The Hottest Topic: STDs

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Conflict of Interest Disclosure
• No conflicts

Why are STDs Important?
• Left untreated consequences include: infertility, life-threatening ectopic pregnancy, stillbirth/birth defects in newborns, increased risk for HIV transmission or acquisition, cardiac and neurologic dysfunction, soft tissue destruction, internal organ damage, carcinoma, death

Why STDs?
• Sex is popularized (TV, movies, music, ads)
• STD risks are under-appreciated (except HIV)
• People (all ages) drink and do stupid things
• Smoking pot / using drugs leads to risk taking
• Older men use ED drugs and acquire STD (3x)

Why STDs? Medical Reason....

Epidemic Decades

Asymptomatic Cases

Syphilis
Herpes
GC

Why STDs?
• 66% Think about sex
• N=1002

May, 2018


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- One night stands & “Booty-call” relationships
- Teenagers and young adults “hook up” by “sexting”

Anonymous “Hook-ups”

Dating websites and apps for people who have an STD

POSITIVESINGLES.COM

MPWH.COM

“Houston citizens can find a new sex partner online faster than they can get a pizza delivered”

- Houston Chronicle, Oct, 2017
Tweets relating to sexual activity correlated with lues incidence by county

"STDs are a persistent enemy, growing in number, and outpacing our ability to respond."

AVERAGE NUMBER OF SEXUAL PARTNERS by State

US Average: 7.2
High: LA 15.7
LOW: UT 2.6
England: 7.0
Netherlands: 6.9
Italy: 5.4
Nationwide & Representative surveys
N=1058 America
N=1122 Europe

Current STD Trends

• Yearly: $2 \times 10^6$ new STDs
• 1 in 4 teenagers acquire STD
• >50% all Americans will have at least one STD during their lifetime

Current STD Trends: Syphilis

• P&S Syphilis $\uparrow$ 17.6%
• 27,814 P&S
• 8.7 per 100,000
• All stages 88,042 an $\uparrow$ 17.8%
• Increased in 82% states
• Congenital lues $\uparrow$ 27.6%

Syphilis: Still Dangerous!

1945

2016
Syphilis: USA (Rates/100,000)

- **States**
  - Louisiana (16.1)
  - Nevada (15.4)
  - California (15.0)
  - Georgia (13.2)
  - New York (12.4)
  - Florida (11.9)
  - Mississippi (10.9)
  - North Carolina (10.8)
  - Arizona (10.6)
  - Illinois (9.8)

- **Localities**
  - Las Vegas (18.8)
  - San Francisco (18.7)
  - New Orleans (18.6)
  - Atlanta (17.8)
  - Orlando (16.1)
  - Los Angeles and San Diego (15.9)
  - Austin (15.8)
  - Charlotte, NC and Columbus, OH (15.6)
  - Miami/Ft. Lauderdale/West Palm (15.4)
  - Tampa/St. Petersburg (14.7)

WHO: Dec, 2017 Countries with bicillin shortage

- Early Syphilis: Alternate Rx Options
  - Doxycycline 100mg BID x 14 days
  - Tetracycline 500mg QID x 14 days
  - Ceftriaxone 1-2g IM x 10-14 days
  - Uncertain efficacy
  - Azithromycin 2.0g, single dose

- Syphilis Treatment: Comparative Study
  - Chinese prospective study primary/secondary lues
  - HIV negative
  - Followup every three months
  - Randomly assigned: Bicillin 2.4MU IM versus Minocycline 100mg BID x 14 or 28 days
  - At the end of two years, ASx and negative serology:
    - Minocycline 100mg BID x 28 days 87.3%
    - Bicillin 2.4MU IM x 1 77.5%
    - Minocycline 100mg BID x 14 days 72.3%

Clinical Syphilis Tips
**Typical Chancre, Primary Syphilis**

Solitary, Indurated, Painless

**Microbes Don’t Read Textbooks!**

**REMEMBER: SYPHILIS IS RESURGENT!**

- Don’t forget to check the oral mucosa
  - Extragenital chancre (Primarily lip and tongue)
  - Extragenital chancre: 5% Syphilis cases
  - Mucous patch
  - Glossitis and Pharyngitis
  - Condyloma lata
  - Gumma

**Extragenital chancre**
• Mucous patch
• Condyloma lata: Oral Mucosa

Bicillin 2.4 x 10^6 Units, IM

• Condyloma lata: Oral Mucosa
• Annular Syphilid: Peri-orofacial Skin of Color

• REMEMBER: SYPHILIS IS RESURGENT!
  * Concurrent occurrence of chancre and lesions of secondary lues strongly suggests co-infection with HIV

Concurrent Primary + Secondary Lues = HIV+
Concurrent Primary + Secondary Lues = HIV+

Chancre (1°)

Secondary

Chancre (1°)

REMEMBER: SYPHILIS IS RESURGENT!

