

Chapter 1 : Herpes zoster infection - Symptoms, diagnosis and treatment | BMJ Best Practice

Shingles, also known as herpes zoster, is a viral disease characterized by a painful skin rash with blisters in a localized area. Typically the rash occurs in a single, wide stripe either on the left or right side of the body or face.

Shingles affects the nerves The shingles rash is associated with an inflammation of nerves beneath the skin. Shingles is caused by the varicella-zoster virus – the same virus that causes chickenpox. After you recover from chickenpox, the virus can enter your nervous system and lie dormant for years. Eventually, it may reactivate and travel along nerve pathways to your skin – producing shingles. The reason for shingles is unclear. But it may be due to lowered immunity to infections as you grow older. Shingles is more common in older adults and in people who have weakened immune systems. Varicella-zoster is part of a group of viruses called herpes viruses, which includes the viruses that cause cold sores and genital herpes. Because of this, shingles is also known as herpes zoster. But the virus that causes chickenpox and shingles is not the same virus responsible for cold sores or genital herpes, a sexually transmitted infection. This usually occurs through direct contact with the open sores of the shingles rash. Once infected, the person will develop chickenpox, however, not shingles. Chickenpox can be dangerous for some people. Risk factors Anyone who has ever had chickenpox can develop shingles. Most adults in the United States had chickenpox when they were children, before the advent of the routine childhood vaccination that now protects against chickenpox. Factors that may increase your risk of developing shingles include: Being older than Shingles is most common in people older than The risk increases with age. Some experts estimate that half the people age 80 and older will have shingles. Radiation or chemotherapy can lower your resistance to diseases and may trigger shingles. Drugs designed to prevent rejection of transplanted organs can increase your risk of shingles – as can prolonged use of steroids, such as prednisone. Complications Complications from shingles can include: For some people, shingles pain continues long after the blisters have cleared. This condition is known as postherpetic neuralgia, and it occurs when damaged nerve fibers send confused and exaggerated messages of pain from your skin to your brain. Shingles in or around an eye ophthalmic shingles can cause painful eye infections that may result in vision loss. Depending on which nerves are affected, shingles can cause an inflammation of the brain encephalitis , facial paralysis, or hearing or balance problems. Prevention Two vaccines may help prevent shingles – the chickenpox varicella vaccine and the shingles varicella-zoster vaccine. Chickenpox vaccine The varicella vaccine Varivax has become a routine childhood immunization to prevent chickenpox. Shingles vaccine People looking to receive the shingles vaccine have two options: Zostavax, which was approved by the Food and Drug Administration FDA in , has been shown to offer protection against shingles for about five years. Shingrix was approved by the FDA in and is the preferred alternative to Zostavax. Studies suggest Shingrix offers protection against shingles beyond five years. The most common side effects of either shingles vaccine are redness, pain, tenderness, swelling and itching at the injection site, and headaches. But this vaccine will likely reduce the course and severity of the disease and reduce your risk of postherpetic neuralgia. The shingles vaccine is used only as a prevention strategy. Talk to your doctor about which option is right for you.

Shingles may also be referred to as herpes zoster. This type of viral infection is characterized by a red skin rash that can cause pain and burning.

Of the 1 in 3 people who will get shingles in their lifetime, about half of those will be in people 60 or older. Seniors are most likely to get shingles, as their immune systems are more likely to be compromised. Senior citizens with shingles are more likely to experience complications than the general population, including more extensive rashes and bacterial infections from open blisters. They are also more susceptible to both pneumonia and brain inflammation, so being seen by a doctor early on for anti-viral treatment is important. To prevent shingles, adults who are 60 years old and older should receive the shingles vaccine. To relieve pain, you can apply a cool washcloth to the blisters. Keep the rash covered as much as possible to avoid spreading the varicella virus to others. Your doctor can also prescribe pain medications if necessary. Shingles and pregnancy While getting shingles during pregnancy is unusual, it is possible. If you come into contact with someone who has the chickenpox or an active shingles infection, you can develop chickenpox if you have not been vaccinated or if you have never had it before. Getting a chickenpox vaccine before pregnancy can be an important step in protecting your child. Shingles is less likely to cause complications, but it can still be unpleasant. See your doctor right away if you develop any rash during pregnancy. Anti-viral medications used to treat shingles can be used safely during a pregnancy. Antihistamines can also help reduce itching, and acetaminophen Tylenol can reduce pain. Diagnosing shingles Most cases of shingles can be diagnosed with a physical examination of rashes and blisters. Your doctor will also ask questions about your medical history. In rare instances, your doctor may need to test a sample of your skin or the fluid from your blisters. This involves using a sterile swab to collect a sample of tissue or fluid. Samples are then sent to a medical laboratory to confirm the presence of the virus. Medications prescribed are varied:

