A Big Challenge for Cervical Cancer Prevention and Treatment in China

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Conflict of Interest Disclosure

• No financial relationships or conflict of interest to disclose
Epidemiology of Cervical Cancer

- Worldwide, cervical cancer is the seventh most common malignancy and the second most common female cancer.

- There are 53 million new cases of cervical cancer and 27.5 million cervical cancer-related deaths annually.

(WHO 2014)
The Population of China Mainland

- 1.37 billion in total by Dec. 2014
- 19% of the global population
- Females: 667.03 million
  Males: 700.79 million
- Women of 35-64 age: 278 million

*National Bureau of Statistics of China. 2014*
Epidemiology of Cervical Cancer in China

62,000 new cases of cervical cancer in China, accounting for 12% of the world (WHO/IARC, 2014)

30,000 cases death of cervical cancer in China

Incidence and mortality of cervical cancer Of city in China

Incidence and mortality of cervical cancer of country in China

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Incidence and Mortality of Cervical Cancer in China

Incidence

High rates area of cervical cancer:
- Inner Mongolia, Shanxi, Shanxi, Hubei, Hunan, Jiangxi

Mortality

From: Li k. Annals of Oncology 2012.
Cervical Cancer Incidence and Mortality Changes
20 Years in China (1989-2008)

- The incidence of cervical cancer coarse in the country:
  - 1989-1990: 3.06/100,000
  - 2007-2008: 11.87/100,000
  - Increasing the rate of 8.7% per year on average
  - Rural area: 10.3%
  - Urban area: 5.6%

- The cervical cancer crude mortality rates in the country:
  - 1989-1990: 2.19/100,000
  - 2007-2008: 3.20/100,000
  - Rising at the rate of 8.1% per year on average.

### 表 4-12 全国肿瘤登记地区子宫颈癌的发病与死亡

**Table 4-12** Incidences and mortalities of cervical uteri cancer (2008)

<table>
<thead>
<tr>
<th>指标</th>
<th>地区</th>
<th>病例数 No. cases</th>
<th>粗率 Crude rate (1/10^5)</th>
<th>构成 (%)</th>
<th>中国人口标化率 ASR China (1/10^5)</th>
<th>世界人口标化率 ASR world (1/10^5)</th>
<th>累积率 Cum.rate 0 ~ 74 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>发病</td>
<td>全国 All</td>
<td>4016</td>
<td>12.24</td>
<td>4.58</td>
<td>6.87</td>
<td>8.32</td>
<td>0.81</td>
</tr>
<tr>
<td>Incidence</td>
<td>城市 Urban areas</td>
<td>3157</td>
<td>12.19</td>
<td>4.33</td>
<td>6.79</td>
<td>8.18</td>
<td>0.78</td>
</tr>
<tr>
<td></td>
<td>农村 Rural areas</td>
<td>859</td>
<td>12.45</td>
<td>5.79</td>
<td>7.38</td>
<td>9.10</td>
<td>0.95</td>
</tr>
<tr>
<td>死亡</td>
<td>全国 All</td>
<td>953</td>
<td>2.91</td>
<td>2.07</td>
<td>1.43</td>
<td>1.83</td>
<td>0.19</td>
</tr>
<tr>
<td>Mortality</td>
<td>城市 Urban areas</td>
<td>684</td>
<td>2.64</td>
<td>1.89</td>
<td>1.25</td>
<td>1.60</td>
<td>0.16</td>
</tr>
<tr>
<td></td>
<td>农村 Rural areas</td>
<td>269</td>
<td>3.90</td>
<td>2.74</td>
<td>2.20</td>
<td>2.82</td>
<td>0.32</td>
</tr>
</tbody>
</table>

### 图 4-12a 全国肿瘤登记地区子宫颈癌年龄别发病率,2008

*Figure 4-12a* Age-specific incidence rates of cervical uteri cancer in all registration areas, 2008

### 图 4-12b 全国肿瘤登记地区子宫颈癌年龄别死亡率,2008

*Figure 4-12b* Age-specific mortalities of cervical uteri cancer in all registration areas, 2008
Cervical Cancer Prevention in China

• **1950s:** Dr. LIN Qiaozhi started application of cytology and colposcopy for cervical cancer screening

• **1970s:** 610,000 women had Pap screening tests in 10 provinces. Among the cases diagnosed as cancers or suspicious for cancers by cytology, 61% were diagnosed as cancers by biopsy.

