

Virology - Test bank - (review book questions)

Final - Lectures 1-3

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# Lec 1 - Adenovirus



**Q1. What adenovirus protein comprises the majority of capsomeres making up the virus capsid?**

- (A) Fiber
- (B) Hexon
- (C) Penton
- (D) Terminal protein
- (E) E1 region protein
- (F) Cysteine proteinase
- (G) E3 region protein

**Q2. A 3-month-old infant had watery diarrhea and fever for 10 days. Rotavirus or adenovirus types 40 and 41 are the suspected agents. What type of specimen would be most appropriate for detection of adenovirus types 40 and 41 infection in this patient?**

- (A) Blood
- (B) Urine
- (C) Conjunctival swab
- (D) Stool
- (E) Throat swab
- (F) Cerebrospinal fluid

**Q3. Which of the following human diseases has not been associated with adenoviruses?**

- (A) Cancer
- (B) Common colds
- (C) Acute respiratory diseases
- (D) Keratoconjunctivitis
- (E) Gastroenteritis

**Q4. A 2½-year-old child attending nursery school acquires a mild respiratory infection. Other children in the nursery school have similar illnesses. Which adenovirus types are the most likely causes of the illnesses?**

- (A) Types 40 and 41
- (B) Types 8, 19, and 37
- (C) Types 1, 2, 5, and 6
- (D) Types 3, 4, and 9
- (E) Types 21, 22, 34, and 35

**Q5. Your summer research project is to study the viruses that cause gastroenteritis. You recover a virus from a stool sample and notice that the growth medium on the infected cultures is highly acidic. You find that the viral genome is double-stranded DNA. Of the following, which one is the most appropriate conclusion you could draw?**

- (A) There is a high likelihood that the agent is a rotavirus.
- (B) You need to determine the viral serotype to establish whether the virus was important in causing the disease.
- (C) The patient should have been treated with the antiviral drug amantadine to shorten the duration of symptoms.
- (D) The virus particle would contain a reverse transcriptase enzyme.

**Q6. Which of the following groups of individuals is at the lowest risk of adenovirus disease?** سؤال ما اله داعي بس موجود بالكتاب

- (A) Healthy adults
- (B) Young children
- (C) Bone marrow transplant recipients
- (D) Military recruits
- (E) AIDS patients

**Q7. Adenoviruses can cause eye infections that are highly contagious. Which of the following is least likely to be a means of transmission during an outbreak of epidemic keratoconjunctivitis?**

- (A) Swimming pools
- (B) Hand towels
- (C) Mosquito bites
- (D) Hand-to-eye
- (E) Contaminated ophthalmic equipment

**Q8. There are 57 known sero types of human adenoviruses. Which of the following statements is most accurate?**

- (A) Types cannot be distinguished serologically.
- (B) All cause respiratory infections in children.
- (C) Most types replicate well in T lymphocytes.
- (D) Two types can cause gastroenteritis.

**Q9. Each of the following statements concerning adenoviruses is correct except**

- (A) Adenoviruses are composed of a double-stranded DNA genome and a capsid without an envelope.
- (B) Adenoviruses cause both sore throat and pneumonia.
- (C) Adenoviruses have only one serologic type.
- (D) Adenoviruses are implicated as a cause of tumors in animals but not humans.

**Q10. Which of the following conditions is least likely to be caused by adenoviruses?**

- (A) Conjunctivitis
- (B) Pneumonia
- (C) Pharyngitis
- (D) Glomerulonephritis

**Answers**

**B D A C B A C D C D**

# Lec 2 - Hepatitis

## **Q1. Which of the following exposures poses a risk for hepatitis infection?**

- (A) While cleaning the bathroom, a housekeeper's intact skin has contact with feces.
- (B) An operating room technician with chapped and abraded hands notices blood under his gloves after assisting in an operation on a patient with HCV infection.
- (C) A child drinks out of the same cup as her mother, who has an HAV infection.
- (D) A shopper eats a sandwich prepared by a worker with an asymptomatic HBV infection.

