



**MEDICINE**  
KING SAUD UNIVERSITY



MCQs

SAQs

Summary

## Drugs used in meningitis

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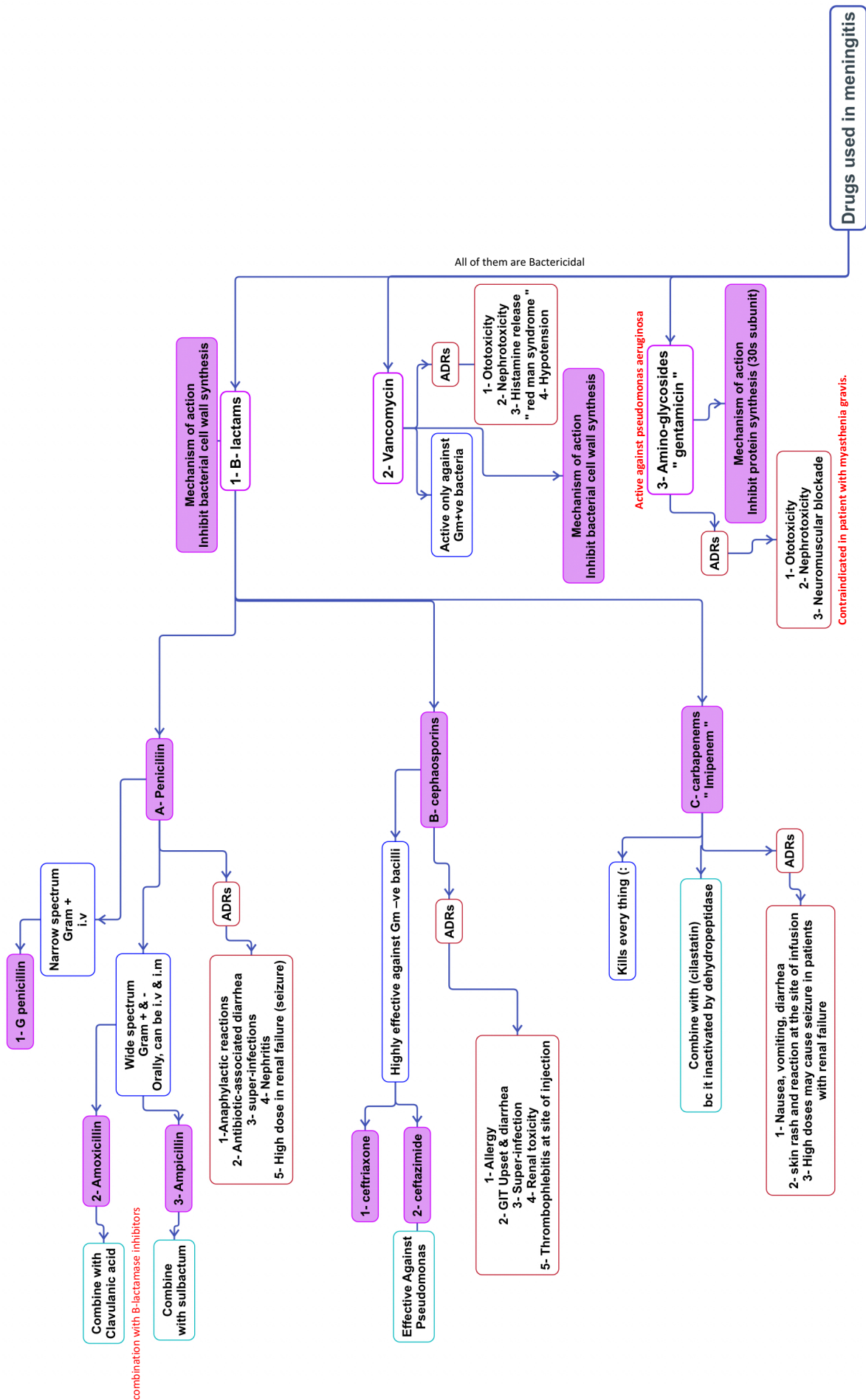
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# Summary



- Hib vaccines → in early childhood → Against *Haemophilus influenzae* type b
- Pneumococcal polysaccharide vaccine (PPSV) → for older children and adults → Against *S. pneumoniae*
- Meningococcal conjugate vaccine → for people going to Hajj → Against *N. meningitidis*

**1- According to meningitis, which of the is the most commonest microorganism causing meningitis?**

- A. *Listeria monocytogenes*. B. *Mycobacterium Tuberculosis*. C. *Streptococcus Pneumoniae*.

**2- First treatment principle of bacterial meningitis is:**

- A. Empiric broad spectrum antibiotic.  
B. Emergency hospitalization.  
C. Hospitalization and start with normal saline until conformation of the microorganism causing meningitis.