• **1979:** The Ministry of Health made the policy that Pap smears could be used for cervical cancer screening.

• **2001:** Liquid based cytology and HC2 were introduced and started to be used in China

• **2008-2015:** Cervical cancer screening and early treatment were promoted with government support
## Mortality of Cervical Cancer in China (Female)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lung Ca.</td>
<td>19.84</td>
<td>Gastric Ca.</td>
<td>17.02</td>
<td>Esophagus Ca.</td>
<td>14.11</td>
</tr>
<tr>
<td>2</td>
<td>Gastric Ca.</td>
<td>16.59</td>
<td>Esophagus Ca.</td>
<td>12.34</td>
<td>Gastric Ca.</td>
<td>13.72</td>
</tr>
<tr>
<td>3</td>
<td>Liver Ca.</td>
<td>14.44</td>
<td>Liver Ca.</td>
<td>11.21</td>
<td>Cervical Ca.</td>
<td>10.70</td>
</tr>
<tr>
<td>4</td>
<td>Esophagus Ca.</td>
<td>9.51</td>
<td>Lung Ca.</td>
<td>10.66</td>
<td>Liver Ca</td>
<td>7.26</td>
</tr>
<tr>
<td>5</td>
<td>Colorectal Ca.</td>
<td>6.26</td>
<td>Colorectal Ca.</td>
<td>4.82</td>
<td>Lung Ca</td>
<td>4.79</td>
</tr>
<tr>
<td>6</td>
<td>Breast Ca.</td>
<td>5.90</td>
<td>Cervical Ca.</td>
<td>3.89</td>
<td>Colorectal Ca.</td>
<td>4.33</td>
</tr>
<tr>
<td>7</td>
<td>leukemia</td>
<td>3.41</td>
<td>Breast Ca.</td>
<td>3.53</td>
<td>Breast Ca.</td>
<td>3.37</td>
</tr>
<tr>
<td>8</td>
<td>Cervical Ca.</td>
<td>2.86</td>
<td>leukemia</td>
<td>3.30</td>
<td>leukemia</td>
<td>2.42</td>
</tr>
<tr>
<td>9</td>
<td>Brain tumor</td>
<td>2.74</td>
<td>Nasopharyngeal Ca.</td>
<td>1.10</td>
<td>Nasopharyngeal Ca.</td>
<td>1.67</td>
</tr>
<tr>
<td>10</td>
<td>Uterine Ca.</td>
<td>2.71</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>98.97</strong></td>
<td><strong>Total</strong></td>
<td><strong>80.04</strong></td>
<td><strong>Total</strong></td>
<td><strong>70.43</strong></td>
</tr>
</tbody>
</table>
Cervical Cancer Prevention in China

• Three ways:

1. Women in city: Medical examination for the staff.
2. Opportunistic screening in the hospital;
3. Women in rural areas: Government funding, free screening.
Cervical Cancer Screening in China

- 《Chinese women's development outline》 (2011-2020): Cervical cancer screening can cover 80% population
- Cervical cancer screening coverage rate (2010):
  City: 29.1%, City in East China 31.3%
  Rura: 16.9%


Age distribution of cervical cancer screening

<table>
<thead>
<tr>
<th>Age</th>
<th>18-29 year</th>
<th>30-39 year</th>
<th>40-49 year</th>
<th>50-59 year</th>
<th>60-69 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>13.7%</td>
<td>30.1%</td>
<td>28.6%</td>
<td>21.2%</td>
<td>10.8%</td>
</tr>
</tbody>
</table>

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Cervical Cancer Screening with Government Support (Free)