## **Q2. HDV (delta agent) is found only in patients who have either acute or chronic infection with HBV. Which of the following is most correct?**

- (A) HDV is a defective mutant of HBV.
- (B) HDV depends on HBV surface antigen for virion formation.
- (C) HDV induces an immune response indistinguishable from that induced by HBV.
- (D) HDV is related to HCV.
- (E) HDV contains a circular DNA genome.

## **Q3. A 23-year-old woman is planning a 1-year trip through Europe, Egypt, and the Indian subcontinent and receives a vaccine for hepatitis A. The current hepatitis A vaccine is**

- (A) A live attenuated virus vaccine
- (B) A recombinant DNA vaccine
- (C) A formalin-inactivated virus vaccine
- (D) An envelope glycoprotein subunit vaccine
- (E) A chimeric poliovirus that expresses HAV neutralizing epitopes

**Q4. A middle-aged man complained of acute onset of fever, nausea, and pain in the right upper abdominal quadrant. There was jaundice, and dark urine had been observed several days earlier. A laboratory test was positive for HAV IgM antibody. The physician can tell the patient that**

- (A) He probably acquired the infection from a recent blood transfusion.
- (B) He will probably develop chronic hepatitis.
- (C) He will be at high risk of developing hepatocellular carcinoma.
- (D) He will be resistant to infection with hepatitis E.
- (E) He may transmit the infection to family members by person-to-person spread for up to 2 weeks.

**Q5. Several different viruses can cause hepatitis. One of the following statements applies to all four viruses: HAV, HCV, HDV, and HEV.**

- (A) It contains a single-stranded RNA genome.
- (B) It is transmitted primarily by the parenteral route.
- (C) It is transmitted primarily by the fecal-oral route.
- (D) It is associated with fulminant hepatitis.
- (E) It undergoes sequence variation during chronic infection.

**Q6. A 30-year-old student goes to the emergency room because of fever and anorexia for the past 3 days. She appears jaundiced. Her liver is enlarged and tender. A laboratory test shows elevated aminotransferases. She reports a history of having received hepatitis B vaccine 2 years ago but has not had hepatitis A vaccine. The results of her hepatitis serologic tests are as follows: HAV IgM-negative, HAV IgG-positive, HBsAg-negative, HBsAb-positive, HBcAb-negative, HCV Ab-positive. The most accurate conclusion is that she probably**

- (A) Has hepatitis A now, has not been infected with HBV, and had hepatitis C in the past.
- (B) Has hepatitis A now and has been infected with both HBV and HCV in the past.
- (C) Has been infected with HAV and HCV in the past and has hepatitis B now.
- (D) Has been infected with HAV in the past, has not been infected with HBV, and has hepatitis C now.
- (E) Has been infected with HAV and HCV in the past, has not been infected with HBV, and has hepatitis E now.

**Q7. A 36-year-old nurse is found to be both HBsAg positive and HBeAg positive. The nurse most likely**

- (A) Has acute hepatitis and is infectious.
- (B) Has both HBV and HEV infections.
- (C) Has a chronic HBV infection.
- (D) Has cleared a past HBV infection.
- (E) Was previously immunized with HBV vaccine prepared from healthy HBsAg-positive carriers.

**Q8. Which of the following persons are not recommended to receive hepatitis B vaccine because they have a risk factor for HBV infection?**

- (A) Injection drug users
- (B) Pregnant women
- (C) Persons who live in a household with a person who is HBsAg positive
- (D) Persons seeking treatment for a sexually transmitted disease

**Q9. Which of the following statements regarding HBIG is not true?**

- (A) HBIG provides temporary protection when administered in standard doses.
- (B) HBIG typically is used instead of hepatitis B vaccine for postexposure immunoprophylaxis to prevent HBV infection.
- (C) HBIG provides passive immunity
- (D) MHBIG is not used as protection against HCV infection.

**Q10. Each of the following statements concerning HAV is correct except**

- (A) The hepatitis A vaccine contains inactivated HAV as the immunogen.
- (B) HAV commonly causes asymptomatic infection in children.
- (C) The diagnosis of hepatitis A is usually made by isolating HAV in cell culture.
- (D) Serologic testing is used to confirm hepatitis A infection in exposed persons.

