Audit of the concordance between radiological staging and pathological staging in elective colorectal cancer cases not receiving neoadjuvant therapy

Colorectal EAG

Ben Carrick

06-11-18

Or,

- *How much can we depend on the accuracy of CT (largely) for local and regional staging?*

Why?

- TREC
- “Locally advanced”

- Horizon scanning
  - Different operations (CME/CVL)for N2 disease?
  - ‘Treating the colon like a breast’ in ‘early’ disease (ICG)
  - Baseline PET for all?
  - Powering studies
  - Who should receive neoadjuvant?

Why regionally?

- Gets away from single reporters
- Recognised, but uncommon challenge
- Pools shared experience
- Real life!

- No clear ‘power’ calculation can be done
- *But* numbers needed likely to be larger than within a single unit
- Prospective data collection more reliable than retrospective
- NBOCAP does **not** compare pre- and post- surgical TNM staging

What does the literature say?

- NO UK publications in the past 10 years
- Sys rev and Meta analysis of 13 studies in 2016 and have stated;
  - ““CT has good sensitivity for the detection of T3-T4 tumors, and evidence suggests that CT colonography increases its accuracy. Discriminating between T1-T3ab and T3cd-T4 cancer is challenging, but data were limited. CT has a low accuracy in detecting nodal involvement.”
  - “On the basis of a total of 13 studies, pooled sensitivity, **specificity**, and diagnostic ORs for detection of tumor invasion beyond the bowel wall (T3-T4) were 90% (95% CI, 83-95%), **69%** (95% CI, 62-75%), and 20.6 (95% CI, 10.2-41.5), respectively. For detection of tumor invasion depth of 5 mm or greater (T3cd-T4), estimates from four studies were 77% (95% CI, 66-85%), **70%** (95% CI, 53-83%), and 7.8 (95% CI, 4.2-14.2), respectively. For nodal involvement (N+), 16 studies were included with values of 71% (95% CI, 59-81%), **67%** (95% CI, 46-83%), and 4.8 (95% CI, 2.5-9.4), respectively.”

- From 2011;
  - “While accuracy of CT for TN-staging of colon cancer is only reasonable, the real value of CT is its high accuracy to detect distant metastases.”
  - “In the 11 studies, a total of 753 patients with 759 colon cancers underwent CT for staging. Sample-size-weighted sensitivity, **specificity** and accuracy for T-staging was 77%, **3%** and 67%, respectively; for N-staging 76%, **55%** and 69%, respectively; and for M-staging 85%, 98% and 95%, respectively. Additional clinical findings were reported in 59/372 (16%) patients, with 12 having a malignant and 47 a benign origin.”

- In short, the summarised data is widely different and difficult to analyse – and out of date!

How?

- Collect data prospectively over a 12 month period
- Can be collected via MDT
- Regional trainees and colorectal nurse specialists can be involved
- Areas of quality improvement can be ‘worked in’

Exclusions

- Emergencies, unplanned cases
- Appendix and anal tumours and NETs
- Recurrences
- *Post neoadjuvant?*
- Those cases **not** going to resection

What

- Demographics
- Initial imaging
  - is there staging documented?
  - Internal/External?
  - CT/MRI/US/PET
- MDT staging (UICC v8)
- Time to surgery
- Histology (UICC v8)

Quality improvment

- Staging documented (or not) for requested staging scans
- All report to UICC TNM 8 standards

Next steps

- Depends upon result!
- Present locally
- Areas for action
- Build in neoadjuvant study?
- Build into NBOCAP?

Key references

- https://www.ncbi.nlm.nih.gov/pubmed/27490941
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5683970/
- https://www.ncbi.nlm.nih.gov/pubmed/21504379