NHS
Greater Glasgow and Clyde

CLINICAL GUIDELINE

Staphylococcus aureus bacteraemia (SAB) Management in Adults

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

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Important Note:

The Intranet version of this document is the only version that is maintained.
Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

Guidance on the management of *Staphylococcus aureus* bacteraemia (SAB) in adults

Clinical management

Clinical assessment

- **Assess for severity and sepsis** if national early warning score (NEWS) is 5 or more seek immediate assessment by senior clinician
- **Consider source:** skin or soft tissue, surgical site, vascular device, indwelling device or prosthesis, bone or joint, spine, endocarditis, pacemaker or endovascular infection or injection drug use related infected DVT most common
- **Collect relevant microbiology samples**, eg 2 additional blood cultures (BCs) sets if endocarditis suspected, urine, pus, sputum, prosthetic material as indicated
- **Document SAB source and clinical management plan** in patient records

Source control

- **All potentially infected devices should be removed**
- **Involve surgical specialist** to drain collections or abscesses, wash out or debride joint, remove or debride prosthesis or cardiovascular implantable device as soon as possible

Perform transthoracic echocardiogram (TTE) in all patients with SAB

- **Refer to cardiology if TTE suggestive of endocarditis**
- **Refer for transoesophageal echocardiogram (TOE)** if TTE negative or equivocal and ongoing suspicion of endocarditis, eg 2 or more positive BC, prosthetic valve or pacemaker

Repeat blood cultures

- **Repeat blood cultures 48 hours** after starting IV antibiotics and at **48 hour intervals** until negative cultures.
- **Urgently reassess** if persistently positive or ongoing fever

Discuss all patients with SAB with infection specialist

For support with

- **Investigations,** eg targeted imaging (magnetic resonance imaging or computerised tomography (MRI/CT), PET scan, TOE or source control
- **Therapy,** eg duration for intravenous (IV) and total antibiotic therapy, and suitability for outpatient parenteral antimicrobial therapy (OPAT)
- **Monitoring,** eg clinical response or antibiotic-related adverse events

Antibiotic therapy and monitoring

IV antibiotics for minimum of 14 days from bacteraemia clearance

- IV flucloxacillin **is more effective than vancomycin in methicillin-sensitive staphylococcus aureus (MSSA)**
- Methicillin-resistant staphylococcus aureus **(MRSA) accounts for less than 4% of SAB infections in Scotland**
- If previous documented MRSA colonisation or infection, commence IV vancomycin and *consider* adding IV flucloxacillin pending sensitivity results
- Carefully assess any reported penicillin allergy to optimise therapy

Flucloxacillin sensitive (MSSA)

IV flucloxacillin dosing

- 2g 6 hourly - consider dose reduction only if creatinine clearance less than 10 mls/min
- Endocarditis – discuss with infection specialist (see SAB quality of care indicators)

MRSA *or* MSSA and true penicillin allergy

IV vancomycin dosing

Dose as per local vancomycin policy

NB. Vancomycin alternative may be recommended by infection specialists based on laboratory or clinical factors

Outpatient parenteral antimicrobial therapy (OPAT) referral

- OPAT appropriateness and suitability requires evaluation by an OPAT infection specialist and specialist nurse before discharge
- *Consider* OPAT referral to complete treatment of SAB if: clinically improving, repeat BCs at 48 hours are negative and no other indication for hospital admission. *S. aureus* endocarditis requires minimum of 14 days of inpatient stay
- Patients at risk of not completing inpatient treatment, including people who inject drugs (PWID), may be considered by local OPAT teams, but also need assessment by the addictions team prior to discharge
- Antibiotic choice for OPAT will be locally determined

IV to oral switch therapy (IVOST) considerations

- Consider after 2 weeks of IV therapy if deep seated or complex (non-endocarditis) infection and demonstrated clinical improvement
- Oral therapy, treatment duration, monitoring and follow up should be agreed with and supervised by an infection specialist

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