WAGO 2025 ANNUAL MEETING
ORAL ABSTRACT

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Pre-operative cross-sectional imaging of chest, abdomen, pelvis is not cost-effective for low-grade endometrial cancer

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Objectives

The National Comprehensive Cancer Network recommends that pre-operative imaging of newly diagnosed FIGO grade 1 and 2 endometrioid endometrial adenocarcinoma (EC) be guided by "clinical concern for metastatic disease." Most commonly, pelvic transvaginal ultrasonography (TVUS) is obtained in all patients prior to surgery, with fewer patients undergoing cross-sectional computerized tomography (CT) imaging. CT imaging has the benefit of identifying extrauterine disease but carries with it the cost of imaging. In this cost effectiveness analysis, we aimed to determine the utility of pre-operative cross-sectional computerized tomography (CT) imaging of the chest, abdomen pelvis (CAP) for newly diagnosed grade 1 and 2 endometrioid EC.

Methods

A decision analytic model was designed to compare obtaining pre-operative CT imaging of CAP for newly diagnosed presumed early stage FIGO grade 1-2 endometrioid EC versus pre-operative TVUS alone. The model assumed all patients underwent TVUS without findings for metastatic spread and that there were no risk factors nor any suspicious physical exam findings for extrauterine disease. The model first determined if there was extrauterine spread seen on CT imaging and if disease was resectable or unresectable. The model then incorporated changes in subsequential treatment protocols as guided by the NCCN and disease stage. Outcome probabilities, costs (adjusted for inflation to 2025 $US and modeled from the healthcare perspective), and quality-adjusted life years (QALY) for utility measure were obtained from published literature and expert opinion. Costs included those for CT CAP, standard minimally invasive total hysterectomy, bilateral salpingo-ophorectomy, sentinel lymph node mapping and biopsy, cytoreductive exploratory surgery for more advanced disease, and systemic therapy, radiation, including chemoradiation, pelvic radiation and brachytherapy. All adverse model outcomes resulted in QALY deductions. Model outcomes were considered over the 5-year survival period starting from the age of 50 (average age of diagnosis of endometrial cancer).

Results

TVUS alone resulted in a lower healthcare cost ($82,092 vs $86,140) and higher effectiveness (4.72 QALY vs 4.54 QALY) compared to the addition of pre-operative CT CAP. Across 100,000 simulated patients, an additional 2540 number of patients in the cross-sectional group had mortality within five years compared to the arm of patients undergoing ultrasound only.

Conclusions

Compared to the addition of pre-operative CT CAP, TVUS alone resulted in lower overall costs and a higher QALY for patients with newly diagnosed presumed early-stage grade 1-2 endometrial endometrioid cancer.

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