Chapter 3 : Herpes zoster | DermNet New Zealand

Geniculate zoster (Ramsay Hunt syndrome, herpes zoster oticus) results from involvement of the geniculate ganglion. Ear pain, facial paralysis, and sometimes vertigo occur. Ear pain, facial paralysis, and sometimes vertigo occur.

Another risk factor is age. Children, teenagers, and young adults can get shingles, but most people who have outbreaks, are over 50 years old. A weakened immune system may also trigger shingles. Good nutrition and getting enough sleep are important because they may help keep your immune system strong. Some medical conditions and their treatments can adversely affect the immune system, making you more susceptible to shingles. Shingles often starts with a burning, tingling, or painful sensation along one side of the torso or head. Within one to five days, a rash will appear. Within a few days, the rash will turn into fluid-filled blisters. The blisters will start to dry up about a week later, and will begin to disappear over the next several weeks. Some people only experience mild itching, but others have intense pain. If you think you may have shingles, see your doctor as soon as possible, especially if you see blisters on your face or near your eye. No matter where your rash appears, you should seek medical treatment quickly. Your doctor can make a diagnosis and prescribe treatments to help the blisters dry up and heal. This can reduce the duration of the outbreak and your discomfort. No cure is available for shingles, but most people who have an outbreak get it only once. Doing the following at home may help you to feel more comfortable: Get lots of rest. Use cool washcloths on your rash. Keep your stress to a minimum. You should keep the rash covered and wash your hands often to reduce the risk of spreading the infection. Shingles may last from two to six weeks. Sometimes, the pain associated with shingles may linger. This ongoing pain is called post-herpetic neuralgia PHN. PHN usually becomes less severe over time. Your doctor will be able to prescribe pain reduction medications that can also help. Outlook Studies on the link between shingles and stress seem to contradict each other. Talk to your doctor about getting the shingles vaccine. Finding ways to reduce stress and anxiety may also be beneficial. What can you do to avoid stress? Experimenting with different techniques for stress can help you find what works for you. Try these techniques to reduce stress: Identify and avoid the things that trigger your stress. Consider keeping a journal of your moods and possible triggers. Wind down before sleep. Reading a book, turning off the computer, and creating a bedtime routine may help. Turn mealtimes into social rituals with people you like, complete with conversation, soft music, and healthy, well-prepared food. Turn off your phone. Spend time in nature or taking quiet walks in peaceful surroundings. Join a support group. Practice deep breathing exercises. You can also add regular exercise into your daily routine. Walking, riding a bicycle, or going for a hike are examples of exercises that you may be able to incorporate into your routine Medically reviewed by Judi Marciniak, MD on May 25, 2017. Written by Corey Whelan related stories.

Chapter 4 : Shingles - Wikipedia

Shingles is caused by the varicella zoster virus (VZV), the same virus that causes chickenpox. After a person recovers from chickenpox, the virus stays dormant (inactive) in the body. For reasons that are not fully known, the virus can reactivate years later, causing shingles.

