STEP-WISE APPROACH FOR TREATING If patient is clinically improving, normalizing vital signs & down trending inflammatory **URINARY TRACT INFECTIONS (UTI)** markers -Consider IV to ORAL switch A SIMPLIFIED PROTOCOL FOR EFFECTIVE TREATMENT **(Table 02) UPPER UTI LOWER UTI** Table 02 Infection involving the kidneys and/or ureters Infection involving the bladder and/or urethra, IV to ORAL switch therapy (IVOST) & duration (i.e., pyelonephritis), often associated with typically presenting with dysuria, urgency, flank pain, fever, chills, and systemic features frequency, and suprapubic discomfort, without If culture positive- guided by ABST, use the Ab of infection systemic symptoms & signs UTI Asymptomatic Bacteriuria (ASB) with narrowest spectrum • Presence of bacteria in the urine (a positive urine If culture negative culture) without any signs or symptoms of UTI. • On IV co-amoxiclav → Oral co-amoxiclav *Send urine cultures if having, • ASB is only screened and treated in specific • Mild to moderate pyelonephritis- on IV • repeated or recurrent UTI populations like pregnant women and ceftriaxone → Oral co-amoxiclav • pregnant female individuals undergoing urologic procedures • Severe pyelonephritis -Differentiate the known anatomical or functional with mucosal bleeding. • on IV ceftriaxone → Oral co-amoxiclav involvement • In most other cases, screening and treatment of abnormalities in the urinary tract • on pip-taz/meropenem → Oral cotrimoxazole/ ASB is not recommended. **(Table 01)** • uncontrolled co-morbidities (diabetes) Oral ciprofloxacin history of poor response Other Ix:-• UFR Ix:-Upper UTI Lower UTI Not required to send • Blood culture Patients on indwelling urinary catheter urine culture routinely* • Urine culture • A positive urine culture result in a catheterized • STI screening if Ultrasound KUB patient does not always indicate infection Deteriorating Patient and should not be treated unless there are suspected • FBC/CRP/Serum Cystitis / Urethritis • Low saturation(hypoxia) signs or symptoms suggestive of catheter creatinine associated UTI (such as suprapubic/ flank pain, • Progressive hypotension fever) • Altered mental status • Worsening tachycardia, tachypnoea or respiratory Exclude obstructive Complicated distress Uncomplicated uropathy/renal or • Febrile cystitis Cystitis in otherwise healthy afebrile perinephric abscess • Cystitis in patients with anatomical non-pregnant women & men formation & functional abnormalities in urinary tract • Cystitis with underlying diseases Yes No which can increase the more serious outcome Catheterized patients piperacillin-tazobactam 4.5g IV q6-8h OR meropenem 1g IV q8h OR imipenem 500mg IV q6h OR co-trimoxazole 960mg PO q12h OR ertapenem 1g IV q24h nitrofurantoin 50mg PO q6h (5 days) OR norfloxacin 400mg PO q12h OR cefalexin 500mg PO q12h (3 days) OR pivmecillinam 400mg PO STAT then 200mg q8h OR amikacin 15 mg/kg IV q24h (two doses) OR gentamicin 5mg/kg IV ONCE ONLY co-amoxiclav 625mg PO q8h gentamycin IV 5mg/kg q24h (two doses) Duration: 5-7 days Duration - 7 to 10 days (guided by clinical response) Table 01 **LOWER UTI UPPER UTI** • Fever usually absent or low • Presence of high grade fever Uncomplicated Pyelonephritis-Complicated Pyelonephritisgrade with chills/rigors • Presence of anatomical & • Non pregnant women & men • Absence of systemic Presence of systemic • Absence of anatomical & functional functional abnormalities in urinary symptoms & signs symptoms & signs - malaise, abnormalities in urinary tract • Absence of loin/flank nausea, vomiting, • Patients with underlying diseases tenderness dehydration which can increase the more • Presence of suprapubic pain • Presence of flank tenderness serious outcome • Presence of dysuria, • Dysuria, frequency may be frequency, urgency present & could be • Absence of signs of sepsis/ accompanied with hematuria septic shock Can present with sepsis/ co-amoxiclav 1.2g IV q8h OR septic shock Non ambulatory Careceftriaxone 1g IV q24h OR Presence of systemic signs/ cefepime 1-2g IV q12h OR Unable to take oral antibiotics ciprofloxacin 400mg IV q12h Ambulatory Care-Minimum systemic amikacin 15mg/kg IV q24h (two doses) OR symptoms without features gentamicin 5mg/kg IV q24h (two doses) of sepsis/ shock co-amoxiclav 1.2g IV q8h OR ceftriaxone 1g IV q24h Duration- 7-10 days co-trimoxazole 960mg PO q12h (7days) OR co-amoxiclav 625mg PO q8h (7 days) OR gentamicin 5mg/kg IV q24h (two doses) gentamicin 5mg/kg IV q24h - two doses This protocol doesn't account for

pta K, Hooton TM, Naber KG, Wullt B, Colgan R, Miller LG, et al. International clinical practice guidelines for the treatment of acute uncom update by the IDSA and the European Society for Microbiology and Infectious Diseases (Internet). Arlington (VA): Inf https://www.idsociety.org/practice-guideline/complicated-urinary-tract-infections/

(until fever settles) then switch to above oral

antibiotics (5 days)

SRI LANKA COLLEGE OF INTERNAL MEDICINE

Duration- 7 days

antibiotic allergy.

dosing in renal failure, pregnancy &

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