**3- Hib vaccine is given to given to which group of the following?**

- A. People planning to go to Hajj. B. Old children and adults. C. Early childhood.

**4- (PPSV) given to older children and adults for which bacteria ?**

- A. *H.influenzae*. B. *N.meningitides*. C. *S.Pneumoniae*.

**5- Which one of the following can be used as initial Empiric treatment of meningitis?**

- A. Penicillin G. B. Amoxicillin. C. Ceftazidime.

**6- A 27-year-old ER physician went to Al-Hajj, He came back with symptoms of Meningitis. Microbiology test reveals that the microorganism is MRSA. Which of the following is the drug of choice in this case?**

- A. Vancomycin. B. Penicillin G. C. Imipenem.

**7- Which of the following acts by inhibition of 30s ribosomal subunit?**

- A. Gentamicin. B. Vancomycin. C. Ceftriaxone.

**8- Which if the following group of drugs are indicated in gram –ve bacterial meningitis?**

- A. Aminoglycosides. B. 3<sup>rd</sup> generation Cephalosporins. C. Both of them.

**9- patient with myasthenia gravis came to ER with bacterial meningitis, which one of the following antibiotic can not be used in his case ?**

- A. Gentamicin. B. Vancomycin. C. Ceftriaxone.

Answers:  
1. C 2. B 3. C 4. C 5. C 6. A 7. A 8. C 9. A

**10- Which of the following causes Ototoxicity?**

- A. Vancomycin.                      B. Gentamicin.                      C. Both of them.

**11- Which of the following is true about aminoglycosides?**

- A. Inhibit bacterial cell wall and considered Bacteriostatic.  
B. Inhibit bacterial protein synthesis and considered bacteriostatic.  
C. Inhibit bacterial protein synthesis and considered bactericidal.

**12- Gentamicin in high doses can cause:**

- A. Red man syndrome  
B. Neuromuscular blocking.  
C. Ototoxicity.

**13- Vancomycin in high doses can cause:**

- A. Red man syndrome.  
B. Neuromuscular blocking.  
C. Ototoxicity.

**14- If a patient with meningitis is allergic to penicillin, which of the following is the drug of choice?**

- A. Ceftriaxone.                      B. Imipenem.                      C. Vancomycin.

**15- which one of the following antibiotics has nephrotoxic metabolites and should be combine with cliastatin as dehydroprptides inhibitor ?**

- A. Ceftriaxone.                      B. Imipenem.                      C. Vancomycin.

**16- Which one of the following antibiotics can be effective against pseudomonas aeruginosa ?**

- A. Ceftazidime.                      B. Gentamicin.                      C. Both of them.

Answers:

10. C.  
11. C.  
12. B.  
13. A.  
14. C.  
15. B.  
16. C.

# SAQs

**65 year old male patient, came to the E.R. presented with a very high fever & stiffness of neck that started in the morning he also complained of nausea and vomiting.**

**Upon clinical examination, the patient was positive for both Brudzinski's and Kernig's sign.**

**CSF sample showed, Turbid appearance, High PMNs, elevated protein & low glucose levels.**

**Q1) What is the most probable diagnosis?**

- Acute Bacterial Meningitis

**Q2) Justify your answer to the above question.**

- CSF findings confirm the pattern of bacterial meningitis.

**Q3) Name 2 Bacteria that are most commonly causing meningitis in this age group.**

1. Streptococcus Pneumoniae
2. Neisseria Meningitidis

**Q4) Mention 2 antibiotics that are not preferable in patients with renal impairment.**

1. Ampicillin
2. Imipenem

Zoom in to check  
your answers

Part 2:

***Culture of CSF showed that the organism was a gram-positive diplococcus.***

**Q1) What is the organism?**

- Streptococcus Pneumoniae

**Q2) Name 2 complications of acute bacterial meningitis.**

1. Deafness
2. Epilepsy

**Q3) Name 2 Antibiotics that can be used for treatment in this case, specify their mechanism of action & mention 3 side effects for each.**

- I. **Vancomycin:** a) Ototoxicity b) Nephrotoxicity c) Red man syndrome due to histamine release → Mechanism: Cell wall inhibitor.
- II. **Ampicillin:** a) Nephritis b) Secondary infections c) Diarrhea → Mechanism: Inhibition of bacterial cell wall synthesis by inhibiting the peptidoglycan layer.

**Q4) Bacterial meningitis by Streptococcus Pneumonia can be prevented a vaccine, mention its name and its group age.**

- Pneumococcal polysaccharide vaccine (PPSV), used for older children and adults.

**Q5) In case of pseudomonas aeruginosa which antibiotic can be used?**

- Ceftazidime
- Gentamicin

Zoom in to check  
your answers