

1: Hepatitis A - NICE CKS

A German study of immunization rates in patients with autoimmune liver disease identified that seroconversion rates in this population were lower; however, more importantly, the study identified that vaccination was not offered to a large proportion of this population. [].

Joint pain Yellowing of the skin and eyes jaundice If you have hepatitis A, you may have a mild illness that lasts a few weeks or a severe illness that lasts several months. Not everyone with hepatitis A develops signs or symptoms. CAUSES The hepatitis A virus, which causes the infection, usually is spread when a person ingests even tiny amounts of contaminated fecal matter. The hepatitis A virus infects liver cells and causes inflammation. The inflammation can impair liver function and cause other signs and symptoms of hepatitis A. Hepatitis A virus can be transmitted several ways, such as: Some people with acute liver failure may require a liver transplant. If you have signs and symptoms of hepatitis A, make an appointment with your family doctor or a general practitioner. Be aware of pre-appointment restrictions. Consider taking a family member or friend along. Someone who accompanies you may remember something that you missed or forgot. Listing questions for your doctor can help you make the most of your time together. For hepatitis A infection, some basic questions to ask your doctor include: What is likely causing my symptoms or condition? Other than the most likely cause, what are other possible causes for my symptoms or condition? If I have hepatitis A, what can I do to keep from infecting others? Should people close to me receive the hepatitis A vaccine? Can I continue to work or go to school while I have hepatitis A? What signs and symptoms signal that my hepatitis A is causing serious complications? How will I know when I can no longer pass hepatitis A to others? Are there brochures or other printed material I can have? What websites do you recommend? What to expect from your doctor Your doctor is likely to ask you a number of questions, including: When did your symptoms begin? Have your symptoms been continuous or occasional? How severe are your symptoms? What, if anything, seems to improve your symptoms? What, if anything, appears to worsen your symptoms? A sample of blood is taken, usually from a vein in your arm, and sent to a laboratory for testing. No specific treatment exists for hepatitis A. Your body will clear the hepatitis A virus on its own. In most cases of hepatitis A, the liver heals within six months with no lasting damage. Hepatitis A treatment usually focuses on coping with your signs and symptoms. You may need to: Many people with hepatitis A infection feel tired and sick and have less energy. Nausea can make it difficult to eat. Try snacking throughout the day rather than eating full meals. To get enough calories, eat more high-calorie foods. For instance, drink fruit juice or milk rather than water. Your liver may have difficulty processing medications and alcohol. Review your medications, including over-the-counter drugs, with your doctor. The hepatitis A vaccine is typically given in two doses – initial vaccination followed by a booster shot six months later. The Centers for Disease Control and Prevention recommends the following individuals receive a hepatitis A vaccine: Drink bottled water and use it when brushing your teeth. Practice good hygiene Thoroughly wash your hands often, especially after using the toilet or changing a diaper and before preparing food or eating.

2: Feature Hepatitis: Hepatitis Symptoms, Diagnosis, Treatment & Prevention

Hepatitis A is a contagious liver infection caused by a virus. Learn how the disease spreads and what you can do to prevent or treat it. This content does not have an English version.

A comprehensive immunization strategy to eliminate transmission of hepatitis B virus infection in the United States: When selecting a hepatitis B vaccination schedule, health-care providers should consider the need to achieve completion of the vaccine series. The recommended HBV dose and schedule varies by product and age of recipient Table 4. Three different 3-dose schedules for adolescents and adults have been approved for both monovalent hepatitis B vaccines i. A 4-dose schedule of Engerix-B at 0, 1, 2, and 12 months is licensed for all age groups. Hepatitis B vaccine should be administered IM in the deltoid muscle and can be administered simultaneously with other vaccines. If the vaccine series is interrupted after the first or second dose of vaccine, the missed dose should be administered as soon as possible. The series does not need to be restarted after a missed dose. Vaccine-induced immune memory has been demonstrated to persist for at least 20 years , , Periodic testing to determine antibody levels after routine vaccination in immunocompetent persons is not necessary, and booster doses of vaccine are not currently recommended. Hepatitis B vaccination is generally well tolerated by most recipients. Pain at the injection site and low-grade fever are reported by a minority of recipients. For children and adolescents, a causal association exists between receipt of hepatitis B vaccination and anaphylaxis: No deaths have been reported in these patients 3,4 , Vaccine is contraindicated in persons with a history of anaphylaxis after a previous dose of hepatitis B vaccine and in persons with a known anaphylactic reaction to any vaccine component. No other adverse events after administration of hepatitis B vaccine have been demonstrated. Pre-exposure Vaccination Hepatitis B vaccination is recommended for all unvaccinated children and adolescents, all unvaccinated adults at risk for HBV infection especially IDU, MSM, and adults with multiple sex partners , and all adults seeking protection from HBV infection 3. For adults, acknowledgment of a specific risk factor is not a requirement for vaccination. Hepatitis B vaccine should be routinely offered to all unvaccinated persons attending STD clinics and to all unvaccinated persons seeking evaluation or treatment for STDs in other settings, especially correctional facilities, facilities providing drug-abuse treatment and prevention services, federally qualified health centers, and settings serving MSM e. If hepatitis B vaccine is unavailable at a particular facility, persons should be linked to a setting where they can receive vaccine. Persons with a reliable vaccination history i. In all settings, vaccination should be initiated at the initial visit, even if concerns about completion of the vaccine series exist. In addition, prevaccination testing for susceptibility is recommended for unvaccinated household, sexual, and needle-sharing contacts of HBsAg-positive persons Serologic testing should not be a barrier to vaccination. The first vaccine dose should be administered immediately after collection of the blood sample for serologic testing. Vaccination of persons who are immune to HBV infection because of current or previous infection or vaccination is not harmful and does not increase the risk for adverse events. Anti-HBc is the test of choice for prevaccination testing. If persons are determined to be HBsAg negative, no further action is required. Persons with HBsAg should be referred to a specialist in the management of hepatitis B infection and receive further serologic evaluation, prevention counseling, and evaluation for antiviral treatment see Management of HBsAg-Positive Persons. Postvaccination Serologic Testing for Response Postvaccination serologic testing for immunity is not necessary after routine vaccination of adolescents or adults. However, such testing is recommended for persons whose subsequent clinical management depends on knowledge of their immune status e. In addition, postvaccination testing is recommended for 1 persons with HIV infection and other immunocompromised persons to determine the need for revaccination and 2 sex and needle-sharing partners of HBsAg-positive persons to determine the need for revaccination and other methods to protect themselves from HBV infection. If indicated, anti-HBs testing should be performed 1â€”2 months after administration of the last dose of the vaccine series. Persons who do not respond to revaccination should be tested for HBsAg. Hepatitis B vaccine should be administered simultaneously with HBIG at a separate injection site, and the vaccine series should be completed by using the age-appropriate vaccine dose and schedule Table 4. Exposed

