

Pyelonephritis in medical Same Day Emergency Care – Full Clinical Guideline

Reference no.: CG-ACC/2021/002

1. Introduction

Acute pyelonephritis is an infection of one or both kidneys usually caused by bacteria travelling up from the bladder – the most common causative pathogen is Escherichia coli, which is responsible for 60-80% of uncomplicated infections.

Like any other infection, acute pyelonephritis can result in complications if left untreated. Those include sepsis, renal scarring, abscess formation, preterm labour in pregnancy...

Acute pyelonephritis is a clinical diagnosis and should be based on detailed medical history and clinical examination.

Adjunct investigations to aid diagnosis can be done, and include urinary sampling for culture and sensitivities, and biochemical profile.

A final diagnosis of acute pyelonephritis should be made in people with loin pain and/or fever if a UTI is confirmed by culturing a urinary pathogen from the urine, and other causes of loin pain and/or fever have been excluded.

People with severe symptoms, or signs or symptoms which suggest a more serious illness or condition should be admitted to hospital.

A pilot of outpatient management has briefly been trialled in the Ambulatory Care Centre at the Royal Derby Hospital of the suggested guidelines, which showed promising results.

2. Definitions, Keywords

- ACC : Ambulatory Care Centre
- ED : Emergency department
- MAU : Medical Assessment Unit
- APN : Acute pyelonephritis
- UTI : Urinary tract infection
- US KUB : Ultrasound of the kidneys, ureters and bladder
- STAT : Short term Antibiotic Therapy
- OPAT : Outpatient Parenteral Antibiotic Therapy
- PO : per os
- IV : intravenous
- IM : intramuscular

3. Aim and Purpose

This is a guideline for assessing and treating patients presenting with pyelonephritis in the ambulatory care setting.

The goal of this guideline is to reduce the number of haemodynamically stable female patients admitted with uncomplicated pyelonephritis via the medical assessment unit.

The aims are as follows :

- Promote management with outpatient Short Term Antibiotic Therapy via ACC and reduce the admission load.
- Assess patients in ACC fitting the criteria and aim for discharge on oral antibiotics within 24-72 hours, carrying out appropriate and necessary investigations to guide the treatment and assess suitability towards discharge.
- Avoid unnecessary ultrasound imaging, as per the latest evidence only 10% of ultrasound scans show positive findings, hence not being an effective marker to entirely diagnose or rule out acute pyelonephritis.

4. Guidelines

It is important to reiterate that these guidelines are meant for haemodynamically stable patients streamed to ACC based on the above mentioned criteria.

For complicated UTI, inpatient management or male pyelonephritis, separate guidelines are available on the intranet.

The emphasis on ACC is treatment via STAT.

Below are the 2 flowcharts devised based on recommendations and findings from our project.

The first one is for patients with no penicillin allergy or [non-severe penicillin allergy \(non-immediate reaction without systemic involvement\)](#) (figure 1).

The second one is for patients with [confirmed severe penicillin allergy \(immediate reaction or non immediate reaction with systemic involvement\)](#) (figure 2).

