

17 Burns → associated with pseudomonas "obligate Aerobe + Fluid loss"
18 For surgical wound infection → the most common pathogen that cause
wound infection "pseudomonas, staphylococci, streptococci." (skin flora)
↳ all of them [during hospital sitting.]

19 Categories of SSI:-
1- superficial → subcutaneous tissue "30 days"
2- Deep → muscles + fascia "30 days - 1 years"
3- Organs + spaces "Lung"

20 Etiology → the commonest pathogen "MRSA¹ + S. Aureus² + CONS³
enterobacteriaceae⁴ + pseudomonas⁵"

21 Prosthetic material → Reduces the No. of organisms that are
organism $\frac{1}{10^6}$ ← Required to initiate infection. "joints + cardiac valve
prosthesis + Replacment"
crisis, inf. $\frac{1}{10^6}$

22 Clinical Feature → No manifestation for At least 5 days, upto 20 days.
↳ Local signs: "pain, swelling, Erythema, pus formation, Fever"

23 Dx [Diagnosis] For SSI → Clinically and then sent samples to
laboratory to identify the causative organism using culture + stain.

24 Rx [treatment] → open the incision, debride the infected material
and continue dressing change until the wound heals.
* After that take short course of Anti biotic (24-48)
* Organism (staphylococci, streptococci, pseudomonas, enterobacteriaceae)

25 Foreign body → Can introduce skin flora + cause infection
↳ "implants, tattoos, needles", From Needles "HIV, HBV"
+ From soil can bring spores.

26 Some definition About skin lesions "we need to know them"
1- macules → only change in skin color - 2- Papules → elevated lesions.
3- vesicles → small Fluid Filled lesions - 4- Bullae → large Fluid Filled.
5- Crusted → Bullae but don't remain closed 6- Ulcer → loss of skin layers
7- Eschar → dry + Dark

8- petechiae → small Red, purple spots
9- purpura → Rash of purple spots
Both of them caused by Bleeding
10 spread → viral lesions → virus "intra cellular pathogen infect squamous Epf.
viral infection Almost Result in skin vesicles.

Routes → ① Direct - HSV-1 ② indirect - - cutaneous N. Roots "zoster"
- virus associated with Varicella
"Rashes"
Dermal capillary plexus "varicella"

Microbiology 1

- 12) Bacteria → spread by Direct inoculation
- 13) the most important bacteria → Streptococcus pyogenes → trans located
cause Erysipelas → via lymphatics → laterally to deep structures
- 14) spread by lymphatics → May cause Flaccid Edema of the epidermis
- 15) Erysipelas → Accompanied with Fever & chills
- 16) Some skin abnormalities → may mean's that patient has Endocarditis
↳ [Abnormalities seen in Nails, Skin] the most superficial
- 17) infective vasculitis of the hand → indicate to Staphylococcal Endocarditis.
- 18) Janeway lesion "in toe" + splinter hemorrhage "Nails" → Endocarditis
- 19) Meningococcal Rash → Dark color "Purpura" → purple spots (Rashes)
caused by Internal bleeding from small blood vessels.
- 20) salmonella Typhi + paratyphi → Rose spots + Enteric fever.
↳ Enteric fever = Food born illness / Diarrhea in children
constipation in Adults.
↳ in stage of Rose spots
↳ patients seem → blanching macules (change in colour)
- 21) Ecthyma gangrenosum (pseudomonas septicemia) → in immunocompromised
↳ Bad / weak immunity + Exposed to pseudomonas → Risk.
↳ some factors contribute in increasing in Risks:-
① Malnutrition ② uncontrolled diabetes ③ Burns ④ AIDS
↳ treatment by → (Anti pseudomonas - penicillins)

- Viral infections -

III HSV → Cutaneous manifestation → ① Pharyngitis / gingivostomatitis
 ↳ systemic therapy.

② Eczema ③ Ulcer → 'in post. pharynx.' Common in HSV-1 ←

④ 75% of Erythema cases associated with HSV

• Eczema herpeticum →

↳ known as Kaposi eruption "Caused by HSV." skin disease

↳ Extensive cutaneous eruption "due to pre-existing Atopic dermatitis"

↳ Children with AD → Higher Risk to develop Eczema pathogenesis HSV-1

↳ Complication → Bacteremia + Bacteria superinfection → ↑ mortality.

↳ Dx → ① Fluorescent Ab testing "Rapid" ② PCR

③ Tzanck smear "looking to Multi nucleate giant cells, Keratocytes"

④ viral culture "can distinguish by diff. viruses, take 2 days"

↳ Rx → ① Iv Acyclovir → for immune compromised

② oral Acyclovir → for immune competent

③ Foscarnet → for ppl have Acyclovir-Resistance.

