ABDOMINAL X-RAY ARE WE FOLLOWING THE GUIDELINES

An audit by:
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**BACKGROUND:**

**Abdominal x-rays are among the most requested radiology investigation. Non-indicated x-rays increase the workload of radiology departments, delay more urgent investigations, whilst exposing patient to unnecessary radiation.**

We have noticed that abdominal x-rays in our hospital

- Are usually followed by another radiology modality (CT A/P – US), especially if it wasn’t indicated.

- Have little influence on the further management of the patient.
We carried out 2 cycles of audit (August 2019 and January 2020) on abdominal x-rays at Naas General Hospital to determine our commitment to indications in iRefer Guidelines. We also recorded the percentage of patient who required further imaging after X-ray abdomen to yield a diagnosis.
METHODS:

50 requests were selected randomly in both audit cycles.

Clinical details given in the request were used to classify AXR as indicated or non-indicated.

The percentage of the patients who underwent further imaging following AXR in the same admission was recorded.
Following the first audit cycle, findings were presented in departmental meeting and an educational poster was distributed across the hospital. Strategy which has effectively reduce the number of non-indicated AXR in other hospitals.
Attention Doctors

Did you know ...?
One abdominal x ray has an equivalent dose of radiation as 35 chest x rays.

Examples of inappropriate AXR requests:
- RIF/LIF pain? Cause
- Sepsis? Cause
- Altered bowel habits
- Upper/lower GI bleeding

Examples of Recommended indications for AXR:
- Clinical suspension of bowel obstruction
- Ingestion of sharp or potentially poisonous foreign body
- Constipation (in elderly)
- Complication of IBD (toxic megacolon)

In abdominal pain without clinical suspension of bowel obstruction:
- AXR is not usually indicated.
- Consider US, erect CXR, CT KUB or CT abdomen as a first line imaging modality.
- If you have any doubts regarding the indication, please refer to www.irefer.org.uk
RESULTS

First audit cycle

- Indicated: 52%
- Not indicated: 48%

Second audit cycle

- Not indicated: 30%
- Indicated: 70%
## RESULTS

<table>
<thead>
<tr>
<th>Audit Cycle period</th>
<th>15/07/19-15/08/19 (First cycle)</th>
<th>15/12/19-15/01/20 (second cycle)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. Patients</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>AXR Indicated</td>
<td>52%</td>
<td>70%</td>
</tr>
<tr>
<td>AXR Not Indicated</td>
<td>48%</td>
<td>30%</td>
</tr>
<tr>
<td>CT/US required after AXR to reach a diagnosis</td>
<td>AXR Indicated</td>
<td>AXR Not-Indicated</td>
</tr>
<tr>
<td></td>
<td>23%</td>
<td>41%</td>
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Through presenting the first audit results and producing educational posters, we reduced the percentage of patients undergoing non indicated AXR, without dramatic increase in number of patient having CT/US.
CONCLUSION:

We hope to maintain the improvement achieved by delivering further teaching to new doctors and through liaising with emergency and medical departments to ensure good practice.

Whilst AXRs continue to be used, they should be limited to the indications in current guidelines.

Junior doctors should be encouraged to use the iRefer guidelines and a senior opinion should be sought before requesting an AXR if there are doubts.

REFERENCES:

• iRefer: Making the best use of clinical radiology, 8th edition.