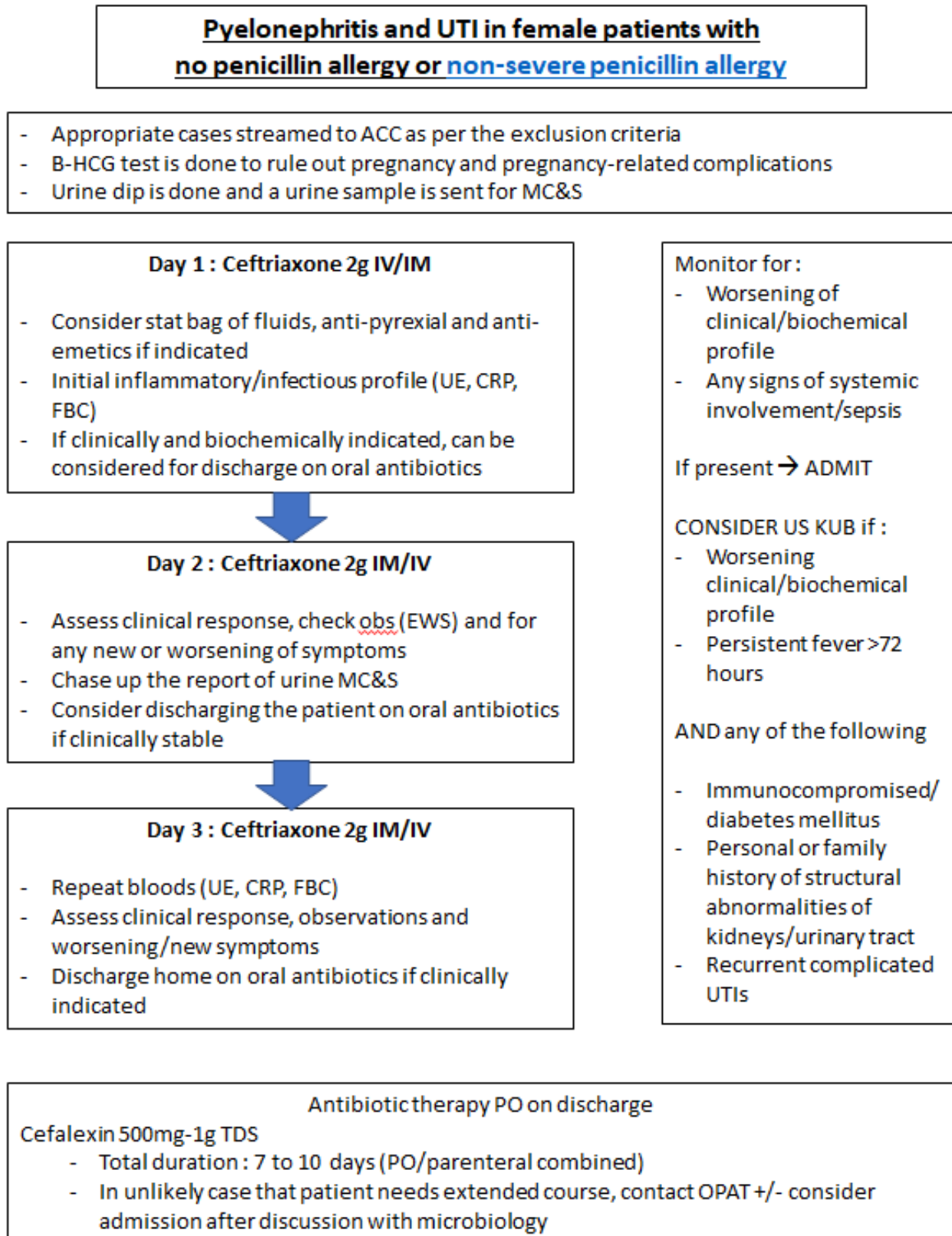


Figure 1 : Guidelines for management of pyelonephritis and UTI in female patients with no penicillin allergy or non-severe penicillin allergy (non-immediate reaction without systemic involvement)