persons who are in the process of being vaccinated but who have not completed the vaccine series should receive HBIG i. Exposed persons who are known to have responded to vaccination are considered protected; therefore, they need no additional doses of vaccine or HBIG. Persons who have written documentation of a complete hepatitis B vaccine series who did not receive postvaccination testing should receive a single vaccine booster dose. These persons should be managed according to guidelines for management of persons with occupational exposure to blood or body fluids that contain HBV Exposed persons who are not fully vaccinated should complete the vaccine series. Generally, exposed persons with written documentation of a complete hepatitis B vaccine series who did not receive postvaccination testing require no further treatment.

3: Hepatitis B - Diagnosis and treatment - Mayo Clinic

Guidelines. Chronic Hepatitis C Virus (HCV) Infection Treatment Considerations Department of Veterans Affairs National Hepatitis C Resource Center Program and the National Viral Hepatitis Program; updated August 27,

Notes Description Is a viral infection of the liver associated with a broad spectrum of clinical manifestations from asymptomatic infection through icteric hepatitis to hepatic necrosis. It spreads primarily by fecal-oral route, usually through the ingestion of infected food or liquids. It may also spread from person-to-person contact and, rarely, by blood transfusion. Type A hepatitis occurs worldwide, especially in areas with overcrowding and poor sanitation. It spreads primarily through blood percutaneous and permucosal route. It can also spread by way of saliva, breast feeding, or sexual activity blood, semen, saliva, or vaginal secretions. Male homosexuals are at high risk for infection. HBV is the main cause of cirrhosis and hepatocellular carcinoma. Type C Hepatitis HCV , non-A, non-B hepatitis or posttransfusion hepatitis Formerly called non-A, non-B hepatitis, usually spreads through blood or blood product transfusion, usually from asymptomatic blood donors. It may also be transmitted through unsterile piercing or tattooing tools or dyes. It commonly affects I. HCV is the most common form of posttransfusion hepatitis. It occurs primarily in I. It transmitted by the fecal-oral route but is hard to detect because it is inconsistently shed in the feces. Fulminant Hepatitis Is a rare but severe complication of hepatitis, which may require liver transplantation. Stages of Viral Hepatitis Preicteric Stage- The first stage of hepatitis preceding the appearance of jaundice. Icteric Stageâ€” The second stage of Hepatitis, which includes the appearance of jaundice and associated symptoms such as elevated bilirubin levels, dark or tea-colored urine, and clay-colored stools Posticteric Stage- The convalescent stage in which the jaundice decreases and the color of the urine and stool return to normal. Pathophysiology Type A hepatitis Incubation period, 3 to 5 weeks. Highly contagious at this time, usually 2 weeks before onset of jaundice. Symptoms often milder in children. Type B hepatitis Incubation period, 2 to 3 months. Prodromal symptoms insidious onset: May also have myalgias, photophobia, arthritis, angioedema, urticaria, maculopapular rash, vasculitis. Icteric phase occurs 1 week to 2 months after onset of symptoms. Type C hepatitis Incubation period, 6 weeks to several months. Similar to HBV but less severe. Applicable to all type: Obtain a patient history. Diagnostic Evaluation All forms of hepatitis; elevated serum transferase levels aspartate aminotransferase, alanine aminotransferase ; may have abnormal clotting tests. Hepatitis E antigen with HCV ruled out. If indicated, prepare the patient for liver biopsy to detect chronic active disease, track progression, and evaluate response to therapy. Primary Nursing Diagnosis Altered nutrition: Less than body requirements related to decreased oral intake, nausea, vomiting, and anorexia Pharmacologic Intervention Vitamin K injected subcutaneously S. Long-term interferon therapy in combination with oral ribavirin may produce remission in HCV patients. Peginterferon alfa-2b is a long-acting preparation given S. Antiviral treatment is being investigated for HBV. Nursing Intervention Monitor hydration through intake and output. Monitor prothrombin time and for signs of bleeding. Encourage the patient to eat meals in a sitting position to reduce pressure on the liver. Encourage pleasing meals in an environment with minimal noxious stimuli odors, noise, and interruptions. Teach self-administration of antiemetics as prescribed. Encourage rest during symptomatic phase, according to level of fatigue. Encourage diversional activities when recovery and convalescence are prolonged. Encourage gradual resumption of activities and mild exercise during convalescent period. Stress importance of proper public and home sanitation and proper preparation and dispensation of foods. Encourage specific protection for close contacts. Explain precautions about transmission and prevention of transmission to others to the patient and family. Warn the patient to avoid trauma that may cause bruising. Stress the need to follow precautions with blood and secretions until the patient is deemed free of HBsAg. Emphasize that most hepatitis is self-limiting, but follow up is needed for liver function tests. Documentation Guidelines Findings of physical exam and ongoing assessments: Nausea, vomiting, anorexia, diarrhea, color of stools and urine, daily weights, vital signs, jaundice, pruritus, edema, ascites, pain, level of consciousness Response to medical and nursing interventions: Location, duration, precipitating factors, response to interventions Discharge and Home Healthcare Guidelines Provide