- **2006-2008:** The central government selected 43 areas nationwide; 200,000 women screened (VIA/VILI)
- **2009-2011:** About 10 million women in rural areas, 35-59 y; Pap smear screening
- **2012:** About 10 million women in rural areas (35-64y); Pap smear screening
- **2014:** About 30 million rural women in rural areas, 35-64y; Pap smear screening; 546,000 of them with HPV testing
Cervical Cancer Screening with Government Support (Free)

- Increase the cervical cancer screening coverage rate
- Screening methods
  \(\text{Screening strategy of diversification in China}\)

**Pap tests:** Conventional smear

- LBC: ThinPrep, SurePath
- More than 100 products made in China

**HPV tests:** HC2, Cervista, Cobas, APTIMA

- More than 60 HPV testing products made in China

**Co-testing screening** (cytology + HPV)

**VIA/VILI**
Challenges about Pap Cytology Test in China

- Lack of cytology specialist
- No cytotechnologist school
- Lack of national quality control and quality assurance
- Lack of cytological data registration
HPV subtypes of Cervical Cancer in China
(1244 cases report during 2004-2006)

• 85% cases is infected with HPV16/18
• HPV16/18 are the main subtype in different area

There are no HPV subtype geographic difference in China

Prevalence of HR-HPV by Residence, China
(Int J Cancer 2012;131:29)
HPV Testing Methods

- Abroad products: HC-2, Cervista, Cobas-4800, APTIMA,
- China Products: More than 60 HPV testing products in markets; laboratory-developed tests (LDTs),
- All methods have not been used for screening the CFDA approval.
HPV Vaccine

• CFDA has not approved the usage yet
• We estimate it can be approved in 2016
  GARDASIL: Phase III clinical trial with 3000 cases was completed
  Cervarix: Phase III clinical trial with 6000 cases was completed
• Bivalent vaccine of made from China:
  Phase III clinical trial is ongoing
  Research and development of Xiamen university 7600 cases
  Research and development Shanghai 12000 cases
Critical Issues about Cervical Cancer Screen in China

• Cervical cancer screening should be covered by insurance

• Need to establish cytopathology fellowship, cytotechnologist system

• HPV testing methods need to have clinical validation


• Colposcopy quality control is not good; Colposcopy trained
CSCCP was Founded in 2015

The prevention and treatment of cervical cancer are very important in China

- The incidence and mortality of cervical cancer have decreased more than 50% in Western countries because widespread screening.
- The society of colposcopy and cervical pathology has been established in many countries.
- The society plays a key role in the cervical cancer prevention and treatment.
- We should learn these successful experiences
Why Was CSCCP Founded

• In China, the incidence of cervical cancer is high.
• The medical conditions and medical personnel are uneven
• It is difficult to have a screen or management guideline for all areas nationwide.
• Lack of well-established, national cancer registry;
• Lack of national cervical screening program; no national standards for cytology quality control;
• No national evidence based management guideline for abnormal Pap cytology
CSCCP-Members

Chinese Society of Colposcopy and Cervical Pathology

Gynecologists
Pathologists and cytologists
Oncologists
Epidemiologists
Basic researchers (vaccine)
CSCCP 2015

第一届CSCCP会议
暨第十二届全国子宫颈癌前病变及子宫颈癌热点研讨会
2015年5月22-24日，北京

主办单位：北京
The Tasks of the CSCCP

To educate and train gynecologists to use colposcopy to manage cervical neoplasia
To educate and train pathologists to evaluate Pap test
To organize large sample clinical trials for cervical cancer screening and prevention
To establish the cervical cancer screening and management guidelines which can be practically used in China
To communicate with colleagues internationally. We are translating ASCCP “Modern Colposcopy” into Chinese
Modern Colposcopy in the book the cover of the English version and Chinese version
Responsibility and Hope

- The incidence of cervical cancer is high in China.
- It is a big challenge to prevent and treat cervical cancer due to the large population, unbalance of economical development in China.
- As the president of CSCCP, I feel the responsibility and big pressure for the duty.
- I hope to learn the advanced experiences and obtain the help from our international colleagues.
CSCCP will join IFCPC in 2017

Chinese medical doctors will attend the ASCCP2017 meeting.
2nd CSCCP Annual Meeting
May 20-22, 2016 in Beijing

Welcome to Beijing