- Extreme facial eruption: Think syphilis
- Nodular syphilis = Florid syphilis
- Malignant syphilis (Ulcerated, Fever)

Florid Syphilis

REMEMBER: SYPHILIS IS RESURGENT!

- Asymptomatic Hair Loss = Think syphilis
  - Patchy or “Moth-eaten”
  - Rarely diffuse
  - Generally non-scarring
  - Bx: not characteristic; looks like AA
  - Resolves with antibiotic Rx in 3-4 weeks
  - 2.9-7.0% of cases of secondary lues

Alopecia of Secondary Syphilis
Sir William Osler

“Syphilis can simulate virtually every other human disease”

- Chlamydia 1,598,354 (↑4.7%)
- Gonorrhea 468,514 (↑18.5%)
- HSV and genital HPV are not reportable, but based on healthcare claims and seroprevalence studies, both increased in last five years
- Chancroid 7

**Bull Head** Clap
Soft, ASx swelling
In and behind coronal sulcus
Minimal to no dysuria
Minimal to no discharge

**Treatment of Uncomplicated Gonorrhea**

Uncomplicated Gonococcal Infections of the Cervix, Urethra, and Rectum

Recommended Regimens
- Ceftriaxone 250 mg IM in a single dose
- PLG, Azithromycin 1 g orally in a single dose

**Herpes: Most Prevalent STD in America**

<table>
<thead>
<tr>
<th>Disease</th>
<th>Prevalence</th>
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<tbody>
<tr>
<td>HPV (warts)</td>
<td>20 million</td>
</tr>
<tr>
<td>Chlamydia</td>
<td>3 million</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>1.25 million</td>
</tr>
<tr>
<td>HIV</td>
<td>1.2 million</td>
</tr>
<tr>
<td>Herpes</td>
<td>50 million</td>
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</tbody>
</table>

**Herpes Morphology**

- HSV-2 mostly sexual transmission; Genital herpes 85-90% HSV-2
- 1 million new infections/yr USA; Primary infection, then latency
- 16-17% population over age 12 sero+

**Duration of Genital Herpes**

<table>
<thead>
<tr>
<th>Duration of Genital Herpes</th>
<th>% Of Days with Asymptomatic Shedding</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1 year</td>
<td>31.7-26%</td>
</tr>
<tr>
<td>1-9 years</td>
<td>13%</td>
</tr>
<tr>
<td>≥ 10 years</td>
<td>9%</td>
</tr>
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</table>
Five Important Herpes Pearls

Stress Worsens The Course of HSV

Ulcerative Herpes
- Immunosuppressed/Immunocompromised

Vegetative (Hypertrophic) Herpes
- Immunosuppressed/Immunocompromised

Herpes on Buttock
- 6.5% of women only buttocks lesions
- Almost exclusively in women >40
- Buttocks lesions 78% due to HSV-2
- Buttocks lesions assoc with active ASx shedding on genitalia in 22%

HSV-2 and Pregnancy
- 1. Women’s history of genital herpes should be evaluated early in pregnancy
- 2. Women with known recurrent genital herpes simplex virus (HSV) should be counselled about the risks of transmission of HSV to their neonates at delivery
- 3. At delivery, women with recurrent HSV should be offered a Caesarean section if there are prodromal symptoms or in the presence of a clinical lesion suggestive of HSV
- 4. Women with known recurrent genital HSV infection should be offered acyclovir or valacyclovir suppression at 36 weeks’ gestation to decrease the risk of clinical lesions and viral shedding at the time of delivery and therefore decrease the need for Caesarean section; Acyc 400mg TID
- 5. Women who acquire primary genital herpes in the third trimester of pregnancy have the highest risk of transmitting HSV to their neonates and should be offered a Caesarean section to decrease this risk
Imiquimod (off-label) for Hypertrophic HSV2 in HIV+

- Buttocks and perianal HSV2
- Verified by immunoperoxidase staining of biopsy
- Resistant x 6 mo to Acyc, Val
- Imiquimod 5% 3x weekly, overnight
- Cleared in 4 weeks

