

INTRODUCTION

- Emergency department visits for constipation increased significantly from 2006-2017.
- Over one-million patients seek emergency department care for constipation annually.
- This same period also saw an increase in imaging and diagnostic testing, resulting in increased costs and consumption of resources, despite published guidelines aimed at reducing resource utilization in this population.
- Our team suspected that imaging may be more frequent in elderly patients and in part responsible for continued high rates of imaging in patients ultimately diagnosed constipation.

OBJECTIVE

- Analyze the association between adult patients' age and the use of advanced imaging modalities in ED visits for constipation.

MATERIALS & METHODS

- Data from 2020 National Emergency Department Sample (NEDS) were used to identify adult patients (age 18 years or older) presenting to the ED with a primary diagnosis of constipation (International Classification of Diseases, 10th Revision [ICD-10] diagnosis codes K59.00-K59.04 and K59.09).
- The outcome was use of any imaging modalities for visualizing intrabdominal structures, including both plain film radiographs (Current Procedural Terminology [CPT] codes 74018 – 74022) and Computed Tomography (CPT codes 74150, 74160, 74170, 74176, and 74177).
- Exclusions: patients with any other ICD diagnosis recorded in any position, and patients with missing data on study variables.

RESULTS

- The 2020 NEDS included 16,074 adult patients with a primary diagnosis of constipation, no other documented diagnoses, and complete data on study variables.
- Based on this sample, weighted mean age was 47 years, sex distribution included 57%/43% female/male patients, and 56% of patients were treated at a teaching hospital.
- Imaging use was noted in 67% of cases, including 42% of cases where plain film radiographs were used, and 27% of cases where computed tomography was performed.
- On multivariable analysis, each additional year of age was associated with 0.4% lower odds of imaging (odds ratio [OR]: 0.996; 95% confidence interval [CI]: 0.994, 0.997; $p < 0.001$), but adding a quadratic age term to the model did not improve model fit ($p = 0.819$).
- Imaging was more likely to be ordered for female as compared to male patients (OR: 1.12; 95% CI: 1.05, 1.20; $p = 0.001$), and less likely to be ordered in teaching as compared to non-teaching hospitals (OR: 0.82; 95% CI: 0.77, 0.88; $p < 0.001$).

DISCUSSION

- This study shows that there remains significant utilization of imaging in patients with constipation, though it does not seem to be utilized more frequently in patients of increasing age.
- Previously noted guidelines have been pushing away from advanced imaging; however, is it possible that these guidelines are being applied unevenly?
- Other questions could be trends relating patient reported severity of symptoms ultimately diagnosed as constipation to utilization of imaging resources in different age groups.

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