

BITES AND SCRATCHES

QUESTIONS

1. While attempting to rid squirrels from his attic, your next door neighbor, who happens to be a patient, is bitten on the back of his hand by a squirrel. How should you handle this?
2. The next evening your lawyer neighbor on the other side, who is also a patient, while standing on his front porch is struck in the face by a silver-haired bat (Lasionycterus noctivagons). Now what do you do?
3. **T / F** Bite exposure is the most common causes of human rabies in the U.S.
4. **T / F** Rabies post-exposure prophylaxis should be for bites which occur in a rural setting or involve an animal behaving in a peculiar manner or when the bite is unprovoked and in any contact with bats.
5. **T / F** Clenched-fist injuries should be washed by immersion in soapy water, immobilized, and elevated. A specialist is seldom needed.
6. **T / F** All human bites should be treated with phenoxymethyl penicillin.

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QUESTIONS

1. While attempting to rid squirrels from his attic, your next door neighbor, who happens to be a patient, is bitten on the back of his hand by a squirrel. How should you handle this?

(Wash thoroughly with soap and water. Jet spray puncture wounds and give tetanus shot. Lagomorphs, except for woodchucks and beavers, are not a risk for rabies.)

2. The next evening your lawyer neighbor on the other side, who is also a patient, while standing on his front porch is struck in the face by a silver-haired bat (Lasionycterus noctivagons). Now what do you do?

(Wash thoroughly with soap and water. Jet spray puncture wounds if present. Give tetanus shot and administer rabies PEP (post-exposure prophylaxis) with HRIG and HDCV in separate syringes to different sites. Give HDCV either Imovax or RVA on day 0, 3, 7, 14 and 28 for a total of 5 doses - deltoid and anterior thighs.)

3. T / F Bite exposure is the most common causes of human rabies in the U.S.

(False. Of ten U.S. human rabies cases “recorded” since 1980, only four had convincing bite exposure [due to presumed, unimportant bite or bite in the distant past]. “Recorded” cases seldom include those dying without an autopsy.)

4. T / F Rabies post-exposure prophylaxis should be for bites which occur in a rural setting or involve an animal behaving in a peculiar manner or when the bite is unprovoked and in any contact with bats.

(True)

5. T / F Clenched-fist injuries should be washed by immersion in soapy water, immobilized, and elevated. A specialist is seldom needed.

(False. A specialist is frequently needed and should always be consulted except for a trivial injury.)

6. T / F All human bites should be treated with phenoxymethyl penicillin.

(False. Penicillin plus dicloxacillin or augmentin.)


BITES AND SCRATCHES

Animal bites are extremely common. The primary physician must provide first aid and tetanus prophylaxis, decide whether antibiotics are needed, and determine the need for rabies prophylaxis. Human bites, although less common, may be treacherous, particularly clenched-fist injuries.

The most common organisms causing infection from cat and dog bites are:

Pasteurella multocida - present in 50% of dog bite wounds and 75% of cat bite wounds.

Staphylococcus aureus
Streptococcal species



skin flora

Capnocytophaga canimorsus or Dysgonic fermenter (DF-2, a slow-growing, gram-negative bacillus) can cause life-threatening septicemia following dog bites and licks. Patients at risk include: alcoholics, COPDers, and asplenic. The DF-1 is called C. gingivalis.

Human bites have a small risk of Hepatitis B, C, and HIV.

Herpesvirus simiae (B-virus) associated with monkey bites behaves like rabies.

Bovine papular stomatitis virus (pox virus) causes papules and verrucous nodules in humans.

Orf virus: sheep and goats

Leptospirosis: dogs, mice, and rats

Erysipelothrix rhusopathiae: fish handler's disease

Mycobacterium

Mycobacterium marinum

Yersinia pestis

Tularemia

Brucella

Eikenella corrodens: common after human bites

Lymphocytic choriomeningitis can be contracted from handling mice and hamsters.

General approach to a bite wound: Characterize the injury and type of animal, ascertain if the bite was provoked or unprovoked, report incident to the health department, quarantine pets, and save animal for study. If wound is fresh, wash minor wounds with soap and water and/or wash with copious saline. Exploration, debridement, and removal of foreign materia may be necessary. Use needle and syringe for jet cleaning. **TETANUS SHOT**

Antibiotics: Penicillin/amoxicillin is best for P. multocida, Eikenella, strep, and anaerobes. Although you can use dicloxacillin against staphylococci, remember that this antibiotic is not appropriate for a P. multocida. Augmentin covers almost all the organisms from cat, dog, and human bites.

Recommended alternative in penicillin allergic patients is doxycycline. P. multocida is often resistant to erythromycin.

Rat-bite fever:

Def:

Relapsing fever, rash and arthralgias occurring days to weeks after a rat bite.

Two organisms cause the syndrome: Streptobacillus moniliformis and Spirillum minus. The former is a pleomorphic GNR that grows slowly in liquid medium, causing typical puffball colonies. Giesma stain: pleomorphic forms (short rods, filaments, rods, coccobacillary chains, yeast-like swelling). This organism is more common in the U.S.A.

Spirillum minus is a short-coiled, spiral GNR that has polar flagella. It has not been grown in culture. It is grown by inoculating the peritoneum of mice or guinea pigs. This organism is more common in Japan where rat bite fever is known as sodoku.

Clinical manifestations:

Streptobacillary form: short incubation period, wound heals, regional adenopathy. Sudden onset of fever and chills, headache, myalgias, morbilliform rash in the upper extremities (including palms and soles), arthralgias or frank arthritis. If untreated the patient has relapsing fevers.

Spirillary form: longer incubation period (7-21 days). The healed bite wound often suppurates at the time of the generalized symptoms and is associated with lymphangitis. Rash consists of large reddish brown macules. Untreated it has a relapsing course.

Complications:

Streptobacillary form: endocarditis, septic arthritis, pericarditis, pneumonia, metastatic abscesses.

Spirillary form: arthritis is uncommon.

When the streptobacillary form occurs in the absence of documented animal exposure, it has been called Haverhill fever or erythema arthriticum epidermicum.

Diagnosis:

Blood cultures should be obtained with twice the amount of blood used for regular blood cultures. The commonly used anticoagulant sodium polyathenol sulfonate should be omitted.

Isolation of S. minus requires guinea pigs.

Treatment: Penicillin procaine 600,000 U IM q 12h for 7-10 d

Prophylactic administration of oral penicillin may abort incipient infection.

Cat Scratch Disease:

Organism: Bartonella henselae and B. quintana

Epidemiology: disease of children, worldwide distribution, more common in summer-autumn.

Clinical findings: fever, tender lymphadenopathy (particularly in cold weather months).

Treatment: In retrospective reviews, rifampin and trimethoprim sulfa are the preferred drugs in pediatric patients. Ciprofloxacin works well in adults. Antibiotics probably relieve systemic symptoms such as fever and hepatic involvement. CSD and bacillary angiomatosis in HIV patients responds very dramatically to multiple antibiotic agents, in particular erythromycin. -

Declaw cats!

Rabies:

Rabies should be expected in any progressive encephalitis or encephalitis with difficulty swallowing.

Rabies: Since 1967 only 2 cases per year documented in US.

Raccoon rabies is epidemic on eastern seaboard

Skunks and bats are most common rabid animals in Tennessee.

Rabies more common in cats than in dogs in the U.S. Notify health department. Pets watched for two weeks at home.

Human diploid vaccine and rabies immune globulin should be given without delay to any person suspected to have contact with a rabid animal.