CAR 2022 ASM Departmental Clinical Audit Project – 1st Place Winner

Abstract # PRO98AZLC6L

Limited Utility of Abdominal CT Tomograms in Patients with Crohn Disease Presenting to the Emergency Department

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PRESENTER'S LEVEL OF TRAINING: Resident

PRINCIPAL LOCATION OF AUDIT: Audit Academic Based Hospital(s)

BACKGROUND AND AIM: Patients with Crohn disease (CD) presenting to the Emergency Department (ED) of our institution with acute abdominal symptoms commonly undergo ultra-low dose Abdominal CT Tomograms, which are sometimes non-diagnostic. Minimizing futile imaging in CD helps decrease lifetime potential risk of malignancy from ionizing radiation. We aim to assess the current use of CT Tomograms in CD patients in the ED.

STANDARD: CT/MR Enterography provide optimal imaging evaluation for acute flare in CD.

TARGET: CT Tomograms should represent <10% of imaging in CD patients presenting to ED for abdominal symptoms.

METHODS: 259 consecutive CT Tomograms in CD patients presenting to ED between January 2017 and February 2021 were reviewed. Results were presented at an interdisciplinary meeting in April 2021, where a policy to minimize CT Tomogram use in CD patients was approved. To evaluate the outcome of policy change, we compared use of CT Tomograms over subsequent 6 months from May to October 2021, to use during a similar period prior to policy change from May to October 2020. REB approval was waived for this quality improvement project.

AUDIT TEAM: Abdominal Imaging Radiologists, Diagnostic Radiology Quality Assurance Lead, Head of Division of Gastroenterology, General Internist, Division Lead of General Internal Medicine, Division Head General Surgery, Residency Program Director Colorectal Surgery.

RESULTS: 259 cases were 51% female and 49% male. 2% were aged <20 years, 55% 20-40 years, and 42% >40 years. 72% were performed afterhours, and 30% had additional imaging within 1-5 days. After policy implementation, CT Tomograms represented 19% of studies versus 27 % before policy change (p-value=0.07, 95% CI).

INTERVENTIONS / ACTION PLAN: We will reconvene with Clinicians to help improve policy implementation.

DISCUSSION / CONCLUSION: Limitations may be due to lack of participation or awareness of policy change by Clinical staff.

CAR 2022 ASM Departmental Clinical Audit Project – 2nd Place Winner

Abstract # PROS3NSP0VG

Thyroid Nodules Detected on CT: A Retrospective Audit Study and Analysis of Differences in Reporting Practices Across Radiology Subspecialties

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PRESENTER'S LEVEL OF TRAINING: Resident

PRINCIPAL LOCATION OF AUDIT: Audit Academic Based Hospital(s)

BACKGROUND AND AIM: Thyroid nodules (TN) are frequent benign incidentals. Reporting practice is variable, leading to unnecessary or inadequate investigations. We aimed to document current literature adherence for TN reporting practices on thoracic CTs and assess the variability in TN reporting across subspecialties.

STANDARD: If no suspicious features, TNs should be reported and thyroid US recommended if TN >10 mm (<35 years) or >15 mm (>35 years). (Hoang et al., 2015)

TARGET: 95%.

METHODS: Two parts retrospective study. First part included all adult patients with thoracic CTs (01/2020). Exclusion patients with prior thyroidectomy or lack of TN. Imaging reviewed by two radiology residents. Second part included all adult patients who underwent neck or cervical spine CT-imaging (same timeframe and inclusion/exclusion criteria).

AUDIT TEAM: Radiology Residents, Thoracic and Abdominal Radiologist

RESULTS: 802 participants screened, 137 patients included. TN reported in "body" 51% and in "conclusion" 7%. Thyroid US recommended in 10%. Adequate adherence was 86%.

INTERVENTIONS / ACTION PLAN: Local committee (one thoracic radiologist, two residents) created for literature review and local TN management algorithm creation. Video presentation was shared by email (6 thoracic radiologists and 35 trainees). Re-audit between 08/2021 and 09/2021. 962 participants screened, 167 patients included. Adequate adherence was 93%. (p=.039). MSK and Neuroradiology reported more TNs in "conclusion" (p=.0133 and p<.0001) and recommended more US (p=.0333 and p=.0018). No significant difference in overall adequate adherence between subspecialties (p=.48 and p=.51).

DISCUSSION / CONCLUSION: Improvement in adequate TN reporting on thoracic CT by 7%. Significant reporting trends were noted across subspecialties.

CAR 2022 ASM Departmental Clinical Audit Project – 3rd Place Winner

Abstract # PRO8ECIIOSG

Improving the Quality and Consistency of Ultrasound Reporting for Pediatric Breast Masses through Implementation of an Algorithm for Investigation

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PRESENTER'S LEVEL OF TRAINING: Resident

PRINCIPAL LOCATION OF AUDIT: Audit Academic Based Hospital(s)

BACKGROUND AND AIM: Unlike adults, there is no standardized ultrasound reporting system or management of pediatric breast masses. Our goal was to standardize pediatric breast ultrasound reporting through creation of an investigation and management algorithm.

STANDARD: Ultrasound reports should include lesion descriptors, diagnosis/differential diagnosis, and a management recommendation.

TARGET: 80% of reports include adequate lesion descriptors. 90% of reports include diagnosis/differential diagnosis and management recommendations concordant with the algorithm.

METHODS: Reports of breast ultrasounds performed between April 1, 2011 to March 31, 2021 on females, aged 8 to 20 years at initial presentation, were reviewed. Reports were excluded if no lesion was identified. Reports were evaluated for the presence of lesion descriptors, diagnosis/differential diagnoses, and recommendations. Pathology reports from patients who underwent breast mass biopsy/excision were reviewed. Electronic medical records were reviewed for risk factors of breast cancer.

AUDIT TEAM: Pediatric Radiologist, Pediatric Radiology fellow, Radiology resident, Pediatric General Surgeon, Pediatric Oncologist, Pediatric Pathologist

RESULTS: 87 breast ultrasound reports identified a breast lesion. 47 were solid or complex masses. The most consistent descriptor reported is size (93.5%). 67.4% of reports for solid or complex masses include diagnosis/differential diagnosis, 34.8% provide management recommendations.

INTERVENTIONS / ACTION PLAN: Reporting recommendations and an evidence based algorithm for pediatric breast mass investigation and management were developed and presented at the department's quality improvement rounds. A breast ultrasound reporting template was created to ensure relevant components of a report were included. Breast ultrasound reports in nine months following educational presentation will be evaluated for compliance with reporting and management recommendations.

DISCUSSION / CONCLUSION: Pediatric breast mass ultrasound reports can be improved with consistent inclusion of diagnosis/differential diagnosis and management recommendations.