instruction on the prevention of the spread of hepatitis to others. With hepatitis A, do the following for 1 to 2 weeks after the onset of jaundice. Use strict hand washing after bowel movements and before meals. Have separate toilet facilities if possible if not, clean the seat with bleach after each use. Wash linens, towels, and undergarments separately from other items in hot, soapy water. Do not donate blood or work in food services until such work is cleared by a physician. With hepatitis B, C, or D, do the following, as directed by a physician, until antigen-antibody tests are negative. Maintain strict hand washing after urination and defecation. Do not share personal items toothbrush, razor, washcloth. Use disposable eating utensils or wash utensils separately in hot, soapy water. Do not share food or eating utensils. Do not share needles, and dispose of them properly after a single use. Avoid intimate sexual contact; when sex can be resumed, use a condom and avoid intercourse during menstruation. Do not donate blood. Instruct the patient to inform household members and sexual partners of the fact that she or he has developed hepatitis and to encourage them to notify a primary healthcare provider immediately to assess the risk of the disease. To prevent complications, teach the patient to avoid alcohol for 6 months to 1 year, avoid illicit drugs and toxic chemicals, and take acetaminophen only when necessary and not beyond the recommended dosage. Note that in viral hepatitis, the patient has immunity only to the type of hepatitis he or she has had.

4: PPT - Management of Hepatitis B PowerPoint Presentation - ID

Hepatitis Overview Viral hepatitis, including hepatitis A, hepatitis B, and hepatitis C, are a group of distinct diseases that affect the liver. Each have different hepatitis symptoms and treatments.

