July/ 2022

सत्यमेव जयते
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Ministry of Health and Family Welfare, Government of India

INDIAN COUNCIL OF MEDICAL RESEARCH
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Standard Treatment Workflow (STW)

VARICELLA & HERPES ZOSTER

ICD-10-B01-02

VARICELLA (CHICKEN POX)

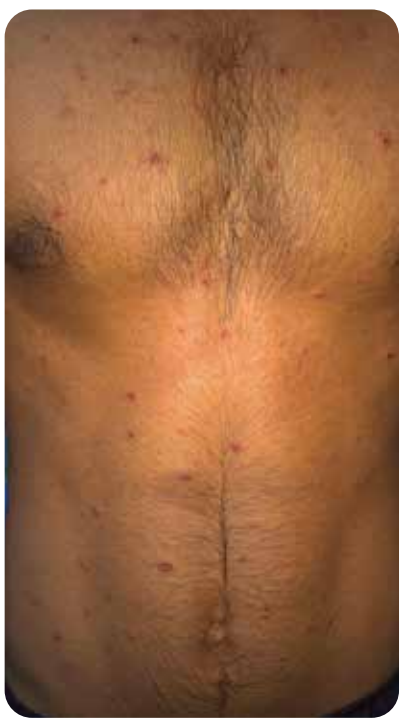
WHEN TO SUSPECT?
- Fever, malaise
- Generalized vesicular lesions on erythematous base (dew drop on a rose petal sign)
- Skin lesions in different stages of evolution: erythematous macules, papules, vesicles and crusted lesions

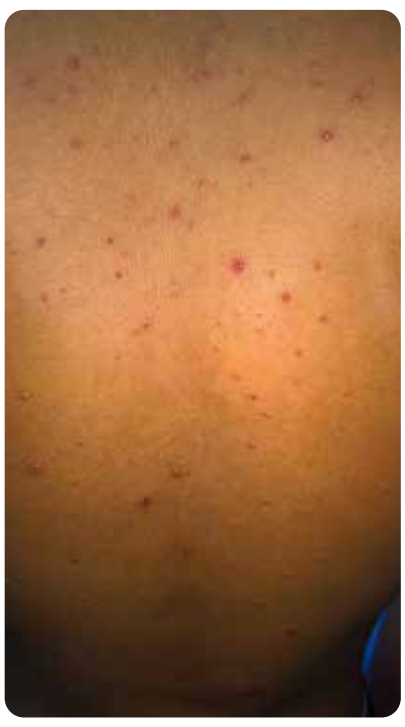
TAKE HISTORY OF
- Recent contact with a patient with varicella
- Past history of varicella/ varicella vaccination
- Immunosuppression (especially if second episode of varicella): malignancy, HIV/AIDS, transplant recipient

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

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

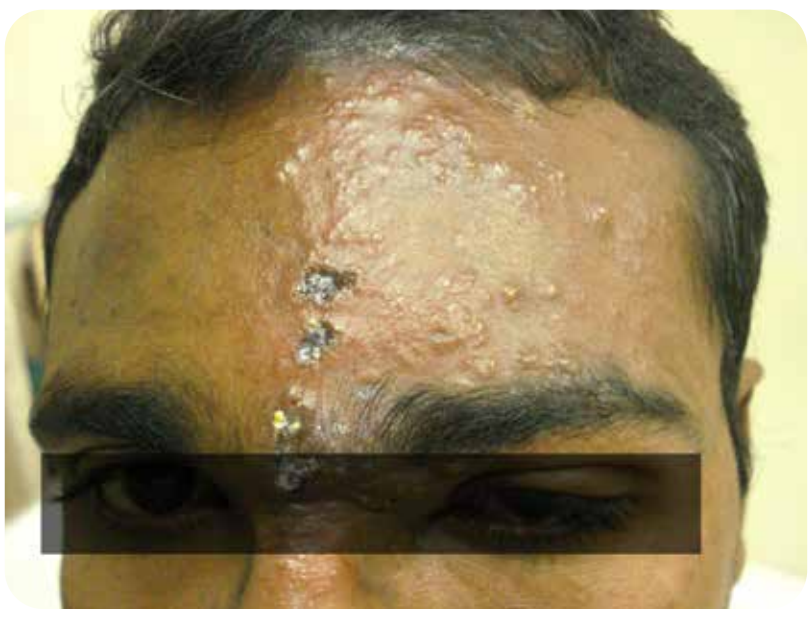
HERPES ZOSTER

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
- 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) Nortryptyline: 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