Herpes zoster is a clinical manifestation of the reactivation of latent varicella zoster virus infection. It is a cause of considerable morbidity, especially in elderly patients, and can be fatal in immunosuppressed or critically ill patients. The pain associated with herpes zoster can be debilitating, with a serious impact on quality of life, and the economic costs of managing the disease represent an important burden on both health services and society. We also reviewed recent recommendations made by an expert body on the management of herpes zoster sponsored by the International Association for the Study of Pain, the Neuropathic Pain Institute, and the VZV Foundation. Herpes zoster, or shingles, is the painful eruption of a rash, usually unilateral, caused by the varicella zoster virus. Herpes zoster is more common in people with diminished cell mediated immunity. This includes elderly people, patients with lymphoma, those receiving chemotherapy or steroids, and people with HIV. In contrast to herpes simplex, precise triggers for herpes zoster are not known. How common is herpes zoster in general practice? What are the clinical features? Replication and transmission of the virus in the nerves and skin lead to the cardinal features of herpes zoster—pain and rash. In some people the rash is preceded by a prodromal phase lasting hours or longer, consisting of throbbing pain and paraesthesia in the region of the affected sensory nerve. This may sometimes be confused with other acute medical conditions such as angina, cholecystitis, or renal colic, depending on the dermatome involved. In immunocompetent patients, the most frequent site of reactivation is the thoracic nerves followed by the ophthalmic division of the trigeminal nerve herpes zoster ophthalmicus, which can progress to involve all structures of the eye. Herpes zoster may also cause facial nerve palsy without vesicles occurring in the external meatus. Other rare complications include encephalitis, myelitis, retinitis, and hemiparesis, all of which are more common in immunocompromised patients. Herpes zoster can usually be diagnosed clinically. However, early zoster and zoster presenting in the sacral and cervical area may be difficult to distinguish from herpes simplex. In these cases, the diagnosis can be confirmed by sending swabs to the local virology laboratory, but treatment should not be delayed while waiting for test results. The top of the lesion should be lifted and a sterile swab used to rub the base of the lesion. The swab should then be wiped across a sterile glass slide or over three wells on a Teflon coated slide. The slide should be air dried and sent to the laboratory for staining with immunofluorescent antibodies. The swab can also be placed in viral transport medium or sterile saline, which is suitable for transporting to the laboratory within the next one to three days for detection of viral DNA by polymerase chain reaction. Reactivation of varicella zoster virus in immunocompromised patients, especially those who have had bone marrow or solid organ transplants, may spread to involve the gut, liver, and other viscera. Although a typical rash is common, some cases present with abdominal pain and no evidence of rash. In the absence of rash, the diagnosis can be confirmed by measuring virus in the blood by polymerase chain reaction. The rash is accompanied by severe pain, which, in some people, does not subside after healing but persists for months or years. This prolonged zoster associated pain, usually defined as pain persisting for more than four months after the rash has healed, is known as postherpetic neuralgia and is the most common complication of herpes zoster. The pain can be debilitating, exacerbated by the slightest touch, and lead to loss of employment, depression, and social isolation. Identification of patients at risk of developing postherpetic neuralgia is therefore crucial, as they stand to gain most from treatment. Several clinical and laboratory parameters have been suggested and evaluated as risk factors predicting postherpetic neuralgia box 1, but they are by no means exhaustive.

Chapter 5 : Varicella zoster virus - Wikipedia

You can spread the varicella zoster virus to people who've never had chickenpox and haven't been vaccinated. You are contagious until all of the sores have crusted over.

