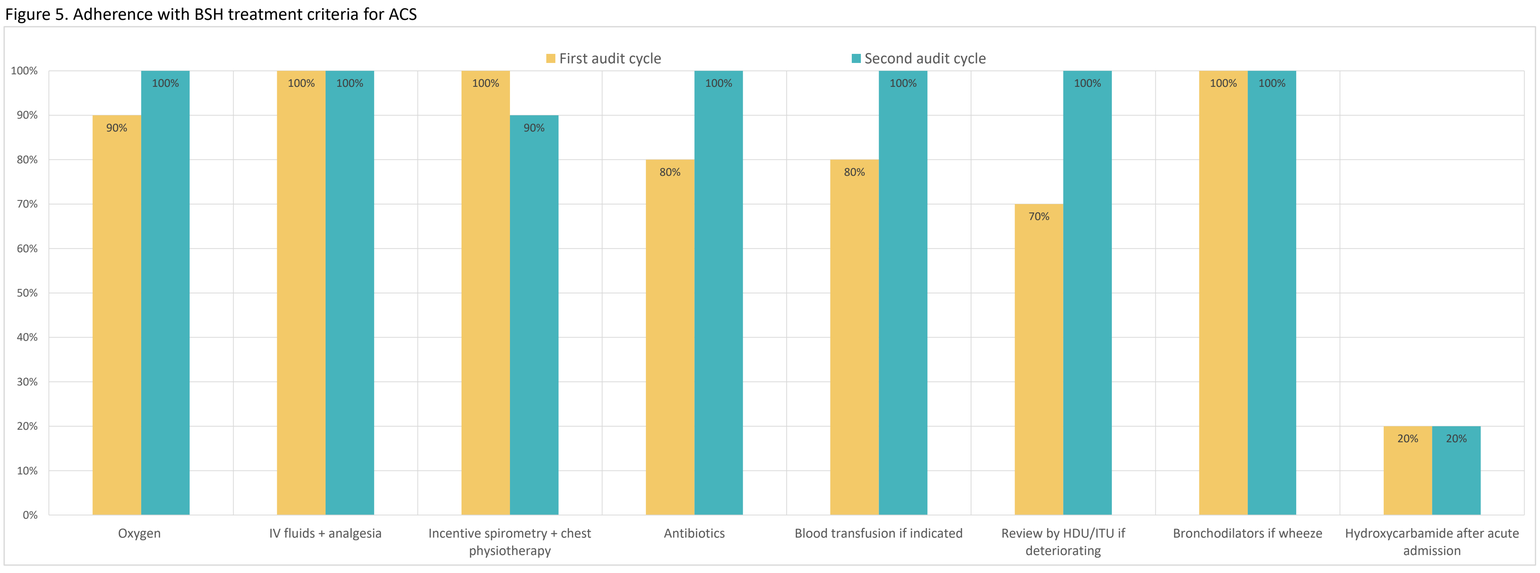
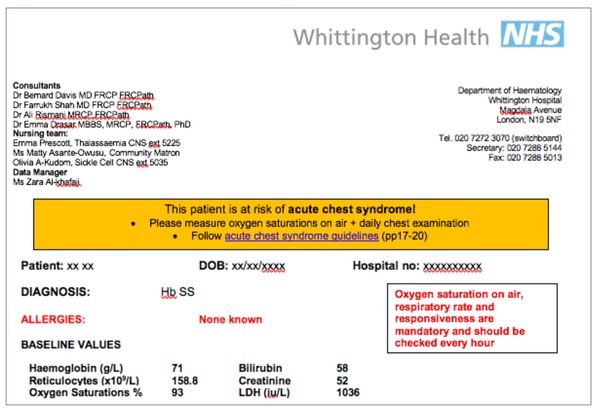


Figure 2. Patient protocol with warning box


Whittington Health NHS

Consultants
Dr Bernard Davis MD FRCP FRCPath
Dr Farrukh Shah MD FRCP FRCPath
Dr Ali Risman MRCP FRCPath
Dr Emma Drasar MBBS, MRCP, FRCPath, PhD
Nursing team:
Emma Prescott, Thalassaemia CNS ext 5225
Ms Matty Asante-Owusu, Community Matron
Olivia A-Kudom, Sickle Cell CNS ext 5035
Data Manager
Ms Zara Al-shafaj

Department of Haematology
Whittington Hospital
Magdala Avenue
London, N19 5NF

Tel. 020 7272 3070 (switchboard)
Secretary: 020 7288 5144
Fax: 020 7288 5013

This patient is at risk of **acute chest syndrome!**
- Please measure oxygen saturations on air + daily chest examination
- Follow acute chest syndrome guidelines (pp17-20)

Patient: xx xx **DOB:** xx/xx/xxxx **Hospital no:** xxxxxxxxxx

DIAGNOSIS: Hb SS

ALLERGIES: None known

Oxygen saturation on air, respiratory rate and responsiveness are mandatory and should be checked every hour

BASELINE VALUES

Haemoglobin (g/L)	71	Bilirubin	58
Reticulocytes (x10⁹/L)	158.8	Creatinine	52
Oxygen Saturations %	93	LDH (iu/L)	1036

REFERENCE

Howard J, Hart N, Roberts-Harewood M, et al. Guideline of the management of acute chest syndrome in sickle cell disease. British Journal of Haematology 2015;169:492-505.

CONTACT INFORMATION

Tanith.Westerman@nhs.net

CONCLUSIONS

An increase in adherence with BSH guidelines for managing ACS was achieved through interventions to raise staff awareness about the need to monitor for ACS and how it should be treated, as well as streamlining local ACS protocols and guidelines.

This is supported by the results of a pre- and post-teaching survey of junior doctors in which 100% reported improved confidence in both recognising and treating ACS. After the teaching, 100% of doctors were able to demonstrate awareness of national guidelines (from 30% before teaching) and 100% knew how to access these guidelines (from 15% before teaching).

We plan to build on these improvements by holding regular teaching sessions on ACS management for junior doctors and the ED team. We are also considering how to involve patients by raising their awareness of their ACS risk and how to communicate this to clinicians on admission.

BSH2020
PO-019-B
Education
Jennifer Davies
Poster presented at: British Society for Haematology Listening • Learning • Leading
PosterSessionOnline.com