Consider pre-vaccination serology testing for hepatitis A virus immunoglobulin G HAV-IgG to check for immunity in people from highly endemic areas, those with a prior history of hepatitis or jaundice, and in men who have sex with men. If immunity to hepatitis A is demonstrated following initial serology testing, there is no need to vaccinate the person. For information on hepatitis serology testing, see Interpretation of serology results. For all other people at high risk, who are not known to be immune, offer hepatitis A vaccination. For detailed information on the hepatitis A vaccine, see Prescribing information. Basis for recommendation Pre-vaccination testing of particular high-risk groups The recommendation to consider pre-vaccination testing for people from areas of high endemicity of hepatitis A, or with a past history of jaundice or hepatitis, is taken from a review article which states that it may be cost-effective to screen these high-risk people to check whether they are already hepatitis A immune. These groups are at especially high risk of having been exposed to hepatitis A previously and therefore may already be immune to infection, resulting in the costs of pre-vaccination testing being favourably offset by the savings in time and money by not having to vaccinate this group of people unnecessarily [Steele et al,]. It refers to an audit of different vaccination strategies for men who have sex with men attending a large sexual health clinic in London. Vaccination for men who have sex with men and those with risky sexual behaviours Expert opinion regarding the recommendation to offer hepatitis A vaccination to those at risk from sexual transmission varies. Overall, CKS has followed the consensus of opinion that pre-exposure vaccination of men who have sex with men is potentially beneficial. Guidance from the World Health Organization position paper on hepatitis A vaccines recommends that targeted vaccination of high-risk groups including men who have sex with men should be considered, as it produces individual benefit. There is, however, little evidence that high coverage among targeted groups can be achieved, and such an approach may not reduce infection rates in the general population in areas of low endemicity, such as the UK [WHO,]. Similarly, Guidance for the prevention and control of hepatitis A Infection issued by the Health Protection Agency, recommends pre-exposure vaccination for men who have sex with men [HPA,]. Expert opinion in a review article by the National Travel Health Network and Centre recommends vaccination for people whose sexual behaviour is likely to put them at increased risk of infection, including men who have sex with men [NaTHNaC,]. It suggests that vaccination is offered in large cities where outbreaks have been reported, particularly when there are increased rates of infection [BASHH,]. Advice for people at high risk of infection What advice should I give to people at high risk of hepatitis A infection? Advise all people at high risk of hepatitis A infection to: Thoroughly wash their hands after using the toilet and before food preparation. Ensure good personal hygiene. Practice safe sex to reduce the risk of sexual transmission. Get vaccinated against hepatitis B at the same time, if appropriate. Advise travellers to moderately or highly endemic areas to: Avoid food and water potentially contaminated by human faeces – in particular, foods grown close to the ground such as strawberries and salad vegetables, and under-cooked or raw molluscs that feed by filtering large volumes of sewage-polluted waters such as mussels, oysters and clams. For additional information on the prevention of food and water-borne diseases, see www.nhs.uk. Advise people at occupational risk of infection to: Use appropriate protective gloves, boots, and face protection, as required by their individual job role. For more information on advice for people with hepatitis A to reduce the risk of transmission to others, see Information and advice. Basis for recommendation General advice The recommendations to advise thorough hand washing, good personal hygiene, and safe sexual practices aim to reduce the risk of person to person transmission of hepatitis A by the faecal-oral route. People with risky sexual behaviours such as oral-anal or digital-rectal sexual contact may be at particular risk, as are injecting drug users with poor personal hygiene, or those using unhygienic equipment [BASHH, ; HPA, ; NaTHNaC,]. It is prudent to offer hepatitis B vaccination at the same time as hepatitis A vaccination to maximise the chance of prophylaxis against both diseases. Advice to people at occupational risk This is what CKS considers

to be pragmatic advice based on good medical practice in primary care. Managing hepatitis A infection All ages Managing hepatitis A infection How should I manage a person with confirmed or probable hepatitis A infection? Admit any person with hepatitis A infection to hospital if they are severely unwell. If hospital admission is not required and the diagnosis is confirmed by serology testing: Provide symptomatic supportive care for pain, nausea, or itch as required. If an outbreak is suspected, or the person is a food handler, notify the HPU immediately. Consider referring the person to a: Basis for recommendation Admission of all people with hepatitis A infection if unwell The recommendation to admit people to hospital when severely unwell is based on expert opinion in guidance by the British Association of Sexual Health and HIV [BASHH,], and is a pragmatic approach for managing people in primary care. Hepatitis A is a notifiable disease, and the HPU can provide help and advice in managing the person and any contacts at risk of transmission of infection [HPA,]. The HPU may initiate fact-finding, and collate the required data for risk factors, partner notification and contact tracing. This includes notifying any sexual contacts or needle-sharing partners during the infectious period commonly defined as two weeks before to one week after the onset of jaundice, if present [BASHH, ; HPA,]. Prompt notification will allow a timely risk assessment of other food handlers in the same location, and allow for post-exposure prophylaxis to be offered to colleagues or traceable customers, if appropriate.

5: Transmission, diagnosis, and management of hepatitis E: an update

Hepatitis A of Children, Symptoms and Management. Hepatitis A is a highly contagious liver infection caused by the hepatitis A virus. The virus is one of several types of hepatitis viruses that cause inflammation and affect your liver's ability to function.

