



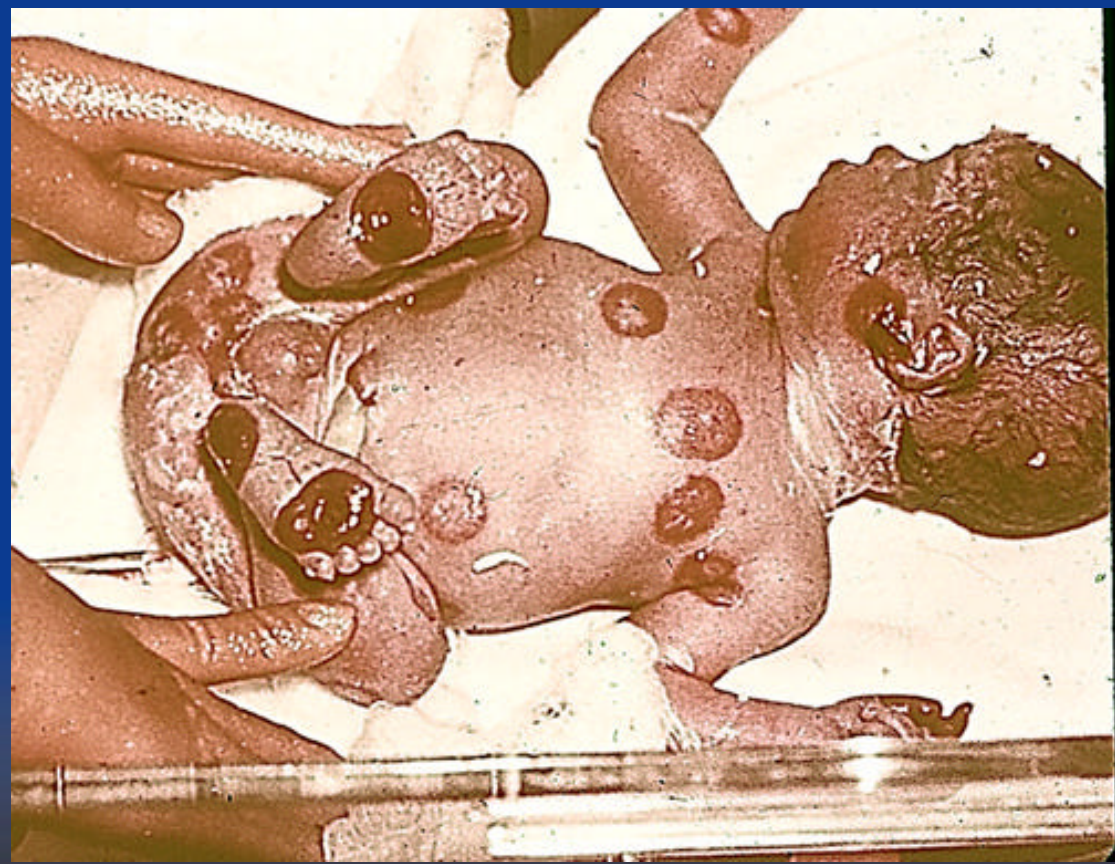
Post-Vaccinial Encephalitis Diagnostic and Management



- None for specific diagnosis of PVE
- Diagnosis of exclusion – Consider other infectious or toxic etiologies
- 15-25% mortality rate
- 25% varying neurological deficits
- VIG not recommended



Fetal Vaccinia



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Fetal Vaccinia



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Associating the Condition with the Vaccine



- Know Chronology of immunization and adverse event
- Corresponds to those previously associated
- Biologic plausibility
- Lab result confirms association
- Recurs on re-administration
- Controlled clinical or epi trial shows association

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Revaccination of Those with History of AE



- In absence of smallpox, do NOT revaccinate
- Defer those not vaccinated from response teams



Prophylaxis of High-Risk Groups Accidentally Exposed

- VIG NOT recommended
- Vigilant clinical follow-up
- Do NOT administer VIG with smallpox vaccine
- Exclude those with contraindications



Laboratory Diagnosis

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Laboratory Diagnosis Rule Out Testing



- Varicella
- Herpes Zoster
- Herpes Simplex
- Enteroviruses



Laboratory Diagnosis Tests Available



- Electron Microscopy (EM) - Orthopoxvirus
- PCR – Gene Amplification
- Viral Culture – Identify vaccinia

- May be available through LRN
- Consult with CDC for testing advice



Specimen Collection

- Contact state health department
- CDC Interim Smallpox Response Plan, Guide D
www.cdc.gov/smallpox

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Treatments

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Vaccinia Immune Globulin

- Immunoglobulin fraction of plasma
- Antibodies to vaccinia from vaccinated donors
- Previously-licensed IM product (Baxter)
 - ◆ Contains 0.01% thimerosal
- New IV products in production
- Obtain as IND product through CDC and DoD