Identify and manage herpes zoster infections Clinical features Herpes zoster, or shingles, is a painful blistering rash caused by reactivation of the herpes varicella-zoster virus. The primary infection presents as chickenpox varicella , usually during childhood. Like herpes simplex, the virus persists in selected cells of dorsal root ganglion before it is reactivated. Herpes zoster can occur in childhood but is much more common in adults, especially the elderly, sick or immune suppressed. It is infectious, resulting in chickenpox in those who have never developed primary immunity, both from virus in the lesions and in some instances the nose and throat. The first sign of herpes zoster is usually pain, which may be severe, in the areas of one or more sensory nerves, often where they emerge from the spine. The patient usually feels quite unwell with fever, headache and regional lymphadenopathy. Within one to three days of the onset of pain, crops of closely grouped erythematous papules develop within the unilateral dermatome s. New papules continue to appear for several days, each blistering or becoming pustular then crusting over. Herpes zoster The pain and general symptoms subside gradually as the eruption disappears. In uncomplicated cases recovery is complete in weeks in children and young adults, and 3 to 4 weeks in older patients. Rarely the eruption may affect both sides of the body. In elderly and undernourished patients the blisters are deeper. Healing may take many weeks and be followed by scarring. Muscle weakness arises in about one in twenty patients because the motor nerves are affected as well as the sensory nerves. Facial nerve palsy is the most common result. Post-herpetic neuralgia is defined as persistence or recurrence of pain more than a month after the onset of shingles. It becomes increasingly common with age, affecting about a third of patients over It is particularly likely if there is facial infection. The pain may be continuous and burning with increased sensitivity in the affected areas, or a spasmodic shooting type, or, rarely, itching and crawling formication. The overlying skin is numb or exquisitely sensitive to touch hyperaesthesia and allodynia. Investigations In most cases no investigations are necessary as the clinical features are diagnostic. However, at times the diagnosis should be confirmed in one of the following ways: Rest and analgesics Povidone iodine or calamine lotion applied to blisters Oral aciclovir mg 5 times daily for 7 days Systemic steroids for severe infections Oral antibiotics for secondary infection Post-herpetic neuralgia may be difficult to treat successfully. If paracetamol and soothing local applications are unhelpful, the following may be used:

Chapter 6 : Clinical Review: Herpes zoster

Herpes zoster is caused by VZV infection. VZV is an enveloped, double-stranded DNA virus belonging to the Herpesviridae family; its genome encodes approximately 70 proteins. In humans, primary infection with VZV occurs when the virus comes into contact with the mucosa of the respiratory tract or conjunctiva.

Even when clinical symptoms of chickenpox have resolved, VZV remains dormant in the nervous system of the infected person virus latency , in the trigeminal and dorsal root ganglia. Having an incubation period of 10–21 days, averaging at 14 days. Some signs and symptoms are vesicles that fill with pus, rupture, and scab before healing. Lesions tend to stay towards the face, throat, and lower back sometimes on the chest and shoulders. Shingles usually stay located around the waist. VZV can also infect the central nervous system, with a article reporting an incidence rate of 1. In Ramsay Hunt syndrome , VZV affects the geniculate ganglion giving lesions that follow specific branches of the facial nerve. Symptoms may include painful blisters on the tongue and ear along with one sided facial weakness and hearing loss. If infected during initial stages of pregnancy severe damage to the fetus can take place. In some cases, death or coma can follow. Please help improve this section by adding citations to reliable sources. Unsourced material may be challenged and removed. August Learn how and when to remove this template message VZV is closely related to the herpes simplex viruses HSV , sharing much genome homology. The capsid is surrounded by loosely associated proteins known collectively as the tegument; many of these proteins play critical roles in initiating the process of virus reproduction in the infected cell. Genomes[edit] The genome was first sequenced in A small percentage of isolated molecules are circular genomes, about which little is known. It is known that HSV circularizes on infection. There are at least 70 open reading frames in the genome. There are at least five clades of this virus. Clade 4 includes some strains from Europe but its geographic origins need further clarification. Relation with other human herpes viruses is less strong, but many homologues and conserved gene blocks are still found. There are five principle clades 1–5 and four genotypes that do not fit into these clades. Allocation of VZV strains to clades required sequence of whole virus genome. Practically all molecular epidemiological data on global VZV strains distribution obtained with targeted sequencing of selected regions. Sequence analysis of VZV isolates identified both shared and specific markers for every genotype and validated a unified VZV genotyping strategy. Despite high genotype diversity no evidence for intra-genotypic recombination was observed. Sequence analysis of clinical varicella and zoster specimens from 18 European countries identified the following distribution of VZV genotypes: No M3 or J strains were observed. VZV immune globulin is also a treatment. It was submitted to the US Food and Drug Administration for approval in and was approved in Since then, it has been added to the recommended vaccination schedules for children in Australia , the United States, and many other countries. Varicella vaccination has raised concerns in some that the immunity induced by the vaccine may not be lifelong, possibly leaving adults vulnerable to more severe disease as the immunity from their childhood immunization wanes. So far, clinical data has proved that the vaccine is effective for over 10 years in preventing varicella infection in healthy individuals and when breakthrough infections do occur, illness is typically mild. Zostavax is a more concentrated formulation of the Varivax vaccine, designed to elicit an immune response in older adults whose immunity to VZV wanes with advancing age. Unlike Zostavax, which is given as a single shot, Shingrix is given as two intramuscular doses, two to six months apart.