Print Diagnosis Your doctor will examine you and look for signs of liver damage, such as yellowing skin or belly pain. Tests that can help diagnose hepatitis B or its complications are: A special ultrasound called transient elastography can show the amount of liver damage. Your doctor might remove a small sample of your liver for testing liver biopsy to check for liver damage. During this test, your doctor inserts a thin needle through your skin and into your liver and removes a tissue sample for laboratory analysis. Screening healthy people for hepatitis B Doctors sometimes test certain healthy people for hepatitis B infection because the virus can damage the liver before causing signs and symptoms. Talk to your doctor about screening for hepatitis B infection if you: An injection of immunoglobulin an antibody given within 12 hours of exposure to the virus may help protect you from getting sick with hepatitis B. Because this treatment only provides short-term protection, you also should get the hepatitis B vaccine at the same time, if you never received it. Treatment for acute hepatitis B infection If your doctor determines your hepatitis B infection is acute “ meaning it is short-lived and will go away on its own ” you may not need treatment. Instead, your doctor might recommend rest, proper nutrition and plenty of fluids while your body fights the infection. In severe cases, antiviral drugs or a hospital stay is needed to prevent complications. Treatment for chronic hepatitis B infection Most people diagnosed with chronic hepatitis B infection need treatment for the rest of their lives. Treatment helps reduce the risk of liver disease and prevents you from passing the infection to others. Treatment for chronic hepatitis B may include: Several antiviral medications “ including entecavir Baraclude , tenofovir Viread , lamivudine Epivir , adefovir Hepsera and telbivudine Tyzeka “ can help fight the virus and slow its ability to damage your liver. These drugs are taken by mouth. Talk to your doctor about which medication might be right for you. Interferon alfa-2b Intron A is a man-made version of a substance produced by the body to fight infection. Interferon should not be used during pregnancy. Side effects may include nausea, vomiting, difficulty breathing and depression. If your liver has been severely damaged, a liver transplant may be an option. During a liver transplant, the surgeon removes your damaged liver and replaces it with a healthy liver. Most transplanted livers come from deceased donors, though a small number come from living donors who donate a portion of their livers. Other drugs to treat hepatitis B are being developed. Request an Appointment at Mayo Clinic Clinical trials Explore Mayo Clinic studies testing new treatments, interventions and tests as a means to prevent, detect, treat or manage this disease. Tell your sexual partner to get tested. If you use IV drugs, never share needles and syringes. Learn about hepatitis B. The Centers for Disease Control and Prevention is a good place to start. Stay connected to friends and family. Take care of yourself. Eat a healthy diet full of fruits and vegetables, exercise regularly, and get enough sleep. Take care of your liver. Get tested for hepatitis A and C. However, in some cases, you may be referred immediately to a specialist. Doctors who specialize in treating hepatitis B include: Be aware of pre-appointment restrictions. Write down your symptoms, including any that may seem unrelated to the reason for which you scheduled the appointment. Write down key personal information, including major stresses or recent life changes. Make a list of all medications, vitamins and supplements you take. Consider taking a family member or friend along. Someone who accompanies you may help you remember the information you receive. Write down questions to ask your doctor. Listing questions for your doctor can help you make the most of your time together. For hepatitis B infection, some basic questions to ask your doctor include: What is likely causing my symptoms or condition? Other than the most likely cause, what are other possible causes for my symptoms or condition? What tests do I need? Is my condition likely temporary or chronic? Has hepatitis B damaged my liver or caused other complications, such as kidney problems? What is the best course of action? I have other health conditions. How can I best manage them together? Are there restrictions that I need to follow? Should I see a specialist? Should my family be tested for hepatitis B? How can I protect people around me from hepatitis B?

Are there brochures or other printed material I can have? What websites do you recommend? What to expect from your doctor Your doctor is likely to ask you a number of questions, including: When did your symptoms begin? Have your symptoms been continuous or occasional? How severe are your symptoms? What, if anything, seems to improve your symptoms? What, if anything, appears to worsen your symptoms? Have you ever had a blood transfusion? Do you inject drugs? Have you had unprotected sex? How many sexual partners have you had? Have you been diagnosed with hepatitis?

6: Hepatitis A - Diagnosis and treatment - Mayo Clinic

Persons with HBsAg should be referred to a specialist in the management of hepatitis B infection and receive further serologic evaluation, prevention counseling, and evaluation for antiviral treatment (see Management of HBsAg-Positive Persons).

It can cause relapsing signs and symptoms but not a chronic infection. The virus is a nm-diameter nonenveloped RNA virus. It belongs to the family Picornaviridae and the genus Hepatovirus. It has characteristics of the enteroviruses. The genome is a positive-strand RNA, nucleotides long, 7. The virus is then secreted into the bile and serum. This figure has been declining since vaccines have become available and given to high-risk persons. The virus is more prevalent in areas with poor sanitary conditions. The most common source of hepatitis A is direct person-to-person exposure and, to a lesser extent, direct fecal contamination of food or water. Consumption of raw or partially cooked shellfish raised in contaminated waterways is an uncommon but possible source of hepatitis A. High-risk groups for acquiring HAV infection include travelers to developing nations, children in daycare centers, sewage workers, cleaning personnel, male homosexuals, intravenous drug users, hemophiliacs given plasma products, and persons in institutions. Replication of HAV occurs exclusively within the cytoplasm of the hepatocyte. Interferon gamma appears to have a central role in promoting the clearance of infected hepatocytes. They range from silent infection and spontaneous resolution to fulminant hepatic failure. The incubation period of HAV ranges from days mean, 25 days. The prodromal phase is characterized by nonspecific symptoms, such as fatigue, weakness, anorexia, nausea, vomiting, abdominal pain, and, less commonly, fever. Headache, arthralgias, myalgias, rash, or diarrhea can follow. Jaundice begins within weeks from the onset of the prodrome. Click to Enlarge The host is infective from days before the onset of jaundice to days after jaundice has resolved. Anti-HAV antibody immunoglobulin M [IgM], followed by immunoglobulin G [IgG] appears shortly before the onset of symptoms and rises to high titers months after exposure. Extrahepatic manifestations are uncommon and include a leukocytoclastic vasculitis, glomerulonephritis, arthritis, immune complex disease, toxic epidermal necrolysis, myocarditis, optic neuritis, transverse myelitis, polyneuritis, thrombocytopenia, aplastic anemia, and red cell aplasia. HAV antigen can be detected in the stool or body fluids, but there is no commercially available assay. Detecting viral RNA is highly specific but expensive and is rarely used to confirm the diagnosis. Liver biopsy is not indicated. When detected in the serum, this IgG remains positive for years. Complete recovery is seen in most patients, and chronic disease does not occur. In rare cases, infection is complicated by fulminant disease, and fatalities occur. Treatment is mainly supportive. Attempts should be made to prevent transmission of the virus within the household and to close contacts. Boiling contaminated water for 20 minutes or exposing the virus to chlorine, formalin, or ultraviolet light reduces the risk of infection. Patients with chronic liver disease are more likely to develop severe or fulminant liver disease when infected with HAV and should be vaccinated. Hepatitis A vaccine is also recommended for patients with chronic immunodeficiency, those on dialysis, and those on chronic immunosuppressive therapies. Travelers from non-endemic to moderate or highly endemic areas should be vaccinated prior to their travel date, allowing time to develop protective antibodies. However, if travelling to a hepatitis A endemic area on short notice, protective immunoglobulin IG administration should be considered. Pre-exposure prophylaxis dose of 0. When administered within 2 weeks after an exposure to HAV 0. Efficacy is greatest when IG is administered early in the incubation period. Two formulations of the HAV vaccine are available in the United States; both consist of inactivated hepatitis A antigen purified from cell culture. Havrix is recommended as 2 injections months apart in an adult dose of U of enzyme-linked immunosorbent assay ELISA; 1. A dose of U administered 3 times over a 6-month period is an acceptable regimen for children. Travelers to high-risk areas should receive the first dose of vaccine at least 4 weeks before anticipated exposure. Vaqta is recommended for administration as 2 injections at least 6 months apart in an adult dose of 50 U 1. Protection lasts for approximately 15 years. Hepatitis A vaccines have an excellent safety record, with serious complications in less than 0. Patients with liver disease should therefore be vaccinated as early in their illness as possible.

