Genital Herpes in the STD Clinic

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HSV is the leading cause of GUD

- HSV is very common
  - HSV-2: 16% seroprevalence in 14-49 yr old in USA
    - 417 million prevalent infections worldwide
  - HSV-1 increasing cause of genital HSV
    - 3.8 billion prevalent infections worldwide
Key HSV issues in STD clinics: Topics

Testing
- Lesions: PCR vs. Culture
- Serology: Who to test
- Serology: When to confirm serologic test results

Treatment
- Episodic vs. Suppressive antiviral therapy
  - How to choose
  - Suppressive therapy for prevention of transmission
    - Asymptomatic genital HSV-2
    - Genital HSV-1

Counseling
Diagnostic Method Must Be Tailored to Clinical Presentation

- Asymptomatic: 20%
- Recognized symptomatic: 20%
- Undiagnosed: 60%

Serology

Culture, PCR, Antigen detection
Poll #1: How do you make a virologic diagnosis of HSV from a genital lesion in your clinic?

A. HSV Culture
B. HSV PCR
C. HSV Direct Fluorescence Antigen (DFA)
D. Don’t know
PCR vs. Culture: Why PCR is better

Wald et al JID 2003: 188

Ratio PCR: Viral culture positivity

3:1 (lesions)

5:1 (no lesions)
Poll #2: Which patients are offered type-specific HSV serologic screening in your clinic?

A. Patients who meet CDC Guidelines for testing

B. All patients, regardless of history of genital symptoms or history of sex partners with genital herpes

C. Patients with genital herpes symptoms at the time of the visit

D. Anyone who requests testing

E. Not Offered

F. Other
Poll #3: Which type-specific HSV serology test does your clinic use?

A. HerpeSelect
B. HSV Immunoblot
C. HSV Western Blot
D. Don’t know
E. Other
Accurate HSV Serology: Type Specific

Glycoprotein gG tests
- Western blot
- gG ELISA
- gG-membrane tests
- gG immunoblot

- Differentiate between HSV-1 and HSV-2
## Type-Specific gG-based Serology Commercial Kits

<table>
<thead>
<tr>
<th>Test Name</th>
<th>Company</th>
<th>Sensitivity (%)</th>
<th>Specificity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HerpeSelect–2 ELISA</td>
<td>Focus</td>
<td>96–100</td>
<td>97–100</td>
</tr>
<tr>
<td>HerpeSelect immunoblot</td>
<td>Focus</td>
<td>97–100</td>
<td>98</td>
</tr>
<tr>
<td>Biokit</td>
<td>Diagnology</td>
<td>93–100</td>
<td>94–97</td>
</tr>
<tr>
<td>Cobas-HSV-2</td>
<td>Roche</td>
<td>93</td>
<td>98</td>
</tr>
<tr>
<td>Captia Select-HSV-2</td>
<td>Trinity</td>
<td>90–92</td>
<td>91–99</td>
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NOTE. ELISA, enzyme-linked immunosorbent assay

Gold Standard: UW Western blot
Index values:
- <0.9: Negative
- Low positive: 1.1-3.5:
  - 46% confirmed by Western Blot
- High positive: (>3.5):
  - 97% confirmed by Western Blot

The most commonly used test, HerpeSelect HSV-2 ELISA might be falsely positive at low index values (1.1–3.5).

Such low values should be confirmed with another test, such as Biokit or the Western blot.
How are clinics managing this?

UW HSV Western Blot

- $206.85

- Biokit: Unavailable
Poll #4: When a patient presents with a suspected recurrence of genital HSV-2, does your clinic:

A. Provide Rx for episodic therapy
B. Discuss suppressive therapy and provide Rx if desired
C. A&B
D. Other
Safe

Severity of disease, patient preference, transmission risks are the most important aspects
  - Patients need to be aware it is an option

48% decreased risk of HSV-2 transmission among discordant heterosexual couples with symptomatic HSV-2
Optimizing episodic HSV Tx

Clinically significant benefit (20 - 30%)
  • Decreased duration with therapy

Self-initiation of therapy important
  • Medication needs to be available to patient
    • Prescription on hand
## Genital HSV-1 ≠ Genital HSV-2

<table>
<thead>
<tr>
<th></th>
<th>Genital HSV-1</th>
<th>Genital HSV-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median recurrences</td>
<td>1 per year</td>
<td>5 per year</td>
</tr>
<tr>
<td>(first year)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shedding rate</td>
<td>2%</td>
<td>20% symptomatic, 10% asymptomatic</td>
</tr>
<tr>
<td>Seropositive</td>
<td>Oral or genital</td>
<td>genital</td>
</tr>
</tbody>
</table>
Other scenarios: Discussion

Genital HSV-1:
- Episodic therapy?
-Suppressive therapy?

Asymptomatic HSV-2:
- Episodic therapy?
-Suppressive therapy?
-Prevention of transmission?
HSV Counseling: From the guidelines

The following topics should be discussed when counseling persons with genital HSV infection:

1. the natural history of the disease, with emphasis on the potential for recurrent episodes, asymptomatic viral shedding, and the attendant risks of sexual transmission;
2. the effectiveness of suppressive therapy for persons experiencing a first episode of genital herpes in preventing symptomatic recurrent episodes;
3. use of episodic therapy to shorten the duration of recurrent episodes;
4. importance of informing current sex partners about genital herpes and informing future partners before initiating a sexual relationship;
5. potential for sexual transmission of HSV to occur during asymptomatic periods (asymptomatic viral shedding is more frequent in genital HSV-2 infection than genital HSV-1 infection and is most frequent during the first 12 months after acquiring HSV-2);
6. importance of abstaining from sexual activity with uninfected partners when lesions or prodromal symptoms are present;
7. effectiveness of daily use of valacyclovir in reducing risk for transmission of HSV-2, and the lack of effectiveness of episodic or suppressive therapy in persons with HIV and HSV infection in reducing risk for transmission to partners who might be at risk for HSV-2 acquisition;
8. effectiveness of male latex condoms, which when used consistently and correctly can reduce (but not eliminate) the risk for genital herpes transmission HSV infection in the absence of symptoms (type-specific serologic testing of the asymptomatic partners of persons with genital herpes is recommended to determine whether such partners are already HSV seropositive or whether risk for acquiring HSV exists);
9. risk for neonatal HSV infection; and
10. increased risk for HIV acquisition among HSV-2 seropositive persons who are exposed to HIV (suppressive antiviral therapy does not reduce the increased risk for HIV acquisition associated with HSV-2 infection).

Asymptomatic persons who receive a diagnosis of HSV-2 infection by type-specific serologic testing should receive the same counseling messages as persons with symptomatic infection. In addition, such persons should be educated about the clinical manifestations of genital herpes.