Proactive Anal Pap testing for the HIV positive MSM population in the IDC

Misty Bath, RN, BSN
Sonja Rietkerk, RN, BSN
What is the purpose of Anal Pap testing?

- To screen for anal dysplasia, which is a pre-cancerous condition. It refers to abnormal changes in the cells that make up the lining (mucosa) of the anal canal. Abnormal cells clustered together form a visible pattern called a lesion.

www.catie.ca Anal Dysplasia Fact Sheet
What causes Anal dysplasia?

- Linked to a common virus called the human papillomavirus (HPV). HPV is a common virus with at least 70 strains, many of which can be transmitted sexually.

- Our cells make certain proteins that help prevent dysplasia and cancer. HPV can shut off these proteins, allowing dysplasia to develop. HIV seems to interact with HPV to make these changes more likely. Anal dysplasia has been clearly associated with HIV and with a decrease in CD4+ cell counts.

www.catie.ca Anal Dysplasia Fact Sheet
Indications for Anal Pap testing

- Prevalence of anal HPV infection is high
  93% HIV+ MSM  23% HIV- MSM

- Incidence of anal cancer
  General population is 1:100,000/yr
  HIV- MSM is 35/100,000/yr
  HIV+ MSM is 70-80: 100,000/yr

- Incidence of anal cancer for MSMs > than incidence of cervical cancer in women prior to introduction of cervical cytology screening
Percent with anal HPV infection

Palefsky et al.
Percent with abnormal anal cytology

Palefsky et al.
% of men developing high-grade dysplasia during follow-up

<table>
<thead>
<tr>
<th>ARV use</th>
<th>Months of follow-up</th>
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<tbody>
<tr>
<td></td>
<td>6</td>
</tr>
<tr>
<td>No</td>
<td>5%</td>
</tr>
<tr>
<td>Yes</td>
<td>5%</td>
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- By 2 years, 2/3 had developed high-grade dysplasia

Palefsky et al.
Risk factors for Anal dysplasia

Include but are not limited to the following:
- Receptive anal intercourse (RAI)
- HPV infection
- Genital wars (hx of genital warts)
- HIV infection
- CD4 count < 200cells/µL
- High grade cervical/vulvar dysplasia
- Cigarette smoking
Equipment Required for Anal Pap

- Willing patient
- Dacron swab
- ThinPrep fixative solution
- Clean gloves
- Examination table
How to get a good sample

- The goal is to obtain samples of the lower rectum, the squamocolumnar junction and the anal canal.

- Dacron swab is used instead of cotton because cells cling to cotton, and this may decrease the cellular yield.
Anorectal junction – the transformation zone
Testing Procedure

- Ensure pt has refrained from anal receptive sex, douching or enemas before testing in order to increase the cellular exfoliative yield.
- Instruct pt to lie on the examination table, his back to RN, with legs slightly curled (lateral knee chest position).
- Visually examine the external anal canal and perianal skin for any abnormalities i.e. ulcers, lesions, masses, condylomata.
Testing Procedure cont…

- Insert water moistened Dacron swab approx 1.5” into anal canal
- Rotate swab firmly and slowly pull out in a tight spiral motion (sampling process ~ 15-20 seconds)
- Vigorously swirl Dacron swab into the ThinPrep methanol fixative medium
Anal Pap Results

- **Negative/Normal**
- **ASCUS** (Atypical Squamous Cells of Unknown Significance) cells are abnormal, but no definite diagnosis can be made.
- **LSIL** (Low-grade Squamous Intraepithelial Lesion) means mild dysplasia.
- **HSIL** (High-grade Squamous Intraepithelial Lesion) means moderate to severe dysplasia.
- **Anal Cancer** (Squamous Cell Carcinoma)

www.catie.ca Anal Dysplasia Fact Sheet
<table>
<thead>
<tr>
<th>Low-grade squamous intraepithelial lesion (LSIL)</th>
<th>High-grade squamous intraepithelial lesion (HSIL)</th>
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</thead>
<tbody>
<tr>
<td>Condyloma</td>
<td>CIN grade 1</td>
</tr>
<tr>
<td>Normal</td>
<td>CIN grade 2</td>
</tr>
<tr>
<td>Very mild to mild dysplasia</td>
<td>CIN grade 3</td>
</tr>
<tr>
<td>Moderate dysplasia</td>
<td>Severe dysplasia / In situ carcinoma</td>
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Koilocytes

