Clinical Audit: MRI Synoptic Reporting for Rectal Cancer Staging

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May 28, 2015
Disclosure

No conflict of interest

No financial considerations
Introduction

The staging of rectal cancer via MRI plays a significant role in clinical management, especially in regards to whether a patient will receive preoperative radiotherapy or chemoradiation therapy.

There is an ever-increasing demand on radiology to not only provide clinically appropriate reports, but to do so in a timely and efficient manner.
The Trigger

1. Radiology Reports
   - inconsistent information provided

2. Limited Educational Value
   - anatomy, clinical, pathology

3. National Guidelines
   - limited and/or not utilized
Aim

To determine whether the implementation of a MRI synoptic report for primary rectal cancer has assisted in clinical management decisions.
Methodology

N= 35

Location: 3 Hospitals in Saskatoon (RUH, SPH, SCH)

Inclusion: Primary Rectal Cancer Staging (MRI)

Time Period: July 2013 - September 2014

Next Cycle: September 2014 – September 2015

Hours involved in audit: 30-40
**DISTANCE TO THE MRF AND EXTRAMURAL DEPTH OF INVASION (EMD)**

i) Shortest distance of the definitive tumour border to the MRF = ________ mm
   [ ] Unable to estimate [ ] Not applicable (involving the peritoneal portion of the rectum or T4a)

ii) Extramural depth of invasion (EMD) at this level = ________ mm
    (Round 0 mm for T2 and T3 tumours)

iii) Are there any tumour spiculations closer to the MRF? [ ] No [ ] Yes*
    
    *If yes, please specify distance = ________ mm and location ____________________ (on clock face)

iv) Is there any other component of the tumour (any T1-3) closer to the MRF? [ ] No [ ] Yes*
    
    *If yes, please specify distance = ________ mm and location ____________________ (on clock face)

**EXTRAMURAL VASCULAR INVASION (EMVI)**

EMVI: [ ] Absent [ ] Equivocal [ ] Present

**MESORECTAL LYMPH NODES AND TUMOUR DEPOSITS**

Any suspicious mesorectal lymph nodes and/or tumour deposits? [ ] No [ ] Yes*
(suspicious = irregular border, mixed signal intensity and/or ≥ 8 mm)

*If yes: (please complete a and b)

(a) Shortest distance of any suspicious mesorectal lymph node/tumour deposits to MRF = ________

(b) Please indicate location of the lymph node/tissue closest to the MRF:
   [ ] At level of tumour; at ________ o'clock
   [ ] Above tumour; at ________ o'clock
   [ ] Below tumour; at ________ o'clock

**EXTRAMESORECTAL LYMPH NODES**

Any extramesorectal lymph node(s) with suspicious morphology or signal? [ ] No [ ] Yes*
(suspicious = irregular border, mixed signal intensity and/or ≥ 2 cm)

* If yes, please specify location (free text):

**FREE TEXT/ADDITIONAL COMMENTS**
Evidence Based National Guidelines:
- utilized literature review, meta-analysis, and expert opinion
- becoming standard of care

Medline Search:
- Limited articles related to synoptic reporting and rectal cancer staging via MRI
Results

1. A total of 35 studies were performed from July 2013 until September 2014, with 10 studies performed pre synoptic reporting implementation and 25 post implementation.

2. More complete and relevant information is provided to the clinicians, particularly relating to tumor characteristics, T-category, neurovascular invasion, lymph nodes and distance to mesorectal fascia.

3. As a result, clinician satisfaction has improved significantly.
Number of Cases

Pre MRI Synoptic Reporting

Number of Cases

Tumor Location

Template/Reporting Content

T-Category  MRF/EMD  EMVI  LN

0  2.5  5  7.5  10  12.5
Recommendations

Implementation:

1. All primary rectal staging now preferentially performed at RUH
2. Performed by dedicated abdominal imagers
3. *in conjunction with Gen Sx & Oncology*
Barriers:

1. Work flow/logistics
2. Adherence to synoptic reporting
3. Pathology Correlation Rounds
Conclusion

1. Post implementation of MRI synoptic reporting for primary rectal cancer staging has demonstrated significant improvement in quality of reports, clinician satisfaction, and resident education.

2. Future goals include adherence to synoptic reporting and pathology concordance.

3. Opens many doors toward synoptic reporting in other aspects of radiology as a potential tool.
References


Thank you!

Comments/Questions?