Read the clinical case and answer the activities.

A **48-year-old woman** presented to the emergency department with a **five-day history of fever, chills, right flank pain, and dysuria**. Her symptoms had begun gradually but had become progressively more severe during the previous 48 hours. Three days earlier, she had visited a walk-in clinic, where she had been diagnosed with an uncomplicated urinary tract infection and prescribed oral antibiotics. However, she reported little improvement after starting treatment.

On admission, her temperature was **38.9°C**, heart rate **108 beats/min**, blood pressure **102/64 mmHg**, and respiratory rate **20 breaths/min**. Physical examination revealed right costovertebral angle tenderness. Laboratory investigations showed leukocytosis and elevated C-reactive protein levels. Urinalysis demonstrated pyuria and bacteriuria. Blood cultures and a urine culture were obtained before intravenous antibiotics were started. A contrast-enhanced CT scan of the abdomen was also performed to exclude urinary obstruction or renal abscess.

The imaging findings were normal, but the urine culture later grew **Escherichia coli** resistant to the antibiotic prescribed at the outpatient clinic. The antimicrobial regimen was therefore changed according to the susceptibility results. During the following three days, the patient's fever resolved, inflammatory markers decreased, and her clinical condition gradually improved.

The treating team concluded that the initial treatment failure was most likely related to antimicrobial resistance. Although the patient responded well to the second antibiotic regimen, the physicians noted that early urine culture and susceptibility testing may help reduce delays in appropriate treatment for similar patients. They also suggested that further studies are needed to determine whether routine early culture in uncomplicated urinary tract infections improves long-term outcomes.

Choose the correct option according to the text.

1. Which statement best describes the progression of the patient's symptoms?

> Her symptoms **resolved after oral antibiotics were started / became progressively more severe during the previous 48 hours**.

2. Before attending the emergency department, the patient **had been diagnosed with an uncomplicated urinary tract infection / had been admitted to hospital for intravenous treatment.**

3. According to the text, the CT scan was performed to **exclude urinary obstruction or renal abscess / evaluate the extent of renal scarring**

4. Which finding directly explained why the initial antibiotic treatment had been unsuccessful?

- The CT scan showed evidence of a renal abscess.
- The urine culture identified *E. coli* resistant to the prescribed antibiotic.

5. According to the text, when were blood and urine cultures obtained?

- Before intravenous antibiotics were started.
- After the CT scan results became available.

6. What happened after the antimicrobial regimen was changed?

- The patient required surgical drainage of the infection.
- The patient's fever resolved and her clinical condition gradually improved.

7. The treating team concluded that the treatment failure was **most likely related to antimicrobial resistance / definitely caused by delayed hospital admission**

8. The sentence *"early urine culture and susceptibility testing may help reduce delays..."* suggests that the physicians **believe early culture could improve treatment in similar patients / believe urine cultures should replace empirical antibiotic therapy.**

9. Why do the authors recommend further studies?

- Because it is still uncertain whether routine early cultures improve long-term outcomes.
- Because the effectiveness of urine cultures has never been investigated.

10. Which statement is supported by the case?

- The patient responded well to the second antibiotic regimen, although further evidence is needed regarding routine early cultures.
- The patient's infection resolved without changing the initial antibiotic treatment.

Language Use - Choose the correct option.

1. The patient **visited** / **had visited** the walk-in clinic three days before attending the emergency department.

2. Blood cultures **were obtained / obtained** before intravenous antibiotics were started.

3. The antimicrobial regimen was changed **because / however** the urine culture showed bacterial resistance.

4. The patient's condition improved **more gradually than / as gradually as** expected.

5. If the organism is resistant to the prescribed antibiotic, treatment **will need / needed** to be adjusted.

6. The urine culture **showed / treated** growth of *Escherichia coli*.

7. The findings **prove** / **suggest** that antimicrobial resistance contributed to treatment failure.

8. Early urine cultures **may help / definitely help** reduce delays in treatment.

9. Additional blood tests **have been requested / have requested** to monitor the patient's response.

10. The patient had experienced symptoms for five days **before / after** attending the emergency department.

11. The second antibiotic regimen was **more effective than / as effective than** the first.

12. The physicians concluded that the infection **might / certainly** have been resistant from the beginning.

13. The CT scan **was performed / performed** to exclude renal abscess.

14. "Intravenous antibiotics were started." Choose the patient-friendly version.

You will begin receiving antibiotics through your vein. / Intravenous antimicrobial therapy was initiated.

15. The authors **reported / prescribed** that further studies are required before changing clinical practice.

Listening: Choose the correct option.

Context: A hospital microbiologist telephones the attending physician to report the final microbiology results.

1. The microbiologist is reporting the results of a **blood culture / urine culture**.

2. The specimen **was processed on the day of admission / two days after admission**.

3. The culture showed **light growth / heavy growth** of *Escherichia coli*.

4. Susceptibility testing indicated that the organism was **susceptible to amoxicillin-clavulanate / resistant to amoxicillin-clavulanate**.

5. According to the microbiologist, the patient was **unlikely / certain** to respond to the initial outpatient antibiotic.

6. Blood cultures **remain negative / confirmed bloodstream infection**.

7. The microbiologist recommends continuing intravenous antibiotics for **at least another twenty-four hours / one full week** before considering oral therapy.

8. The resistance pattern should be documented because it **may be useful if the patient develops another urinary tract infection / confirms that future infections will have the same organism**.

9. The phrase **"appears to be fully susceptible"** indicates that the microbiologist is expressing **complete certainty / an evidence-based conclusion stated cautiously**.

10. At the end of the conversation, the microbiologist **requests additional cultures if necessary / recommends immediate hospital discharge**.