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# CVS QUESTIONS

## 435's Teamwork

Please contact the team leaders for any suggestion, question or correction.  
Clinical cases are from USMLE Qbank, UpToDate, and other universities test banks.

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## Multiple choice questions:

Q1: A 13 year old child showed at the local hospital complaining from a persistent fever and a multiple joint pain. He has a history of rheumatic fever, and a recent tooth extraction. The physician performed on him an echocardiography that showed an oscillating intracardiac mass.

Which of the following is the most common causative agent?

- A) *Staphylococcus aureus*.
- B) Fungi.
- C) *Streptococcus viridans*.
- D) *Coxiella burnetii*.

Q2: A female patient diagnosed with infective endocarditis caused by catalase and coagulase positive bacteria, which of the following treatments can best benefit her?

- A) Penicillin with gentamicin.
- B) Cloxacillin with gentamicin.
- C) Ciprofloxacin with streptomycin.
- D) Vancomycin.

Q3: A 10 year old patient came to the clinic complaining from a prolonged fever, malaise and weight loss. After she has been examined by the doctor, he noticed a red spots in both of her eyes, and a blood clots under the her nails. He diagnosed her as a case of endocarditis and prescribed to her the proper antibiotic.

For how long the course of the antibiotic should take?

- A) At least 4 weeks.
- B) 3 weeks tops.
- C) 10 days.
- D) 14 days.

Q4: A 56 year old male presents to the hospital with fever and chills, he has a history of valve replacement surgery. The doctor did an xray on him and found a calcification around the prosthetic valve. He diagnosed him as a prosthetic valve IE.

Which of the following bacterias contributes to his infection?

- A) *Streptococcus faecalis*.
- B) *Brucella* species.
- C) *Staphylococcus epidermidis*.
- D) *Rickettsiae*.

Q5: A drug addict presents to the hospital with Fever, joint pain and weakness, The doctor ordered a blood culture which indicated a staphylococcus aureus caused infection. Which valve can be affected in his case?

- A) Mitral valve.
- B) Tricuspid valve.
- C) Pulmonary valve.
- D) Aortic valve.

Q6: If you have a patient with subacute endocarditis, what is the proper antibiotic choice you'll go with?

- A) Cloxacillin for 5 weeks.
- B) Penicillin with gentamicin for 5 weeks.
- C) Penicillin with tetracycline for 4 weeks.
- D) Vancomycin with linezolid for 21 days.

Q7: Endocarditis induced hematuria is caused by which of the following?

- A) Drug addicts.
- B) Valves infection.
- C) Infected emboli.
- D) Immune complexes.

Q8: A 15 year old child patient came to the clinic with prolonged fever and a painful, red lesions on his hands, which the doctor identifies it as an Osler's Nodes.

What type of IE is more common in his case?

- A) Subacute IE.
- B) Acute IE.
- C) Prosthetic IE.
- D) Nosocomial IE.

Q9: The gold standard diagnostic procedure for endocarditis is?

- A) Blood culture.
- B) Hematuria.
- C) Echocardiograph.
- D) CBC.

Q10: A 42 year old female came to the hospital with prolonged fever and malaise, she has a history of a bladder surgery, the doctor diagnosed her condition as IE.

Which organism is related to her case?

- A) Staphylococcus epidermidis.
- B) Diphtheria.
- C) E.coli.
- D) Strep. Faecalis.

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## Answers Bank

Q1 → C | Q2 → B | Q3 → A | Q4 → C | Q5 → B | Q6 → B | Q7 → D | Q8  
→ A | Q9 → C | Q10 → D

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### Short answer questions:

A 70 year old man presented with microscopic haematuria and proteinuria and a fever five months after having a transurethral resection of the prostate (TURP). The patient was concerned that he was not getting better and he self-referred to a physician. He had continuing fever, weight loss, and malaise. The physician detected a mitral pan-systolic murmur that had not been heard before.

#### 1. What investigations you'll order to help you in diagnosing this patient?

**Answer:** 1. Echocardiography.

2. Blood culture.

3. CBC, CRP or Complement proteins levels (the involvement of complement in IE has been drawn from different studies. Complement consumption indicated by a reduction in serum complement levels that returned to normal after antibiotic therapy has been demonstrated).

4. Chest x-ray.

#### 2. What is the most causative agent in his case?

**Answer:** Strep. Faecalis.

**Explanation:** He has a history of Transurethral resection of the prostate (genitourinary procedure), and strep.faecalis maybe the most related bacteria in his condition.

#### 3. What is your final diagnoses?

**Answer:** Infective endocarditis.

**Explanation:** 1. He developed a prolonged fever, malaise and weight loss after a TURP procedure, that are a very important features of IE.

2. He came with hematuria and proteinuria, which are also an indicators for IE.

3. A murmur, that indicates a stenotic valve, also a feature of IE.

4. How will you manage his case?

**Answer:** 1. Put him on a bactericidal antibiotic, ex: B-lactams (Penicillin).

2. Add a synergistic drug to the bactericidal, ex: Aminoglycosides (gentamicin).

(Benefit of using a synergistic b-lactam and aminoglycoside mixture: Beta-lactams will destroy the bacterial cell wall → facilitate the entry of aminoglycosides that'll inhibit the protein synthesis - s30 ribosomal unit-).

3. Long course treatment (for at least 4 weeks- because the valves are avascular structures, with poor blood supply).

4. A replacement valve surgery if needed.

5. Name ONE complication for his condition.

**Answer:** Heart failure.

**Explanation:** Damaged heart valve (mitral in his case) causes severe leaking (regurgitation) of blood back through the valve and an inability of the heart to efficiently pump blood to the body. This in turn may lead to congestive heart failure.