Increasing the Adherence of Imaging Recommendations for Incidental Adnexal Lesions Detected on CT to ACR White Paper

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The authors have no relevant conflicts of interest

Problem Statement

- Incidental adnexal lesions common
  - Up to 18% of postmenopausal women
  - Majority are benign but some could be ovarian cancer
- Imaging recommendations often do not adhere to published ACR guidelines
  - 60% reports at BWH/DFCI not adherent
- Consequent variability in care and unwarranted patient anxiety

- Aim: To improve the adherence rate of imaging recommendations for incidental adnexal lesions detected on pelvic CT to ACR white paper

- IOM aims addressed: Effectiveness, equity, efficiency, patient centeredness
- ACGME competencies: Medical knowledge, patient care & procedural skills, practice based-learning and improvement, systems based practice

Methods

- Baseline rate of adherence to ACR white paper
  - Screened all pelvic CT reports between October 22, 2016 and December 22, 2016
  - 181 reports with incidental adnexal lesions
  - Manually reviewed reports to assess adherence
- Understand the barriers to use of the ACR white paper
  - Surveyed 40 radiologists who routinely read pelvic CTs
- Intervention
  - Intervention designed based on the most common barrier identified
  - Implemented on December 23, 2016
- Post-intervention rate of adherence to ACR white paper
  - From December 23, 2016 to February 15, 2017
  - 148 reports with incidental adnexal lesions; adherence recorded
- Change data
  - Change in pre- and post-intervention adherence rate compared using
    - Fisher’s exact test
    - Statistical process control (SPC) p-chart, with 3 sigma controls

Baseline Data: Rate of Non-adherence

- 181 incidental adnexal lesions
- 43/181 had formal recommendations
  - 77% (131/181) adherent
  - 23% (41/181) not adherent
- 138/181 had no formal recommendations
  - 64% (90/181) adherent
  - 36% (48/181) not adherent

Total 67% (121/181) adherent
Total 33% (60/181) not adherent
Diagnostic Data: Radiologist Survey

Over the last 3 months, how often did you consult the published guidelines when encountered with an incidental adnexal lesion?

(Based on radiologists' subjective assessment)

Diagnostic Data: Causes of Non-adherence

Barriers to use of published guidelines for incidental adnexal lesions

*16 respondents identified no barriers
Baseline Data: Run chart

Adherence rate of imaging recommendations to published guidelines
p chart, 3 sigma

<table>
<thead>
<tr>
<th>Percentage adherence rate</th>
<th>Time (week number)</th>
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<tbody>
<tr>
<td>0%</td>
<td>1</td>
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<tr>
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<tr>
<td>80%</td>
<td>9</td>
</tr>
<tr>
<td>100%</td>
<td>10</td>
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LCL 0%
CL 0.6685
UCL 98

Interventions

- Radiologist education
- Interactive decision support tool
- Integration of guidelines in radiology workflow – powerscribe macro

Type of Lesion: Benign space-occupying cyst
Age: Early postmenopausal
Size: 2.3 cm

Recommendation: Pelvic ultrasound at 6-12 weeks
Change Data

Adherence rate of imaging recommendations to published guidelines
p chart, 3 sigma

- Baseline mean 67%
- Post mean 87%
- Intervention

Conclusions

- Adherence rate of imaging recommendations for incidental adnexal lesions in the abdominal and cancer imaging sections increased from 67% to 87%

- Radiologist education and easy access to guidelines had greatest impact on adherence rate

Thank you!

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