

STANDARD TREATMENT WORKFLOW (STW)

Varicella & Herpes Zoster

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Standard Treatment Workflow (STW) VARICELLA & HERPES ZOSTER

ICD-10-B01-02

VARICELLA (CHICKEN POX)

WHEN TO SUSPECT?

- Fever, malaise
- Generalized vesicular lesions on erythematous base (dew drop on a rose petal sign)
- Skin lesions in different stages of evolution: erythematous macules, papules, vesicles and crusted lesions

TAKE HISTORY OF

- Recent contact with a patient with varicella
- Past history of varicella/ varicella vaccination
- Immunosuppression (especially if second episode of varicella): malignancy, HIV/AIDS, transplant recipient

PREGNANCY AND VARICELLA

- Infection in 1st 20 weeks may lead to congenital varicella syndrome
- Treat with acyclovir
- Maternal perinatal varicella may lead to neonatal varicella; initiate treatment and refer to a specialist

HERPES ZOSTER

WHEN TO SUSPECT?

- Acute, grouped, vesiculo-pustular eruption in a dermatomal distribution
- Dermatomal pain

TAKE HISTORY OF

- Previous varicella
- Previous episode of herpes zoster
- Immunosuppression: Diabetes mellitus, malignancy, transplant recipient, HIV

RED FLAG SIGNS

- V1 dermatomal involvement: forehead, periorbital, nose tip: risk of eye involvement - look for watering of eye, redness, photophobia
- Lesions on the ear or inside the ear canal: risk of facial/ vestibulocochlear nerve palsy - look for vertigo, tinnitus, hearing loss, facial asymmetry/weakness
- Multi-dermatomal involvement

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RED FLAG SIGNS AND SYMPTOMS

- Hemorrhagic vesicles
- Difficulty in breathing
- Chest pain
- Abdominal pain
- Stiff neck, confused behaviour (CNS symptoms)
- Hemodynamic instability

INVESTIGATIONS

- As per availability and need:
 - Tzanck smear: from a fresh vesicle- will show multinucleate giant cells and acantholysis
 - Symptom directed: Chest X-ray, ECG, ECHO, transaminases, renal function test, brain imaging
- Optional
 - VZV PCR – skin swab
 - Skin biopsy



TREATMENT

- General measures
 - Isolate the patient from high risk contacts
 - Daily bath with soap
 - Antipyretics: Paracetamol; avoid aspirin as it is associated with Reye's syndrome in children
 - Antihistamines
- Specific treatment*
 - Adults/children >40kg: Oral Acyclovir- 800mg, 5 times a day for 5-7 days
 - Children <40kg: (20mg/kg/dose) max 800mg four times a day for 7 days
 - Alternative (if available): Valacyclovir (adults-1g TDS)
 - Give intravenous Acyclovir (10mg/kg/dose 8 hourly) if:
 - Systemic complications
 - Hemorrhagic varicella
 - Immunosuppressed patient
 - Neonatal Varicella (higher dose may be required)

*Infants, children >12 years of age, adults, pregnant women and immunosuppressed patients should be treated with specific anti-viral medication because of risk of severe varicella
*Maximum benefit if acyclovir initiated 24 hours of onset of rash

COMPLICATIONS

- Secondary skin infections
- Pneumonia
- Encephalitis
- Hepatitis
- Pancreatitis
- Myocarditis
- Reye's syndrome

WHEN TO REFER TO A HIGHER CENTRE

- Diagnosis in doubt
- Systemic complications
- Hemodynamic instability
- Hemorrhagic varicella
- Not responding to oral Acyclovir
- Immunosuppressed patient
- Neonatal varicella syndrome

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TAKE HISTORY OF

- Previous varicella
- Previous episode of herpes zoster
- Immunosuppression: Diabetes mellitus, malignancy, transplant recipient, HIV

RED FLAG SIGNS

- V1 dermatomal involvement: forehead, periorbital, nose tip: risk of eye involvement - look for watering of eye, redness, photophobia
- Lesions on the ear or inside the ear canal: risk of facial/ vestibulocochlear nerve palsy - look for vertigo, tinnitus, hearing loss, facial asymmetry/weakness
- Multi-dermatomal involvement
- Disseminated herpes zoster
- Hemorrhagic/necrotic lesions

INVESTIGATIONS

- Diagnosis is usually clinical
 - Tzanck smear: from a fresh vesicle- will show multinucleate giant cells and acantholysis
- Optional
 - PCR from vesicular fluid



TREATMENT

- Analgesics: Acute pain relief with NSAIDs.
- If uncontrolled, add the following (step wise):
 - a) Pregabalin 150-600mg/day, start with 150mg HS and titrate up as required
 - b) Gabapentin: start with 300mg/day, gradually increase upto 1800mg/day; more adverse effects than pregabalin
 - c) Amitriptyline: 10-25mg HS
 - d) Nortriptyline: start with 10-25mg/day; gradual increase upto 30-75mg/day in divided doses or HS
 - e) Carbamazepine 200 mg HS to start with
- Specific treatment*
 - Acyclovir **800mg five times a day x 7 days or
 - Valacyclovir 1gm three times a day x 7 days

*Start <72 hours of onset for maximum benefit, can consider if new lesions are still appearing after 72 hours/ Herpes Zoster ophthalmicus/Ramsay Hunt syndrome
**Intravenous Acyclovir if multi-segmental involvement or disseminated zoster or systemic complications

COMPLICATIONS

- Secondary skin infections
- Herpes zoster ophthalmicus: risk when lesions present over side/tip of nose (Hutchinson's sign)
- Ramsay Hunt syndrome: Facial nerve palsy (with vesicles in the ear canal)
- Aseptic meningitis, encephalitis: In elderly and immunosuppressed mainly
- Post-herpetic neuralgia (pain persistent for more than three months, common in elderly)

WHEN TO REFER TO A HIGHER CENTRE

- Multi-dermatomal distribution/ disseminated Herpes Zoster syndrome
- Systemic complications
 - Facial nerve palsy
 - Eye involvement
 - Neurological involvement
- Post-herpetic neuralgia

PREVENTION

VARICELLA

- **Active immunization (live vaccine)**
 - <13 years old: 1st dose at 12-15 months, 2nd dose at 4-6 years
 - >=13 years old: 2 doses weeks apart

• **Passive immunization**

- Varicella zoster immunoglobulin may be considered where active immunization is contraindicated (pregnant women, immunosuppressed patients)

HERPES ZOSTER

- Active immunization may be offered to patients >50 years old, irrespective of previous history of herpes zoster

➔ **INITIATE SPECIFIC ANTIVIRAL TREATMENT AT THE EARLIEST TO PREVENT COMPLICATIONS**

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