Preliminary results of first-round cervical cancer screening: a population-based cohort study assessing the efficacy of cytology and human papillomavirus (HPV) testing for cervical cancer screening in Japan

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Back ground

Cervical Cancer in Japan

More than 10,000 women will be diagnosed Approximately 3,000 of women will die in Japan

Cervical cancer affects younger women the incidence rate (per 100,000) in 2014 - 21.071 (Age 30-34) - 29.951 (Age 35-39) - 30.722 (Age 40-44) - 26.151 (Age 45-49)

Cervical cancer screening in Japan

Population-based screening using cytology was implemented in 1983

• Cytology is the only method for cervical cancer screening approved nationwide by the Ministry of Health, Labour and Welfare
• Screening at 2-year intervals
• Age over 20 years

The study, the human papillomavirus (HPV) testing trial for population-based cervical cancer screening, has started in 2013 to clarify positive and negative impacts of HPV testing for population-based cervical cancer screening

Results

Enrolled participants

Enrolled women (25,075)

Excluded women (7)

Did not meet inclusion criteria (3)

Control group: cytology (13,844)

Intervention group: cytology + HPV testing (11,231)

Accountability of women through the baseline phase

Total 25,075 women agreed to participate in the trial

13,844 subjects (55.2%) were screened with cytology alone (control group) in comparison with

11,231 subjects (44.8%) were screened with cytology-HPV testing (intervention group)

We considered 10,000 subjects as a sufficient sample size for each group

The current study had an adequately large sample size to investigate the effectiveness of screening methods

Characteristics

The number of participants by age distribution

<table>
<thead>
<tr>
<th>Age</th>
<th>Control</th>
<th>Intervention</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>&lt; 35</td>
<td>3,015</td>
<td>21.8</td>
<td>3,271</td>
</tr>
<tr>
<td>35-39</td>
<td>4,304</td>
<td>31.1</td>
<td>3,554</td>
</tr>
<tr>
<td>40-44</td>
<td>4,079</td>
<td>29.5</td>
<td>3,523</td>
</tr>
<tr>
<td>45-49</td>
<td>2,446</td>
<td>17.7</td>
<td>883</td>
</tr>
</tbody>
</table>

Methods

• Characteristics of study population
• Screening tests results
• Referral rates by age group

Objective:

This poster characterizes first-round screening results in comparison to cytology alone screening in 2013 from a national database

Referral rate and invalid cytology rate at baseline

<table>
<thead>
<tr>
<th>Age</th>
<th>Referral rate (%)</th>
<th>Invalid cytology rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The Study (N=25,075)</td>
<td>National Data (N=1,988,776)</td>
</tr>
<tr>
<td>&lt; 35</td>
<td>7.91</td>
<td>3.14</td>
</tr>
<tr>
<td>35-39</td>
<td>5.72</td>
<td>2.75</td>
</tr>
<tr>
<td>40-44</td>
<td>4.52</td>
<td>2.56</td>
</tr>
<tr>
<td>45-49</td>
<td>3.58</td>
<td>2.22</td>
</tr>
</tbody>
</table>

Conclusion

Compared to a national database of population-based cervical cancer screening in 2013, the current study cohort showed substantially higher referral rates, especially among younger women. HPV testing contributes to higher referral rates and may pose a management burden, making it potentially more difficult to prevent over-referral to colposcopy and overuse of biopsies.