④ Topical ophthalmic → Trifluridine, Vidarabine

⑤ Valacyclovir → cost prohibitive.

• Erythema Multi Forme →

↳ Acute, self limiting → Recurring due to Hypersensitivity Rx.

↳ HSR type 4 ↳ used to distinct condition of SJS + TEN.

↳ causes → 50% idiopathic + 50% HSV

↳ treatment → Remove the precipitating factor.

↳ SJS mild form of TEN.

↳ Begin prodromal symptoms then skin ulceration

"trunk + face + mouth + eyes + genital sores"

↳ Dx → clinical + biopsy confirms

↳ Rx → ICU admission (burn unit)

• HSV2 (Cherpes Labialis) →

↳ may be asymptomatic ↳ immunocompromised "Sever mucositis".

* pathophysiology of HSV *

1- HSV1 > HSV2

2- Transmits ① via mucous mem

↳ Get symptoms after (2-20 days) ↳ Direct contact.

↳ Remain Dormant in Trigeminal Ganglion.

I First Episode :- Fever, mouth + gingival ulcers

second Episode :- After recurrence (burn) → heal in (7-14) days

↳ Rx → only Reduce symptoms / First Episode → Give Acyclovir

Microbiology 2

summary

• Genital herpes → genital ulcer (60-70% of STD ulcers)

↳ caused by HSV2 > HSV1 + asymptomatic in Majority.

↳ 1st infection "associated with Adenopathy"

↳ DNA virus infect Axon, spinal cord sensory Ganglion + stay

↳ during Reactivation migrate again + erupts. lifelong.

↳ vesicular Eruption → Remain 2 weeks, reactivation (6-12 days)

↳ DX: → Clinically + PCR test.

↳ Rx: → Antiviral For primary + Recurrence [No cure]

↳ During pregnancy → might transmit vertically (Neonatal infection)

↳ cause Encephalitis, microcephalus or hydrocephalus

↳ if the Patient (Pregnant woman) has active lesion → C-section

↳ take topical Antiviral.

• herpetic whitlow → infection of the Finger "Result in Auto-inoculation"

↳ present with vesicles + lymphadenopathy.

whitlow → viral inf.

↳ Rx: - prevent transmission + Antiviral For immunocompromized + Recurrent.

↳ Herpes gladiatorum "mucocutaneous infection"

Paronychia → Bacterial inf.

↳ long intimate contact ← in chest."

↳ Paronychia → more in ♀, due to penetrating trauma →

↳ From bacteria (S. Aureus), mouth (S. pyogenes)

↳ progress to Abscess formation + nail bed infection

↳ Rx: - Topical Antibiotic + Fluorouracil + gentamicin.

↳ second line: - doxy cycline especially in MRSA

"to Reduce inflam.

can Add topical steroid "

2] varicella-zoster-virus (VZV) HHV3

- Chicken box .16 CSAP

- Shingles CSW, P13

* mainly in children (9-13 years)

* unilateral * localized Recurrence

* transmit → Respiratory droplet

* commonly in thoracic + lumbar

(Fox parties) + Direct Contact. / can be vertically.

along the cutaneous spinal nerve

* incubation (10-14 Days)

[infect Dorsal Root Ganglia.] (T1-T2)

* LAP * Lymphadenopathy * is common

* contagious → CSAP

* start From Trunk + Face, so the patient

* Rash start → Erythematous +

will have diff. stages of vesicles at

maculopapular

the same time.

* Resolution → 2-4 weeks

* complication → 2° to Bacterial inf.

* DX → PCR

pneumonitis, encephalitis

* Rx → Antiviral → 3 Days

* Rx → No Antiviral + Give Anti histamine

↳ pain Management → NSAID

+ Give Bactericin For bacterial superinfection.

Gaba petint

Ami tri phine

+ V.B For healing

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Follow shingles :-

- ↳ Variants of shingles → ① Zoster sine Herpete (without Rash) → uncommon
- ② Ramsay hunt syndrome (VZV in 7th CN)
Rapid Facial palsy + Tinnitus and vertigo if 8th CN involve
- ③ in Ear pinna → cause hear loss.
- ④ facial Paralysis

can treat by painkillers, corticosteroid, Antiviral.

* Herpes ophthalmicus →

- ↳ in Trigeminal Ganglia / Reactivate more with old Age + immunosuppression
- ↳ may activate with stress
- ↳ Hutchinson's sign in typical + cause complication (visual loss)
- ↳ Rx → Antiviral, Antistaph Antibiotic, corticosteroid.

[3] HHV8

↳ Kaposi Sarcoma

- ↳ ulceration, bleed, purple + red + dark macules.
- ↳ Form of cancer + Not Dermatomal Distribution.