Follow-up testing for anti-HAV antibody and booster inoculations are not currently recommended. However, later administration attenuates the clinical expression of HAV infection. Back to Top Outcomes The course of hepatitis A infection is benign in most of those infected. It is occasionally severe, or fulminant, in adults, particularly in those with chronic liver disease. Jaundice usually resolves in less than 2 weeks, and full recovery usually occurs in 2 months. The illness occasionally persists for several weeks or months, but it never leads to a chronic infection, chronic hepatitis, or cirrhosis. A chronic relapsing hepatitis has been noted to last for as long as 1 year. Hepatitis A can cause a cholestatic hepatitis that usually responds to a short course of prednisolone, 30 mg daily. Pregnancy does not affect the severity or outcome of acute hepatitis A infection. In the rare case of fulminant hepatitis, patients should be evaluated early for possible liver transplantation. The main mode of transmission is fecal-oral, but consumption of raw shellfish and direct contact with contaminated blood can cause infection. HAV causes acute and relapsing hepatitis. It does not cause chronic hepatitis. Treatment is usually supportive, and hospitalization may be needed for severe cases. Liver transplantation is recommended in case of fulminant HAV hepatitis. There is a safe and effective vaccine to prevent HAV infection. It is recommended for patients at high risk of acquiring hepatitis A and for patients with chronic liver disease. Intramuscular human immune globulin is recommended for postexposure prophylaxis. Eur J Gastroenterol Hepatol ; 8: Genetic, antigenic and biological differences between strains of hepatitis A virus. Vaccine ; 10 suppl 1: Preventing hepatitis A infections in travelers to endemic areas. Am J Trop Med Hyg ; The diverse patterns of hepatitis A epidemiology in the United States: J Infect Dis ; World Health Organization website. Published February 4, Accessed July 1, Clonal analysis of infiltrating T lymphocytes in liver tissue in viral hepatitis A. Cytolytic activity of natural killer cells and lymphokine activated killer cells against hepatitis A virus infected fibroblasts. J Clin Lab Immunol ; Clinical manifestations of hepatitis A: J Infect Dis ; suppl 1: Atypical clinical manifestations of hepatitis A. Viral hepatitis guide for practicing physicians. Cleve Clin J Med ; 67 suppl 1: Clinical manifestations and diagnosis of hepatitis A virus infection. Immunoglobulin prophylaxis for hepatitis A. Clin Infect Dis ; Type A viral hepatitis: Clin Chem ;

7: Hepatitis A – An evolving disease

Oral nucleoside and nucleotide analogues have revolutionized the management of chronic hepatitis B. Five such antiviral agents have been approved, with a range of profundity and rapidity of hepatitis B virus deoxyribonucleic acid (HBV DNA) suppression, of barrier to resistance, and of side-effect profiles.