VIG Indications

Indications



- Eczema vaccinatum
- Progressive vaccinia
- Vaccinia necrosum
- Generalized vaccinia – severe cases



Vaccinia Immune Globulin Indications



Recommended	Inadvertent Inoculation - severe Eczema vaccinatum Generalized vaccinia – severe or underlying illness Progressive vaccinia
Not Recommended	Inadvertent Inoculation – Not severe Generalized vaccinia – mild or limited Non-specific rashes, EM, SJS Post-vaccinial encephalitis
Consider	Ocular complications



Vaccinia Immune Globulin

Side Effects - Mild



- Local Pain
- Tenderness
- Swelling
- Erythema
- From few hours to 1 or 2 days

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Vaccinia Immune Globulin Side Effects - Moderate



- Joint Pain
- Diarrhea
- Dizziness
- Hyperkinesia
- Drowsiness
- Pruritis
- Rash
- Perspiration
- Vasodilation

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Vaccinia Immune Globulin Side Effects - Serious



- Hypotension
- Anaphylaxis
- Renal Dysfunction
- Aseptic Meningitis Syndrome (AMS)

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Vaccinia Immune Globulin Contraindications



- Allergic reaction to thimerosal
- History of severe reaction with IG preparations
- IgA Deficiency
- Vaccinia keratitis, except in some cases
- Pregnancy
- Theoretical risks as with all human plasma



VIG Administration

- VIG-IM 0.6ml/kg
- IM, preferably in buttock or anterolateral aspect of thigh
- Divide doses > 5ml
- Refer to package insert



Cidofovir

- Nucleotide analogue of cytosine
- Some antiviral activity against orthopoxviruses
- Administer under IND protocol, only
- Released by CDC and DoD if:
 - ◆ No response to VIG
 - ◆ Patient near death
 - ◆ All inventories of VIG exhausted



Cidofovir Side Effects

- Renal toxicity
- Neutropenia
- Proteinuria
- Decreased intraocular pressure
- Anterior uveitis/iritis
- Metabolic acidosis



Cidofovir Admin

- 5 mg/kg IV over 60 minute period
- Consider 2nd dose one week later if no response
- Adjust dose for renal function
- Assess baseline and post-admin renal function
- IV hydration (1L of 0.9% saline IV)
- 3 doses oral probenecid (25 mg/kg per dose)



Obtaining VIG and Cidofovir

- Civilian Medical Facilities
 - ◆ CDC Smallpox Vaccinee Adverse Events Clinical Team

- Military Facilities
 - ◆ USAMRIID (301) 619-2257 or 888-USA-RIID



Consultation

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Consultation

- State and Territories establish program
- Hospitals assign physicians with expertise
- Provide 24/7 access to vaccinees and affected contacts
- CDC Provider Information Line

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Consultation Information to Have



- Thorough vaccination history
- Physical Examination of patient
- High-resolution digital photographs of dermatologic manifestations
- Contact state health department, first

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Smallpox Adverse Event Reporting

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VAERS Reporting

- Secure web-based reporting

<https://secure.vaers.org/VaersDateEntryintro.htm>

- Downloadable form

http://www.vaers.org/pdf/vaers_form.pdf

- ◆ Fax to:

1-877-721-0366

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Additional Information

CDC Smallpox Website

www.cdc.gov/smallpox

Adverse Events Training Module

www.bt.cdc.gov/training/smallpoxvaccine/reactions

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Infection Control

- Documented rarely in healthcare settings
- Primarily after direct contact with site
- May occur with other infected body sites
- Indirect transmission possible, but never documented



Ocular Vaccinial Infections and Therapy

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Treatment of Ocular Infections

- Previous experience with older antivirals
- Not done by today's standards
- Currently available topical ophthalmic antivirals not studied with vaccinia
- Animal studies



Treatment of Ocular Infections

Topical Ophthalmic Anti-Virals

- Animal studies, rabbit model of vaccinia keratitis
- Topical vidarabine or trifluridine
- Virologic and clinical improvement
- Early use might reduce complications
- Not approved by FDA for vaccinia disease



Treatment of Ocular Infections Vaccinia Immune Globulin

- No evidence effective
- Might increase scarring after vaccinia keratitis
- Rabbit studies used increased doses



Treatment of Ocular Infections

Guidance for Clinicians

- Manage in consult with ophthalmologist
- Consider off-label use of topical ophthalmic trifluridine or vidarabine
- Balance with risk of drug toxicity
- Continue until periocular and/or lid lesions heal and scabs fall off



Treatment of Ocular Infections

Guidance for Clinicians

- Consider VIG when keratitis NOT present
- Useful with severe blepharitis or blepharoconjunctivitis
- Weigh risks and benefits if keratitis present
- Use VIG for other severe vaccinia disease, even if keratitis present
- Consider prophylaxis against bacterial infection
- Enroll in studies