Vaccinia Adverse Reactions Seminar

North Dakota Department of Health
Case Scenario #1

A 43 year old male nurse presents for a “take” check on day 7 following smallpox vaccination. He appears well and his only complaint on review of systems is a mild headache and fatigue. Removal of his vaccination site bandage reveals an ulcerative lesion measuring approximately 2.5 cm on a non-erythematous base with scant non-bloody discharge.
Due to your concern regarding the ulcerative presentation and size of the central vaccination lesion, you arrange for a site re-check in 2-3 days.

The patient fails to keep his scheduled follow-up appointment because he was not concerned and was feeling well. Instead, he left town to visit friends. Feeling guilty about missing his appointment, he presents to the clinic on day 14 following smallpox vaccination.
His review of systems is unremarkable and he appears well.

On examination, the central ulcerative lesion now measures 5 cm. The edge of the lesion has necrotic changes, while the uninvolved skin shows no signs of inflammation. There are no exudates present. There is no evidence of maceration and the patient admits that he has not been covering the lesion because he ran out of bandaging supplies while on vacation.
Vaccine History:

- Flu 2001
- Td 1993

Routine childhood immunizations including smallpox, but no scar is detected.
Partial Medical History:

Cellulitis following needle stick in 1998 which required hospitalization for IV antibiotics.

PPD -- 0 mm X 0 mm in 2002

Medications – Herbals and occasional aspirin.
Social History:

Single
Surgical nurse supervisor
Heavy smoker
Ulcerative lesion
Questions?
During this Live program
Call 701-328-2614
or
Send E-mail
Following the Live Program
Call 701-328-2270 or Send E-mail to
twiedric@state.nd.us

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Case Scenario #2

A 29 year old female commercial sex worker in a large naval port city on the West Coast presents to an emergency room late in the evening of February 12, with fever and extensive pustular eruption on the face, neck and anterior elbows. She complains of the onset of a vesicular rash in these areas 36 hours before and increasing symptoms of weakness, fatigue, and malaise.
The patient has a fever of 103 F and a rash that looks similar to that seen in the slide at the end of this scenario.

This rash is present on the face, neck, and anterior elbows but lesions are noted elsewhere. Tender cervical and axillary lymphadenopathy is present.
The patient gives a history of an erythematous, itchy, flaky skin eruption in these areas since early childhood that waxes and wanes. Recently the skin rash had been slightly active.

The patient does not know of any contact with a known smallpox vaccinee, but her clientele includes military personnel as well as civilians. The ER physician calls his state health department to obtain guidance.
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Case Scenario #3

A 22 year old female previously healthy ER clerk returns for a take check on day 7 post-vaccination. She complains of 2 days of subjective fever, mild headache, fatigue, myalgias and regional lymphadenopathy. She reports that she has been bed bound due to the constitutional symptoms for the preceding 3 days.
On examination, she is mildly ill-appearing.

Temperature is 100.7 F

Blood pressure is 110/70

Pulse is 112

She has delayed capillary refill.
History and Physical

HEENT: Dry mucous membranes
Lungs: Clear
CV: No gallop
Abd: Soft, no tenderness to palpation
Back: Right costovertebral angle tenderness
Ext: Delayed capillary refill
Skin: Right deltoid 1 cm pustule on erythematous base a vaccination site.
Lab Studies

UA: sp gravity 1.020
Urine culture pending
WBC TNTC CBC: 12 K WBC with left shift
Blood cultures pending
Assessment

1. Pyelonephritis
2. Major reaction following smallpox vaccination
Plan

1. SIP bolus of 1 Liter normal saline
2. Ceftriaxone 1 gm IV
3. Sulfa-Trim 500mg BID x 10 days
4. Return to clinic 3 days, sooner for worsening of symptoms
3 days later she presents for follow-up. Overall she is feeling better but notes new onset pruritic rash x 24 hours for which she has been taking benadryl prn.

Exam reveals a healing vaccination site with early eschar formation. Diffuse symmetrical erythematous macular lesions patches on the trunk, extensor surfaces, palms and soles. Upon closer inspections, the lesions are noted to have a dull red to dusky sharply demarcated wheal, with a central papule and surrounding halo of clearing. Mucous membranes are intact.
She is diagnosed with Erythema Multiforme.

The state health official is contacted and a VAERS form is filled out.
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Case Scenario #4

A 32 year old male ER physician presents with redness and swelling around his left eye 10 days after receiving a smallpox vaccination. Periorbital edema with erythema and a few small pustules with slight ulceration are present on the upper eyelid close to the lid margin. The conjunctivases are not inflamed. The patient does not complain of eye pain and no corneal lesions are apparent.
The patient’s primary vaccination site shows a central pustule with 4 cm of surrounding erythema. The patient notes some pruritis and discomfort, but says the lesion is beginning to improve.

The patient relates that he has been keeping his bandage on the site with dressing changes as the occupational health clinic except when on days off work.
On days 5 and 6 post vaccination, he cleared brush on his ranch in very dusty conditions. During this period of time he left his vaccination site unbandaged since he was not having any contact with others persons and did not want sweat to cause maceration of the lesion. He does not wear contacts or glasses. The patient denies a history of “fever blister” or “cold sores.”
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