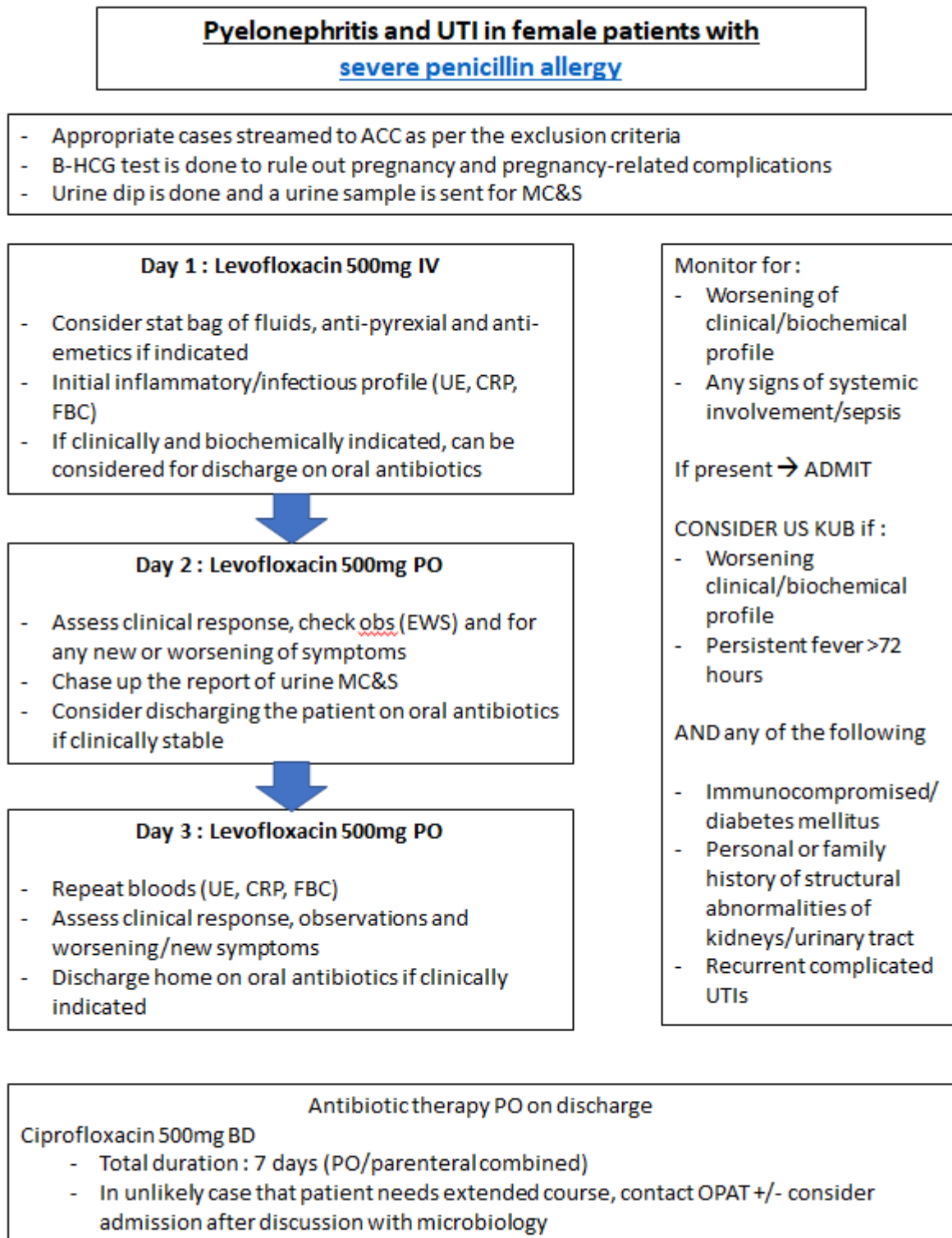


Figure 2 : Guidelines for management of pyelonephritis and UTI in female patients with [confirmed severe penicillin allergy \(immediate reaction or non immediate reaction with systemic involvement\)](#)

5. References

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4-García-Ferrer L, Primo J, Juan Escudero JU, Ordoño Domínguez F, Esteban JM. The use of renal ultrasound for adult acute pyelonephritis. Arch Esp Urol. 2007 Jun;60(5):519-24. Spanish. doi: 10.4321/s0004-06142007000500003. PMID: 17718205.

5-Gorsane I, Barrah S, Barbouch S, Kaaroud H, Harzallah A, Ben Abdallah T. Management of acute pyelonephritis. Tunis Med. 2018 Jan;96(1):42-47. PMID: 30324991.

6. Documentation controls

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