""Meeting the Standard"
Management of *Staphylococcus aureus* blood stream infection in Naas General Hospital.

Dr. Irina Popovici, Medical SHO, Dr. Sarah Bergin, Consultant Microbiologist

BACKGROUND

- *Staphylococcus aureus* bacteraemia (SAB) is associated with significant morbidity with mortality rates ranging from 10-30%.
- Cases of SAB managed in Naas General Hospital (NGH) are increasing.
- Effective management of SAB requires a multifaceted approach using evidence-based interventions.
- The Scottish Antimicrobial Prescribing Group (SAPG) developed quality of care indicators to measure the quality of care of various aspects of SAB management in hospitals

AIM

- To review the management of cases of SAB in NGH in 2024 to identify if the care provided met known quality of care indicators.
- To identify if any aspect of that care requires improvement.
- To identify the source of community (CO) and healthcare associated (HA) SAB in adults.

METHODOLOGY

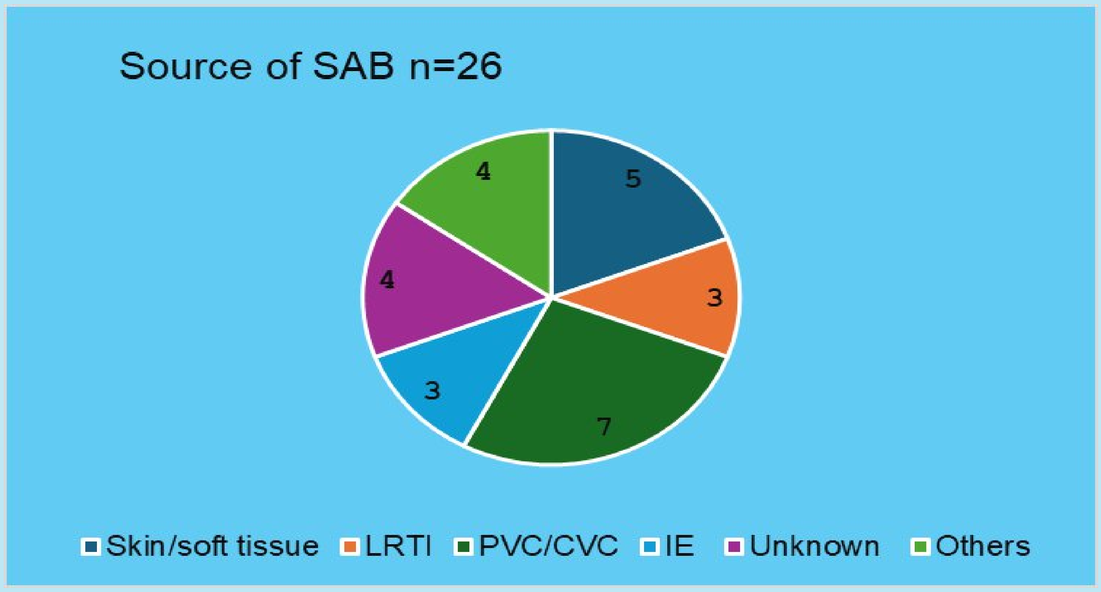
- Cases of SAB from 2024 were identified using the NGH Laboratory Information System.
- A retrospective chart review was undertaken.
- Data relating to clinical assessment, source control, use of echocardiography, repeat blood cultures, specialist consultations and antimicrobial therapy were collected.
- An EXCEL database was used for data collection and analysis

RESULTS

- 29 patients were identified from LIS
- 3 - excluded, 1 x transferred to another hospital 2 x contaminants
- 26 patients included in the audit.

Background characteristics	Mean or N	%
Female Male	14 12	53.7 % 46.3 %
Average age	69 yrs	Range 25-95 years
Onset of infection: Community onset (CO) Hospital onset (HA)	 20 6	 77% 23 %
MSSA MRSA	19 7	73.1 % 26.9 %
CO SA BSI MSSA MRSA	 14 6	 70 % 30 %
HA SA BSI MSSA MRSA	 5 1	 83.3 % 16.7 %

RESULTS



- Of the community acquired/onset cases, skin and soft tissue infection (5/20 = 25%) LRTI (3/20 = 15%) and infective endocarditis (3/20= 15%) were the commonest causes of SABSI

SAPG Standard		Numbers	Compliance	Comments
1	Clinical Assessment	26	100%	
2	Source Control	6 PVC removed 1 PICC removed CT/Ortho/Surg	100%	Specialist team input obtained and advice documented
3	ECHO	26	100%	9 had TTE and TOE 5 TOE
4	Repeat blood culture (48hrs)	24/26	92%	2 patient repeat BC at 5/7
5	Infection Specialist Consult	26	100%	100% documentation of plan in chart
6	IV Antibiotic Choice	MSSA- Fluclox(15) Cefazolin (3) vanc (1) MRSA -vanc (7)	100%	Appropriate IV abx
7	Duration of Antibiotics	12/26 (46%) uncomp – 14/7 14/26- (54%) comp – 4-6/52	96%	1/26 non compliant with duration of tx
8	IV to Oral switch	11/26 complicated	100%	Doxy/cotrim/linezolid
9	OPAT	1/26	all assessed for suitability	**Patients were dc either on PO options/were not suitable for dc during IV antibiotics due to other reasons
10	Medical D/C summary	17/21	81%	

Discussion

23/26 (88.5%) patients clinical management as per best practice guidelines. 2 patients had repeat blood cultures at 5 days potentially missing cases of prolonged bacteraemia and extending duration of treatment. The majority (77%) of SAB were MSSA and were community onset. Of note 86% of MRSA BSI were admitted from the community.

Recommendations

- Share audit results with Senior management to highlight the resource implications of increasing numbers of SAB due to complex care needs, repeated investigations, MDT input and to highlight the high standard of care being provided to this patient cohort.
- Share audit results with clinical staff for educational purposes and improve documentation of SAB on discharge letters for GPs.
- Repeat audit each year to ensure standards are maintained

We would like to acknowledge IPC administration, nurses and surveillance scientist in NGH for their assistance completing this audit.

References

- https://www.sapg.scot/guidance-qi-tools/infection-specific-guidance/staphylococcus-aureus-bacteraemia-sab/
- *Staphylococcus aureus* bacteraemia mortality: a systematic review and meta- analysis Clin Microbiol Infect. 2022 Aug;28(8):1076-1084