GUIDANCE on INTRAVENOUS GENTAMICIN REVIEW FOLLOWING 72 HOURS of TREATMENT

TARGET AUDIENCE	NHS Lanarkshire secondary care
PATIENT GROUP	Adult Inpatients prescribed intravenous gentamicin >72 hours

Clinical Guidelines Summary

- This guidance is designed to assist in the review of intravenous (IV) gentamicin after 72 hours of therapy.
- **Do not use this guidance if synergistic gentamicin is prescribed for suspected or proven infective endocarditis (refer to the synergistic gentamicin policy under NHS Lanarkshire Antimicrobial Guidelines).**

Contents

Clinical Guidelines Summary 1

Background information 2

When to contact microbiology for further advice 2

Blood cultures 2

Guidance on IV Gentamicin review following 72 hours of treatment 3

References/Evidence 4

Appendices 5

Governance information for Guidance document 5

Guidance on IV Gentamicin review following 72 hours of treatment

Background information

IV gentamicin prescriptions should be reviewed daily and certainly 72 hours after the start of treatment. Most courses of gentamicin should be prescribed to a maximum of 4 days. It may be appropriate for IV gentamicin to continue under the advice of an infection specialist. For further information please see the full Gentamicin guidance.

Refer to the Guidance on IV Gentamicin review following 72 hours of treatment flow chart below to assist in the review of IV gentamicin.

When to contact microbiology for further advice

If your question is not answered by senior discussion within the clinical team, by reference to microbiology culture reports, or by this guidance, an email may be sent to the duty microbiologist for further advice.

You must include information on: working diagnosis, planned surgical management (if appropriate), current and recent previous antibiotics and their durations, any antibiotic allergies and their reactions, why the oral route is not available or suitable, and exact clinical question that needs answered by the clinical microbiologist.

Email: lanarkshire.microbiologists@lanarkshire.scot.nhs.uk

Blood cultures

Appropriate microbiological sampling prior to antibiotics is essential. Obtain blood cultures (8–10 ml per bottle) & other appropriate samples e.g. pus, fluid, urine. If the source of infection is not immediately accessible, a blood culture is a useful surrogate sample. Patients who require IV therapy should have blood cultures taken (both pyrexial and apyrexial patients). A new deterioration or infection requires a new set of blood cultures.

Guidance on IV Gentamicin review following 72 hours of treatment

Patient has features of sepsis

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Urgent review by a senior member of the clinical team

Patient is stable or improving

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Review current culture & sensitivity results for reported gentamicin alternatives

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Review suitability for IVOST
See IVOST guidance for further info

Criteria for oral step down:

- ✓ Clinical improvement in signs of infection e.g. sepsis criteria resolving + improvement in inflammatory markers
- ✓ Oral route available (not nil by mouth and no concerns regarding absorption)
- ✓ Infection does not require prolonged IV therapy

IVOST criteria not met

Positive cultures guide choice of alternative IV antibiotic

No positive cultures to guide choice of Gentamicin alternative or cultures still in progress

IVOST criteria met

Switch to oral antibiotics

Step down to oral antibiotic as per culture & sensitivity report
OR use IVOST guidance for empirical choice if there is no recent or current positive microbiology.

Empirical Gentamicin alternative options to consider:

LRTI

HAP:
Stop Gentamicin. Continue other antibiotics as per HAP - Acute Empirical Guidance

Aspiration pneumonia:
Stop Gentamicin. Continue other antibiotics as per Aspiration Pneumonia – Acute Empirical Guidance

Upper UTI/ pyelonephritis

Switch to oral Co-trimoxazole 960mg 12 hourly.

High bioavailability – only use IV if oral contraindicated or concerns regarding GI absorption.

SSTI

Necrotising Fasciitis or severe or rapidly progressive infection in person who injects drugs:

Do not stop gentamicin without review of culture results

Bone and joint infections

Continuing Gram negative cover is not always required. Rationalise according to culture results. If cultures are still in progress, and ongoing Gram negative cover thought clinically indicated, contact duty microbiologist to discuss case.

Prosthetic Joint Infections (PJIs):

As above for Bone and Joint infections. Consultant responsible for the care of the patient should discuss at the Bone & Implant Infection MDT.

Diabetic/General Foot Infections:

Refer to Antimicrobial Guidance for Diabetic/General Foot Infections

Intra-abdominal infections or unknown source of infection

Check previous microbiology results within last 6 months

Option 1:

If no Trimethoprim or Co-trimoxazole resistant Gram negative organism reported within the last 6 months:

Oral Co-trimoxazole 960mg 12 hourly
and Oral Metronidazole 400mg 8 hourly

High bioavailability – only use IV if oral contraindicated or concerns regarding GI absorption.

Option 2: Not suitable for patients with true penicillin allergy

If option 1 not appropriate (contraindication / resistance) AND no Temocillin "R" Gram negative organism reported within past 6 months:

Replace Gentamicin with Temocillin 2g every 8 hours
and continue Amoxicillin and Metronidazole.

Ensure appropriate dosing of Temocillin – dose above is as per "I = Susceptible, increased exposure" for normal renal function. See Adult Guidance on Interpreting Antimicrobial Susceptibility Reports for further information.

If neither Option 1 or 2 suitable then:
Contact duty microbiologist for further advice.

References/Evidence

Intravenous Gentamicin Use in Adults (5mg/kg) – SAPG guideline. Available at: https://www.rightdecisions.scot.nhs.uk/nhsl-antimicrobial-guidelines/national-antimicrobial-guidelines/intravenous-gentamicin-use-in-adults-sapg-guidance/

NHS Lanarkshire Empirical First Line Antibiotic Therapy for Adult Patients. Available at: https://www.rightdecisions.scot.nhs.uk/nhsl-antimicrobial-guidelines/adult-hospital-guidance/?organization=nhs-lanarkshire

NHS Lanarkshire Antibiotic IV to Oral Stepdown (IVOST) Guidance. Available at: https://www.rightdecisions.scot.nhs.uk/nhsl-antimicrobial-guidelines/adult-hospital-guidance/?organization=nhs-lanarkshire

NHS Lanarkshire Adult Guidance on Interpreting Antimicrobial Susceptibility Reporting. Available at: https://www.rightdecisions.scot.nhs.uk/nhsl-antimicrobial-guidelines/adult-hospital-guidance/?organization=nhs-lanarkshire

Appendices

Governance information for Guidance document

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