**Q11 . A 35-year-old man addicted to intravenous drugs has been a carrier of HBsAg for 10 years. He suddenly develops acute fulminant hepatitis and dies within 10 days. Which of the following laboratory tests would contribute most to diagnosis?**

- (A) Anti-HBs antibody
- (B) HBeAg
- (C) Anti-HBc antibody
- (D) Anti-delta virus antibody

**Q12. Each of the following statements concerning HCV and HDV is correct except**

- (A) HCV is an RNA virus.
- (B) HDV is transmitted primarily by the fecal-oral route.
- (C) HDV is a defective virus that can replicate only in a cell that is also infected with HBV.
- (D) People infected with HCV commonly become chronic carriers of HCV and are predisposed to hepatocellular carcinoma.

### Answers

**B B C E A D A B B C D B**

## ***Lec 3 - Herpes ( HSV & VZV )***

**Q1. A previously healthy 3-year-old boy develops a classic viral childhood illness. Which of the following primary viral infections of childhood is usually symptomatic?**

- (A) Cytomegalovirus
- (B) Epstein-Barr virus
- (C) Hepatitis B virus
- (D) Varicella-zoster virus
- (E) Parvovirus B19

**Q2. Which one of the following is a recommended therapy for herpes simplex virus genital infection?**

- (A) Acyclovir
- (B) Attenuated live virus vaccine
- (C) Herpes immune globulin
- (D) Interferon- $\alpha$
- (E) Ribavirin

**Q3. A Tzanck smear of a scraping obtained from a vesicle on the skin demonstrates multinucleated giant cells. Multinucleated giant cells are associated with which of the following viruses?**

- (A) Varicella-zoster
- (B) Variola major
- (C) Coxsackievirus
- (D) Molluscum contagiosum

**Q4. A 28-year-old woman has recurrent genital herpes. Which of the following statements about genital herpes infections is true?**

- (A) Reactivation of latent virus during pregnancy poses no threat to the newborn.
- (B) Virus cannot be transmitted in the absence of apparent lesions.
- (C) Recurrent episodes caused by reactivation of latent virus tend to be more severe than the primary infection.
- (D) They can be caused by either herpes simplex virus type 1 or type 2.

**Q5. The shingles vaccine is recommended for which of the following groups?**

- (A) Healthy adolescents
- (B) Individuals older than age 60 years
- (C) Pregnant women
- (D) Those who never had chickenpox

**Q6. Which of the following groups are at increased risk for herpes zoster?**

- (A) Persons at advanced age
- (B) Patients with atopic dermatitis
- (C) Pregnant women
- (D) Persons who have been vaccinated with varicella vaccine
- (E) Infants with congenital infections

**Q7. Each of the following statements concerning herpesvirus latency is correct except**

- (A) Exogenous stimuli can cause reactivation of latent infection, with induction of symptomatic disease.
- (B) During latency, antiviral antibody is not demonstrable in the sera of infected individuals.
- (C) Reactivation of latent herpesviruses is more common in patients with impaired cell-mediated immunity than in immunocompetent patients.
- (D) Virus can be recovered from latently infected cells by cocultivation with susceptible cells.



**Q8.Vaccines have been demonstrated to be efficacious in preventing herpesvirus disease in which one of the following situations?**

- (A) Herpes simplex virus type 1 primary infection
- (B) Herpes simplex virus type 2 reactivation
- (C) Varicella-zoster reactivation
- (D) Cytomegalovirus primary infection
- (E) Epstein-Barr virus reactivation

**Q9.Herpes simplex virus type 1 (HSV-1) is distinct from herpes simplex virus type 2 (HSV-2) in several different ways. Which one of the following is the least accurate statement?**

- (A) HSV-1 causes lesions above the umbilicus more frequently than HSV-2 does.
- (B) Infection by HSV-1 is not associated with any tumors in humans.
- (C) Antiserum to HSV-1 neutralizes HSV-1 much more effectively than HSV-2.
- (D) Whereas HSV-1 causes frequent recurrences, HSV-2 infection rarely recurs.

### Answers

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