Cervical Cancer Prevention

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“Support needing populations through medical assistance and the transfer of knowledge to local medical practitioners.”

Our vision for the Medical Assistance & Medical Education (MAME) Programs
Presentation Overview

- Cervical cancer background
- Disease progression
- Screening methods
  - Pap test
  - Visual inspection with acetic acid (VIA)
  - HPV vaccination
- Treatment of cervical dysplasia
Cervical Cancer

• Anatomy

• Why is it prone to cancer?
Cervical Cancer

● Worldwide, cervical cancer is the fourth most common cause of both cancer and death from cancer in women.¹

● Approximately 80% of cervical cancers occur in developing countries.²

● Highest incidence among women in late 40s early 50s
  ○ Death has huge impact on families

Cervical Cancer

- Invasive cervical cancers are usually preceded by a long phase of preinvasive disease
- Opportunity to arrest the progression
Cervical Cancer

Cervical Cancer in Myanmar

- 2nd most frequent cancer among women
- Most frequent cancer among women between 15 and 44 years of age.¹

¹ ICO Information Centre on HPV and Cancer
Cervical Cancer in Myanmar

<table>
<thead>
<tr>
<th>Table 2. Burden of cervical cancer</th>
<th>Incidence</th>
<th>Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual number of new cases/deaths</td>
<td>5286</td>
<td>2998</td>
</tr>
<tr>
<td>Crude rate</td>
<td>21.4</td>
<td>12.1</td>
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<tr>
<td>Age-standardized rate</td>
<td>20.6</td>
<td>12.3</td>
</tr>
<tr>
<td>Cumulative risk 0-74 years (%)</td>
<td>2.1</td>
<td>1.4</td>
</tr>
<tr>
<td>Ranking of cervical cancer (all years)</td>
<td>2nd</td>
<td>2nd</td>
</tr>
<tr>
<td>Ranking of cervical cancer (15-44 years)</td>
<td>1st</td>
<td>2nd</td>
</tr>
</tbody>
</table>

ICO Information Centre on HPV and Cancer
Cervical Cancer in Myanmar

Figure 2. Estimated coverage of cervical cancer screening in Myanmar, by age and study

ICO Information Centre on HPV and Cancer
Cervical Cancer and HPV

- The primary cause of cervical pre-cancer and cancer is persistent or chronic infection with one or more of the “high-risk” (or oncogenic) types of human papillomavirus (HPV).
- Most common infection acquired during sexual relations, usually early on in sexual maturity.

Cervical Cancer and HPV

- Most HPV infections resolve spontaneously.
- However, a minority of HPV infections persist; in women this may lead to cervical dysplasia, which, if not treated, may progress to cancer.
- Women living with HIV are more likely to develop persistent HPV infections at an earlier age and to develop cancer sooner.¹

Cervical Cancer Progression

- Cellular atypia
- Various grades of dysplasia or cervical intraepithelial neoplasia (CIN)
- Invasive carcinoma.
Cervical Dysplasia

- ASCUS: Atypical squamous cells of undetermined significance; AGUS: Atypical glandular cells of undetermined significance
- CIN 1/LSIL
- CIN 2/HSIL: confined to the basal 2/3 of the epithelium
- CIN 3/HSIL: spans more than 2/3 of the epithelium (sometimes also be referred to as cervical carcinoma in situ)
Cervical Dysplasia
CIN 1

- Much cervical intraepithelial neoplasia regresses without treatment
- Progression to cervical carcinoma in situ occurs in approximately 11% of CIN1
- Progression to invasive cancer occurs in approximately 1% of CIN1
CIN 2

- Progression to cervical carcinoma in situ occurs in approximately 22% of CIN2.
- Progression to invasive cancer occurs in approximately 5% in CIN2.
CIN 3

- Progression to invasive cancer occurs in at least 12% of CIN3.
infection  condition worsening
normal cervix  infected cervix  pre-cancerous state  cancer
the immune system conquers the virus  condition improving

GenoID
Arresting Cancer Development

- Pap smear
- Visual inspection with acetic acid (VIA)
- HPV vaccination
Pap Smear

- Papanicolaou (“Pap”) smear
- Brought about a major reduction in morbidity and mortality from cervical cancer in high-income countries.\(^1\)
- Requires a laboratory and skilled human resources: not available or sufficient in many settings.

Pap Smear

Pap Smear

In the west:
1. Abnormal Pap smear
2. Colposcopy
3. Biopsy
4. Treatment
Colposcope
Biopsy
Treatment of CIN

- Cold knife conization
- Loop electrosurgical excision procedure (LEEP)
- Cryotherapy
Cryotherapy

VIA

- A 3–5% acetic acid solution is applied to the cervix with a large cotton swab.
- Requires use of a speculum, magnification lens, light source, and a trained health-care provider.
VIA

- Excellent for low-resource settings
- Immediate result allows the patient to be offered treatment at the same visit.
- Element of subjectivity; high variability in the accuracy of results between providers
- Not appropriate for many postmenopausal women.
VIA: Low-grade CIN

- thin, smooth acetowhite lesions
- well-demarcated, but irregular, feathery, digitating, or angular margins.
VIA: Low-grade CIN

FIGURE 7.9: Geographic satellite lesion after application of 5% acetic acid (a) far away from the squamocolumnar junction, suggestive of low-grade lesion.
VIA: High-grade CIN

FIGURE 7.22: A circumferential dense opaque acetowhite area with coarse mosaics (CIN 3 lesion)
VIA: High-grade CIN

FIGURE 7.23: Note the intensely dense, complex, acetowhite lesion (CIN 3 lesion) with raised and rolled out margins, obliterating the external os.
VIA: Early Invasive Cancer
VIA: Early Invasive Cancer

FIGURE 8.8: Invasive cancer: There is a proliferative growth on the cervix which becomes dense, chalky white after the application of acetic acid. Bleeding partly obliterates the acetowhiteening.
Age-Related Cervical Changes

- Note that the appearance of the cervix changes as a woman ages.
FIGURE 6.6: Postmenopausal cervix: The epithelium is pale, brittle and lacks lustre, showing sub-epithelial petechiae (a). Squamocolumnar junction is not visible.
HPV Vaccination

• The HPV vaccines prevent infection with the types of HPV that cause most cervical cancers.
• Two vaccines are currently on the market.
• The WHO recommends vaccination of all girls older than 9.
• Vaccinated women still need to undergo screening.
Summary

1. Cervical cancer is a disease that can be prevented.
2. There are tests to detect early changes in the cervix (known as pre-cancers) that may lead to cancer if not treated. A positive test does not mean cancer!
3. All women aged 21(?)–49 years should be screened for cervical cancer at some point.
4. There are safe and effective treatments for these early changes.
Thank you for your time and attention!
😊
Thank you

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