How hepatitis is diagnosed History and physical exam To diagnose hepatitis, first your doctor will take your history to determine any risk factors you may have for infectious or noninfectious hepatitis. Your doctor may also feel to see if your liver is enlarged. If your skin or eyes are yellow, your doctor will note this during the exam. Liver function tests Liver function tests use blood samples to determine how efficiently your liver works. High liver enzyme levels may indicate that your liver is stressed, damaged, or not functioning properly. Other blood tests If your liver function tests are abnormal, your doctor will likely order other blood tests to detect the source of the problem. These tests can check for the viruses that cause hepatitis. They can also be used to check for antibodies that are common in conditions like autoimmune hepatitis. Ultrasound An abdominal ultrasound uses ultrasound waves to create an image of the organs within your abdomen. This test allows your doctor to take a close at your liver and nearby organs. This can be a useful test in determining the cause of your abnormal liver function. Liver biopsy A liver biopsy is an invasive procedure that involves your doctor taking a sample of tissue from your liver. Typically, an ultrasound is used to guide your doctor when taking the biopsy sample. This test allows your doctor to determine how infection or inflammation has affected your liver. It can also be used to sample any areas in your liver that appear abnormal. Treatment options are determined by which type of hepatitis you have and whether the infection is acute or chronic. Bed rest may be recommended if symptoms cause a great deal of discomfort. The hepatitis A vaccine is available to prevent this infection. Most children begin vaccination between ages 12 and 18 months. Vaccination for hepatitis A is also available for adults and can be combined with the hepatitis B vaccine. Chronic hepatitis B is treated with antiviral medications. This form of treatment can be costly because it must be continued for several months or years. Treatment for chronic hepatitis B also requires regular medical evaluations and monitoring to determine if the virus is responding to treatment. Hepatitis B can be prevented with vaccination. The CDC recommends hepatitis B vaccinations for all newborns. The series of three vaccines is typically completed over the first six months of childhood. The vaccine is also recommended for all healthcare and medical personnel. Hepatitis C Antiviral medications are used to treat both acute and chronic forms of hepatitis C. People who develop chronic hepatitis C are typically treated with a combination of antiviral drug therapies. They may also need further testing to determine the best form of treatment. People who develop cirrhosis scarring of the liver or liver disease as a result of chronic hepatitis C may be candidates for a liver transplant. Currently, there is no vaccination for hepatitis C. Hepatitis D No antiviral medications exist for the treatment of hepatitis D at this time. According to a study , a drug called alpha interferon can be used to treat hepatitis D, but it only shows improvement in about 25 to 30 percent of people. Hepatitis D can be prevented by getting the vaccination for hepatitis B, as infection with hepatitis B is necessary for hepatitis D to develop. Hepatitis E Currently, no specific medical therapies are available to treat hepatitis E. Because the infection is often acute, it typically resolves on its own. People with this type of infection are often advised to get adequate rest, drink plenty of fluids, get enough nutrients, and avoid alcohol. However, pregnant women who develop this infection require close monitoring and care. Autoimmune hepatitis Corticosteroids, like prednisone or budesonide, are extremely important in the early treatment of autoimmune hepatitis. Azathioprine Imuran , a drug that suppresses the immune system, is often included in treatment. It can be used with or without steroids. Other immune suppressing drugs like mycophenolate CellCept , tacrolimus Prograf and cyclosporine Neoral can also be used as alternatives to azathioprine for treatment. Tips to prevent hepatitis Hygiene Practicing good hygiene is one key way to avoid contracting hepatitis A and E. Practicing safe sex by using condoms and dental dams can help decrease the risk of infection. You can find many options available for purchase online. Vaccines The use of vaccines is an important key to preventing hepatitis. Vaccinations are available to prevent the development of hepatitis A and B. Experts are currently developing vaccines against

hepatitis C. Chronic hepatitis B or C can often lead to more serious health problems. Because the virus affects the liver, people with chronic hepatitis B or C are at risk for:

8: Acute Viral Hepatitis | World Gastroenterology Organisation

Chronic hepatitis C virus (HCV) infection affects some million people worldwide, including 3 to 4 million in the United States who are largely unaware of their infection status. HCV has 6 genotypes; genotype 1 is the most common in the United States and genotypes 1 and 4 are less responsive to.

Headaches Diagnosis To check for hepatitis viruses, your doctor will test your blood. You may also need a biopsy to see if there is liver damage. Treatment Bed rest, abstaining from alcohol, and taking medication to help relieve symptoms. Most people who have hepatitis A and E get well on their own after a few weeks. Hepatitis B is treated with drugs, such as lamivudine and adefovir dipivoxil. Hepatitis C is treated with a combination of peginterferon and ribovarin. Liver transplant of hepatitis B or C, or D-caused liver failure. Prevention Hepatitis A Immunization of children years of age consists of two or three doses of the vaccine. Adults need a booster dose six to 12 months following the initial dose of vaccine. The vaccine is thought to be effective for 15–20 years or more. Hepatitis B Safe and effective vaccines provide protection against hepatitis B for 15 years and possibly much longer. Currently, the Center for Disease Control and Prevention recommends that all newborns and individuals up to 18 years of age and adult participating at risk of infection be vaccinated. Three injections over a six to 12 month period are required to provide full protection. Wash your hands after going to the bathroom and before fixing food or eating. Use latex condoms, which may lower the risk of transmission. Avoid tap water when traveling to certain countries or regions. NIH Research to Results Liver diseases afflict Americans of all ages and stages, but most frequently those in the productive "prime of life" years, between the ages of 40 and 60 years, notes Jay Hoofnagle, M. Minorities and the poor are especially hard hit. Currently, an estimated 5. The combined diagnoses of chronic liver disease, cirrhosis, viral hepatitis, and liver cancer make liver disease one of the 10 leading causes of death in the United States. While death rates from some forms of liver disease are decreasing, those for viral hepatitis and liver cancer are on the rise, both in the U. An estimated one quarter of Americans will suffer from a liver or biliary gallbladder-related disease at some point during their lifetime. Hepatitis, especially hepatitis C, is a chief cause of liver diseases. Can I spread it to my family and others? Can it be treated? Can I drink wine or beer? How long will I be sick? What if I am not better in a few weeks? Hepatitis C is the most critical area of all liver disease research. A recent study concluded that about half of patients with chronic hepatitis C recovered after receiving initial treatments from two drugs, peginterferon and ribavirin. Read More "Hepatitis" Articles.