Imiquimod (off-label) for Ulcerative HSV2 in HIV+

- 5% imiquimod only one used
- ??? 3.75% will work
- Only applied 3 times weekly
- 8-12 weeks required for cure
- Acyclovir may be co-administered

HSV-2 Therapy

<table>
<thead>
<tr>
<th>DRUG</th>
<th>EPISODIC</th>
<th>SUPPRESSIVE</th>
<th>COMMENT</th>
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<tbody>
<tr>
<td>Acyclovir</td>
<td>400mg TID x 5d</td>
<td>800mg TID x 2 d</td>
<td>400mg BID</td>
</tr>
<tr>
<td></td>
<td>800mg BID x 2 d</td>
<td>800mg BID x 1 d</td>
<td></td>
</tr>
<tr>
<td>Valacyclovir</td>
<td>100mg BID x 3 d</td>
<td>1g QD x 5d</td>
<td>500 or 1000mg QD</td>
</tr>
<tr>
<td>Famciclovir</td>
<td>125mg BID x 5d</td>
<td>100mg, 250mg BID x 3</td>
<td>1000mg BID x 1</td>
</tr>
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Genital Herpes: Chronic Suppression

Valacyclovir 500-1000mg QD

- Reduces overt outbreaks (75%) increasingly so with longer duration of suppressive Rx
- Reduces frequency of viral (73%) shedding, including ASx shedding
- Reduces transmission to seronegative partners (50%)

EGW = External Genital Warts (HPV6 and 11)
HPV Vaccine

- Nanovalent vaccine (6,11,16,18, 31, 33, 45, 52, 58)
- These HPV assoc with 90% genital cancer and warts
- Three shot regimen: 0,2,6 months
- Protection efficacy has been high, sustained
- USA: 65% girls, 56% boys get at least one dose, BUT...
- Only 49.5% girls + 37.5% boys receive full course

https://www.cdc.gov/mmwr/volumes/66/wr/mm6633a2.htm#T3_down
MMWR August 25, 2017 / 66(33);874–882

NEW: HPV Vaccine Schedule Change

- Based upon immune response, now recommend that HPV vaccine, both boys and girls, if given ages 9-14, only 2 doses are needed
- Week 0 and between 6-12 mo
- Age > 15, three dose regimen

Exhaustive meta-analysis of Rx EGW in HIV+
Only acceptable evidence: electrodessication, imiquimod (per approved protocol)

Lymphogranuloma venereum

Serovar L2b

OLD PRESENTATION
Younger, black men

SEX TRANSM DIS. 2017;44:245-248

NEW PRESENTATION
Older, white men (MSM)

Granuloma Inguinale: Donovanosis

- Papua New Guinea, Southern Africa, parts of India and Brazil
- Dx: Biopsy
- No serology, standard PCR, or culture technique
- Azithromycin 500mg OD
- TMMP-SMX DS BID
- Doxycycline 100mg BID
Pubic Hair Grooming and STD?
- 7580 subjects, 18-65, nationally representative
- 74% groomed pubic hair (66% men, 84% women)
- After adjusting for age and number sexual partners: grooming was positively correlated with STDs
- Extreme groomers (monthly removal of all pubic hair) were high risk for self-reported STD (OR 4.4 when compared to age-sex matched non-groomers)
- Low groomers correlated w/ public lice infestations

Pubic Lice (“Crabs”)

Condoms are not always the answer!

Post-Exposure Bacterial Prophylaxis?
- French study, MSM who have condomless sexual contact
- All receiving PRE-exposure HIV prophylaxis w/ antiretroviral
- Randomized: Single dose doxycycline 200mg within 24 hours versus no antibiotic within 24 hours of sexual contact (n=116 per group)
- Followup: 10 months; Occurrence of chlamydia, GC, syphilis
- 22% presented with bacterial STD in prophylaxis group 42% presented with bacterial STD in NO prophylaxis group (p =0.007)
- Adverse GI events: 53% PEP vs. 41% NO PEP (not stat signif)

Post-exposure prophylaxis with doxycycline to prevent sexually transmitted infections in men who have sex with men: an open-label randomised substudy of the ANRS IPERGAY trial

Syphilis and the Dermatologist

“I would suggest that the responsible dermatologist become reacquainted with syphilis, in all its various manifestations. I would further suggest that our dermatology training centers spend more time diligently teaching residents about syphilis and other STDs. In conclusion, I fervently hope that organized dermatology will once again dutifully consider venereal disease to be a critical part of our specialty’s skill set.”