Name: Date:
Group Nr.:

LABORATORY PROTOCOL Nr.5B - URINARY TRACT INFECTIONS (UTI)

Case report 1

Young woman visit GP with painful urination (dysuria), urgency and frequency, polakisuria
Objectively: afebrile, urine moderate turbid
Cultivation – lactosa-ferment colonies on McConkey agar, quantity - 10^4/ml

Questions:
1. What is your diagnosis?

2. Describe the right collection of urine sample.

3. Which gender is more risk of UTI? Why?

4. Which bacteria is pathogen from this case report? And how could you identify the enterobacteria?

5. What is the right treatment?

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Case report 2

Older woman visit hospital with febrile 38,6 °C, chill and back pain. Before 14 days treated by GP for acute cystitis with amoxicillin (microbiological examination not made)
Objectively: febrile 38,5 °C, positive tapottement on the left, urine highly turbid, weight 95 kg
Laboratory:
SONO: enlargement of renal calice on the left side, without abscess, without obstruction sign
Biochemistry: CRP 180, creatinin 85, leucocytosis
Urine culture – lactose-ferment colonies on McConkey agar, quantity - 10^6/ml

Questions

1. Why is very important to know the bacteria quantification in urine examination?

2. Does this symptoms specific for cystitis or pyelonephritis?

3. Why is very important to differentiate of this infections?

4. Which are the most frequent bacteria caused urinary tract infections?

5. Patient was cured by amoxicilin for acute cystitis. Did this treatment correct?

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Case report 3

ANAMNESIS: Older man, hospitalized in Internal clinic for heart failure. Because of benign prostatic hyperplasia and BHP and difficulty urination patient have permanent urine catheter (7 days after installation)
Subjectively: breathlessness v.s. cardiogenic, discomfort during urination, urine have pink colour
Objectively: afebrile or subfebrile, tapottement negative, diuresis normal, mild hematuria
Laboratory: CRP 40mg/l, leucocytosis only moderate increase
Samples: urine for culture and susceptibility testing, urine for biochemistry
Because of UTI suspicion - norfloxacin p.o.
Results:
Urine sediment (2h) – leu sporadic, ery sporadic
Flow cytometry results (2h) – leu 3/mm^3, microbes 10^4
Culture (48h) – McConkey agar negative, blood agar smouth white colonies in quantity - 10^4/ml and white yelowish colonies in quantity - 10^4/ml

Question:
1. Does have this patient urinary tract infection?

2. Which bacteria was cultured (describe microscopy and try to identify)?

3. Did norfloxacin was indicated correctly?

4. What is next treatment?

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Case report 4

Anamnesis: patient with chronic renal failure, 5 years after kidney transplantation. Repeatedly graft pyelonephritis.
Subjectively: come exhausted, febrile 38,5 °C, pain in lower abdomen. From GP treated by amoxicilin/clavulanate but after 5 days without effect. Send to faculty hospital.
Objectively: urine turbid, CRP 280, high leucocytosis, US picture of graft pyelonephritis

Question:
1. Why was therapy by amoxicilin/clavulanate failure? Which pathogens you expect?

Laboratory: Culture (McConkey agar):Lactose positive, mucous colonies, quantity10^7bact./ml urine

2. Describe microscopy

3. Did you know the bacteria?

4. Which other sample do you will indicate?

Antibiogram: AMP-R, AMC-R, CIP-R, CRX-R, CTX-R, CPM-R, GEN-R, AMI-S, MER-S

5. Describe the bacterial isolate according to antibiogram?

6. Which therapy is recommended in this cases and how long?