Chapter 7 : How to Treat Shingles (Herpes Zoster) and Get Rid of Pain & Infection

Herpes zoster: Also called shingles, zona, and zoster. The culprit is the varicella-zoster virus. Primary infection with this virus causes chickenpox. At this time the virus infects nerves (namely, the dorsal root ganglia) where it remains latent (lies low) for years.

It works to dry out the sores and relieve itching, thus speeding up the healing process. Dilute apple cider vinegar in water and drink it twice daily. Mix 1 tablespoon of raw, unfiltered apple cider vinegar in a glass of warm water. Drink the concoction 2 times each day for one or two weeks. Advertisements Apply Apple Cider Vinegar Topical application of apple cider vinegar restricts the infection from spreading further, while also relieving itchiness and pain. Dab apple cider vinegar on the shingles rash. Soak a cotton ball in raw, unfiltered apple cider vinegar. Dab it on the areas affected with shingles. You may feel an itching and burning sensation for a minute or two. Do not fret, as this will subside soon. Leave it on the skin for 30 minutes before rinsing it off. Repeat 3 times each day for at least one week to treat shingles. Use L-Lysine L-lysine is an essential amino acid that curbs the virus from multiplying and developing into shingles. Advertisements It competes with L-arginine, an amino acid that facilitates growth of herpes simplex viruses and restricts its absorption by the infected cells in the body, thus helping you get rid of the infection. Consume L-lysine daily for 2 weeks. Consume 1, mg to 1, mg of L-lysine daily for 2 weeks to cure shingles. This can be through supplementation or by consuming l-lysine rich foods like dairy, legumes, vegetables, fish, turkey and chicken. If you are suffering from cholesterol, triglyceride issue or cardiovascular disease, consult a doctor before using l-lysine. While l-lysine is generally harmless, excess consumption can affect your health by increasing the absorption of calcium in the body. Use Tea Tree Oil Tea tree oil is an antiviral and analgesic agent that helps soothe and treat shingles. Olive oil reduces shingles discomfort. 1 tablespoon Tea tree essential oil helps soothe the irritated skin. 8 to 10 drops Step 1. Squirt 8 to 10 drops of tea tree essential oil in olive oil. Start with 1 tablespoon of olive oil in a bowl. Mix 8 to 10 drops of tea tree essential oil into the olive oil. Apply the oil on the shingles rash. Rub the oil blend on the shingles rash. Repeat 3 times a day for a week to treat shingles and get rid of the pain and infection. Use Garlic Garlic has powerful antibacterial and antiviral properties that destroys harmful viruses, bacteria, fungi and parasites in the body. It works to stop the replication of the virus that causes shingles. Apply garlic paste over the affected area. Crush 3 to 4 cloves of garlic to make a paste. Apply the garlic paste on the shingles rash. Leave it to dry for 15 to 20 minutes. Rinse it off with lukewarm water. Repeat 2 times a day for a week or until you get rid of the pain and infection. Use Cayenne Pepper A powerful pain reliever, cayenne pepper contains capsaicin, a compound with natural anti-irritant and anti-inflammatory properties that helps get rid of pain from shingles. Aloe vera contains soothing and cooling properties that help reduce pain and itching, while also speeding up the healing process. Cayenne pepper natural pain reliever. 1 tablespoon Aloe vera gel helps reduce pain and itching. 1 tablespoon Step 1. Throw cayenne pepper and aloe vera gel in a bowl. Advertisements Put 1 tablespoon of cayenne pepper in a bowl. Add 1 tablespoon of aloe vera gel as well. Mix the ingredients and apply on the affected skin. Combine the ingredients well. Apply the mixture on the affected area. Allow it to dry for 30 minutes. This may itch a bit, but the itching sensation will subside soon. Repeat once every day for 10 days to reduce skin irritation and itching. Use Listerine Listerine works as an antiseptic agent and dries up shingles sores slowly and gradually. Apply Listerine on the affected skin. Soak a cotton ball in Listerine. Dab it on the affected skin. Allow it to dry for 30 minutes before washing it off. Repeat the treatment 3 times a day for a week to get relief from shingles pain. Tips Take a shower with cold water to help alleviate the pain of shingles. After a bath or shower, wash your towel in hot water to reduce the spread of the virus. An ice compress is another effective alternative to get rid of the pain and infection. Always keep the inflamed skin clean and dry. Expose the affected area to air as much as possible. Do not pick at the blisters, as this will only worsen the condition. During the initial stages, the virus has chances of spreading from one person to another. Therefore, do not share towels, clothes, linens or flannels while suffering with the infection.