9: Hepatitis A | NIDDK

Hepatitis D is a rare form of hepatitis that only occurs in conjunction with hepatitis B infection. The hepatitis D virus can't multiply without the presence of hepatitis B. It's very uncommon.

Anti-HEV only if the above are negative 5. Acute hepatitis C 5. The incubation period varies from 14 to days, with a mean of 7 weeks. Most acute and chronic infections are asymptomatic. If symptoms occur, they usually last 2–12 weeks. The lack of a strong T-lymphocyte response is responsible for the high rate of chronic infection. Anti-HCV is not protective nonneutralizing antibodies. Unlike the other forms of acute viral hepatitis, acute HCV is very likely to become chronic. This underlines the importance of finding ways of preventing the condition from becoming chronic. Unfortunately, most acute infections are missed as they are asymptomatic, and the opportunity to treat is therefore rare. In the United States, it is estimated that more than 20, cases occur each year. The incidence of new symptomatic infections has been estimated to be one to three cases per , persons annually, but rates of more than 20 per , have been reported. The actual incidence of new infections is obviously much higher the majority of cases being asymptomatic. The incidence is declining for two reasons – firstly, transmission via blood products can be reduced to near zero; and secondly, universal precautions have reduced transmission in medical settings. As a blood-borne infection, HCV may potentially be transmitted sexually, mainly in individuals with other sexually transmitted diseases. Breastfeeding does not pose a risk. Also at risk are individuals in prisons and persons born in countries with high rates of endemic disease. The CDC has listed the risk groups and categories shown in Table 1. Individuals with sexually transmitted diseases STD , including such common ones as herpes, represent an additional risk group. Other potential risk activities include cocaine snorting, tattoos, body piercing, iatrogenic causes contaminated equipment , tribal scarification, and mass circumcision ceremonies. Liver cell injury becomes evident after 4–12 weeks with elevated ALT levels. Acute infection can be severe, but it is rarely fulminant. HCV can be diagnosed by the presence of anti-HCV in serum, but antibody tests often do not give positive results for up to 3 months after acute infection. The antibody does not confer immunity. An assay prototype designed to detect and quantify total hepatitis C virus HCV core antigen HCVcoreAg protein in serum and plasma, in the presence or absence of anti-HCV antibodies, has recently been developed. Anti-HCV does not clarify whether the infection is new acute , chronic, or no longer present. There is no preexposure prophylaxis for HCV. There is no really effective passive or active immunization. Behavioral changes and limiting exposure to high-risk situations offers the best chance of primary prevention. An important goal is the development of a HCV vaccine that induces cell-mediated immunity. Both therapeutic and prophylactic vaccines are currently in the early stages of development. Treatment for acute HCV. Future studies should be larger and more evidence-based and they should focus on the efficacy of peginterferons and the time when therapy should be started: Therapy of acute hepatitis C. Hepatology ;36 5 Suppl 1: Acute hepatitis D 6. It is an incomplete RNA virus that needs the hepatitis B surface antigen to transmit its genome from cell to cell. It therefore only occurs in people who are positive for the hepatitis B surface antigen. The mean incubation period varies from 60 to 90 days, but it can vary as widely as 30– days. Low risk of chronic infection Indistinguishable from acute HBV Usually develops acute exacerbation of chronic hepatitis High risk of chronic liver disease 6. The incidence of HDV in the general Italian population declined from 3. However, new foci of high HDV prevalence are continuing to be identified, as in the case of the island of Okinawa in Japan and areas of China, northern India, and Albania. Global incidence figures for the prevalence are not available. Otherwise, the prognosis of co-infection is generally good. The prognosis for superinfection is variable. There is some suggestion that the chronic liver disease is more severe, but this is not universally the case. It may take 30–40 days after the first symptoms appear before anti-HDV can be detected. Anti-HDV generally declines to subdetectable levels after the infection resolves, and there is no serologic marker that persists to indicate that the patient was ever infected with HDV. When HDAg is detectable, it generally disappears as HBsAg disappears, and most patients do not develop chronic infection. HBV replication is usually suppressed. Some success has been reported with the viral DNA polymerase inhibitor foscarnet. Education to reduce risk

behaviors in individuals with chronic HBV infection.

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