Key Summary of Conference Abstract

Clinical and Economic Benefits of Cervical Cancer Co-Testing with 3- and 5-Year Intervals

Background

- Cervical cancer screening by co-testing incorporates Papanicolaou (Pap) testing for cytology plus DNA- or RNA-based testing for the human papilloma virus.
- Current cervical cancer screening guidelines recommend co-testing every 5 years for women from 30 to 65 years of age.[1]
- Screening at more frequent intervals is expected to result in a lower lifetime risk of cervical cancer, but also an increased rate of invasive follow-up procedures for false-positive test results.[1,2] Determination of an optimum screening interval is based on balancing these factors, among others.[1]
- **Objective:** The investigators compared the clinical and economic benefits of cervical cancer co-testing at 3- and 5-year intervals.

Methods

- A Markov cost-utility model was developed based on published clinical, epidemiological, and cost data.[3]
- The model used a simulated cohort of 1 million women who received cervical cancer co-testing.
- Three- and five-year co-testing intervals were modeled for 40 years, from 30 to 70 years of age.
- Outcomes analyzed included
    - Invasive cervical cancer (ICC) cases
    - ICC-related deaths
    - Quality-adjusted life years (QALYs)
    - Costs in 2016 dollars

Results

- For a 3-year co-testing interval compared with a 5-year co-testing interval, the cost-utility model predicted the following over a 40-year time frame:
    - **Incidence of ICC:** 40% lower with 3-year intervals (57.6 vs 96.5 per 10,000 women)
    - **Incidence of ICC-related deaths:** 39% lower with 3-year intervals (23.1 vs 37.6 per 10,000 women)
    - **QALYs:** 0.02 gain with 3-year intervals (23.0084 vs 22.9883)
    - **Cost:** $363 net increase in cost per woman over 40 years with 3-year intervals
        - Screening costs: $477 increase per woman
        - Cervical cancer prevention and treatment: $114 savings per woman
    - **Incremental cost/utility ratio:** $18,060 per QALY gained with 3-year intervals

Conclusions

- This model predicts co-testing at 3-year intervals compared with 5-year intervals to be a cost-effective strategy for reducing the incidence of ICC and ICC-related deaths.

Poster Presentation at the American Society for Clinical Pathology 2017 Annual Meeting

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