Microinvasive carcinoma
Screening Guidelines

- Anal Paps are not a part of the Centre's Therapeutic Guidelines (BCCFE)
- There are no hard-and-fast rules about screening (e.g. who and how often)
- Screening is only available at a handful of clinics throughout BC and Canada
Screening

- Anal Pap should be inclusive with the initial evaluation of any HIV+ MSM patient
- If initial pap is normal, repeat the pap in approx 6 months
- After 2 repeated normal pap results, these pts should have an annual anal pap.
- For any smears resulting with ASCUS or any degree of LSIL, the pt should be referred to anal dysplasia clinic
Grades of dysplasia determined by cytology do not always correlate with grades obtained via biopsy of suspect lesions (i.e. LSIL on cytology is often revealed as HSIL on biopsy).

Detecting HSIL is improved by direct visualization via High-Resolution Anoscopy (HRA) and biopsy in addition to PAP smear results.

Anal cytology often under represents grade of disease

P. Chin-Hong & J. Palefsky, Clinical Infectious Diseases, 2002
Anal dysplasia in the absence of Anal Intercourse?

- 50 HIV+ve Heterosexual Males IDU with no hx of anal intercourse were evaluated by using anal cytologic, histologic and anal HPV testing.
- Median CD4 263
- 36% had cytologic or histologic abnormalities
- 16% LSIL & 18% HSIL
- Should screen all HIV+ve men with CD4 <500, regardless of hx of anal intercourse?

Piketty C et al., Annals of Internal Medicine, 2003
The IDC in Review

- **532** Active patients in the IDC as of Dec 31, 2006
- **425/532** with documented HIV Risk Factor = 80%
Anal Pap testing in the IDC

As of Dec 31, 06, the # of (active and inactive) males with MSM as a HIV Risk factor = 225

- 70% had an Anal Pap done
- Only ~7% had Anal Pap done at their first visit to the Clinic
Abnormal Anal Pap Results

22% of the Anal Paps done in the MSM population at the IDC were abnormal and referred to the Anal Dysplasia Clinic.
Anal Pap Results

If 34 out of 157 Anal Pap results were Abnormal it means the other 123 results were Normal, right?
Anal Pap Results

- 123 were normal, but we realized ‘unsatisfactory sample’ results were not entered into our database.
- Therefore the total number of anal paps done may be greater, but unsatisfactory sample results were not recorded.
- Our database now includes ‘unsatisfactory sample’ as a possible result.

*The total Anal Paps done (n=157) accounted for one Anal Pap/patient*
Nursing plays an active role

- The increased rate 7% to 70% of Anal Paps performed in the IDC is strongly linked to nursing. What do we do…
  1. Monitor/flag patients who need an Anal Pap
  2. Provide patient education about Anal dysplasia, HPV, safer sex and other health topics (i.e. constipation, anal drug use etc.)
  3. Assess peri-anal area and collect Anal Pap.
  4. Review results with patients and direct them to appropriate follow-up
  5. Entering results into IDC Database.
Quality Improvement Measures for the IDC

- There’s still 30% of our MSM population that have not had Anal Paps done.
- Take a more pro-active approach to f/u with annual Anal Paps for all high risk populations seen at the clinic (i.e. MSM, pts with bisexual orientation engaging in RAI, women, pts with persistent anal infection with multiple high risk HPV subtypes)
- Aggressive and consistent f/u for Anal Pap results that are resulted as unsatisfactory sample.
Quality Improvement Measures for the IDC

- Continue to develop standards for patient education about
  1. Anal dysplasia and HIV infection
  2. Anal Pap testing procedure
  3. Appropriate monitoring and treatment of abnormalities and recognizing pertinent symptoms of anal cancer (i.e. new on-set pain, bleeding, development of a mass)

- Continue to bridge care with Anal Dysplasia Clinic at St. Paul’s Hospital
References

- Chin-Hong P & Palefsky J, *Natural History and Clinical Management of Anal Human Papillomavirus Disease in Men and Women Infected with Human Immunodeficiency Virus*, Clinical Infectious Diseases, 2002;35:1127-34
- www.catie.ca
Acknowledgements

- Dr. Natasha Press, ID at SPH, Anal Dysplasia Clinic
- Dr. Rolando Barrios, IDC & BCCFE
- Dr. Silvia Guillemi, IDC & BCCFE
- Nada Gataric, BCCFE
- Bob Hogg, BCCFE
- IDC team members