Chapter 8 : Shingles: MedlinePlus Medical Encyclopedia

Herpes zoster is a viral infection, an infection caused by a varicella-zoster virus, characterized by an eruption of groups of vesicles on one side of the body following the course of a nerve due to inflammation of ganglia and dorsal nerve roots resulting from activation of the virus, which in many instances has remained latent for years following a primary chickenpox. calendrierdelascience.com zoster is caused by the same virus that causes chickenpox.

Chickenpox epidemiology Varicella zoster virus VZV has a high level of infectivity and has a worldwide prevalence. Shingles has no relationship to season and does not occur in epidemics. There is, however, a strong relationship with increasing age. Another important risk factor is immunosuppression. Other potential risk factors include mechanical trauma and exposure to immunotoxins. A study showed that people with close relatives who had shingles were twice as likely to develop it themselves, [80] but a study found no such link. When routine chickenpox vaccination was introduced in the United States, there was concern that, because older adults would no longer receive this natural periodic boost, there would be an increase in the incidence of shingles. Multiple studies and surveillance data, at least when viewed superficially, demonstrate no consistent trends in incidence in the U. In the late 18th century William Heberden established a way to differentiate between shingles and smallpox, [90] and in the late 19th century shingles was differentiated from erysipelas. Physicians began to report that cases of shingles were often followed by chickenpox in the younger people who lived with the person with shingles. The idea of an association between the two diseases gained strength when it was shown that lymph from a person with shingles could induce chickenpox in young volunteers. This was finally proved by the first isolation of the virus in cell cultures, by the Nobel laureate Thomas Huckle Weller, in Further studies during the s on immunosuppressed individuals showed that the disease was not as benign as once thought, and the search for various therapeutic and preventive measures began. However, in his paper, Dr. Hope-Simpson suggested that the "peculiar age distribution of zoster may in part reflect the frequency with which the different age groups encounter cases of varicella and because of the ensuing boost to their antibody protection have their attacks of zoster postponed". The presence of rash, as well as specific neurological symptoms, were required to diagnose a CNS infection caused by VZV. Since, PCR testing has become more widely used, and the number of diagnosed cases of CNS infection has increased. Negative PCR does not rule out VZV involvement, but a positive PCR can be used for diagnosis, and appropriate treatment started for example, antivirals can be prescribed rather than antibiotics. For example, sporadic meningoencephalitis ME caused by varicella-zoster was regarded as rare disease, mostly related to childhood chickenpox. However, meningoencephalitis caused by varicella-zoster is increasingly recognized as a predominant cause of ME among immunocompetent adults in non-epidemic circumstances. A rash shingles can be present or absent. Symptoms vary, and there is significant overlap in symptoms with herpes-simplex symptoms. For example, in the past, clinicians believed that encephalitis was caused by herpes simplex, and that patients always died or developed serious long term function problems. People were diagnosed at autopsy or by brain biopsy. Brain biopsy is not undertaken lightly: For this reason, knowledge of these herpes virus conditions was limited to severe cases. DNA techniques have made it possible to diagnose "mild" cases, caused by VZV or HSV, in which the symptoms include fever, headache, and altered mental status. Mortality rates in treated patients are decreasing.

