Encouraging the Assignment of LI-RADS Scores by Radiologists via Reporting Template Changes

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Introduction

- Liver Imaging Reporting and Data Systems (LI-RADS) was first introduced in 2011 to standardize lexicon and diagnostic criteria, providing clinicians with clearer reports and management options.
- According to LI-RADS, patients who are high-risk for HCC (known cirrhosis, chronic hepatitis B viral infection, or current/prior HCC) deserve a LI-RADS score.
- University Radiology Group implemented several changes to structured reporting templates to encourage use of LI-RADS score.
- Prior to this, compliance rate for MR studies that meet criteria for LI-RADS score use was low.
Methods: First Template Change

- First template change occurred on 5/30/2018
- Pick list in impression field that lets radiologist calculate LI-RADS score with criteria provided
Methods: Second Template Change

- Second template change occurred on 10/1/2020 to further increase compliance
- Addition of field reminding radiologist whether patient qualifies for a LI-RADS score by asking whether patient has a history of HBV, cirrhosis, or prior HCC
- LI-RADS scoring system also attached within PACS
Methods: continued

• To calculate compliance rate prior to any template changes, May 2018 was chosen as a representative month for data.
• Studies that met criteria for LI-RADS score or given a score were counted.
• Studies that had no LI-RADS score but had findings not felt to be clinically significant were also counted.
## Results

<table>
<thead>
<tr>
<th></th>
<th>Meets criteria for LI-RADS score</th>
<th>Used LI-RADS score</th>
<th>Findings felt to be not clinically significant</th>
<th>Nominal compliance&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Adjusted compliance&lt;sup&gt;2&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to any template changes (5/1/2018 - 5/29/2018)</td>
<td>31</td>
<td>1</td>
<td>20</td>
<td>3.23%</td>
<td>35.48%</td>
</tr>
<tr>
<td>First change (10/1/2020 - 12/22/2020)</td>
<td>96</td>
<td>20</td>
<td>70</td>
<td>20.83%</td>
<td>93.75%</td>
</tr>
<tr>
<td>Second change (10/1/2020 - 12/22/2020)</td>
<td>44</td>
<td>18</td>
<td>25</td>
<td>40.91%</td>
<td>97.73%</td>
</tr>
</tbody>
</table>

<sup>1</sup>Nominal compliance: study that meets criteria for LI-RADS score (known hepatitis B virus infection, cirrhosis, or hepatocellular carcinoma on contrast-enhanced studies)

<sup>2</sup>Adjusted compliance: nominal compliance but excluding findings not felt to be clinically significant (benign findings, cirrhosis, interval follow up of a known lesion)
Conclusion

• Introduction of LI-RADS was meant to standardize lexicon and diagnostic criteria, reduce vague wording used by radiologists, and provide clearer management options for referring clinicians

• Prior to structured reporting changes, low compliance rate for LI-RADS score reports (adjusted compliance rate: 35.48%)

• After two template changes (5/30/2018, 10/1/2020), both nominal/adjusted compliance rates increased dramatically
  • With second template change, nominal compliance rate is 40.91% while adjusted compliance rate is 97.73%

• With right guidance structured in the reporting template, compliance rate will increase