Chickenpox and herpes zoster are caused by the varicella-zoster virus (human herpesvirus type 3); chickenpox is the acute invasive phase of the virus, and herpes zoster (shingles) represents reactivation of the latent phase.

Cluster of vesicles on the lip, representing orolabial herpes. After the vesicles have ruptured, patients may manifest with an ulcer with a scalloped border. Extensive resistant herpes simplex virus infection on the face. Chronic peri-oral herpes around the mouth and nose. Chronic herpes ulcers in the genital area. Herpes simplex manifesting as a chronic verrucous follicular nodule. How did the patient develop herpes simplex virus infection? What was the primary source from which the infection spread? Herpes simplex virus HSV can be spread by infected individuals who are asymptomatic or symptomatic during times of viral shedding. HSV-1, which is more commonly associated with oral herpes, is primarily spread by contact with infected saliva or other secretions. HSV-2, which is more commonly associated with genital herpes, is primarily spread by sexual contact. The virus replicates at the site of infection, travels retrograde to the dorsal root ganglion, and establishes latent infection. Recurrent lesions occur with reactivation of latent disease. Triggers for reactivation of latent disease include stress, fever, immunocompromised state, damage to local tissue, and ultraviolet light. Which individuals are of greater risk of developing herpes simplex virus infection? Risk factors for acquiring genital disease are age 15 to 30 years, increased number of sexual partners, black or Hispanic race, and HIV positivity. Varicella zoster virus infection: Individual lesions of varicella zoster may look exactly like herpes simplex, with clustered vesicles or ulcers on an erythematous base. Varicella zoster tends to follow a dermatomal distribution, which can help to distinguish from herpes simplex. Disseminated herpes simplex and disseminated zoster may be indistinguishable clinically. These occur most commonly in the mouth but can also involve the genitals, such as in Behcet disease. Large aphthous ulcers can be associated with HIV infection. These most commonly occur on the mucosal inner lips, tongue, floor of the mouth, and inner cheeks. They occur as small round ulcers with a yellow or grey ulcer floor, which often occur singly or in a linear fashion. They usually heal within 1 week. Additional mimickers of genital herpes: This is usually a single ulcer, which is painless, and usually not recurrent. HIV may present with major aphthous ulcerations, which occur most commonly on the oral mucosa. What laboratory studies should you order and what should you expect to find? Results consistent with the diagnosis Serologic tests can show primary seroconversion for HSV-1 or HSV-2 infection; however, it does not definitively diagnose active disease. Results that confirm the diagnosis Tzank smear: Scraping of the base of an early unroofed blister can demonstrate virally infected multinucleated epithelial giant cells. Biopsy can show virally infected multinucleated epithelial giant cells. This may be positive within 48 hours and can allow for resistance testing if needed. HSV deoxyribonucleic acid detection: Gene amplification by PCR, ligase chain reaction, or other methods can be done on skin lesions or cerebral spinal fluid when evaluating for encephalitis and other infected tissue. Cells scraped from the base of an early unroofed blister are stained with a direct fluorescent antibody. What imaging studies will be helpful in making or excluding the diagnosis of herpes simplex? Imaging studies are only useful when there is suspected HSV encephalitis. Brain imaging studies, such as computed tomography and magnetic resonance imaging scans, can be performed to look for involvement of the temporal lobe. What consult service or services would be helpful for making the diagnosis and assisting with treatment? If you decide the patient has herpes simplex virus infection, what therapies should you initiate immediately? Dermatology would be most helpful in diagnosing this infection when there is skin or mucous membrane involvement. If the patients are immunocompetent, no therapy may be necessary since the lesions usually self-resolve. If the patient is immunocompromised, severely symptomatic, or disseminated or the lesions are extensive, treatment is needed. Recommended medications for initial or recurrent infection include aciclovir, valaciclovir, and famciclovir all evidence category A. Aciclovir resistant infection can be treated with intravenous foscarnet or topical cidofovir evidence category C. If the patient has frequent recurrences, chronic suppressive treatment may be an option.