Evaluating Gastroscopy Utilization in Young Patients: Clinical Yield, Economic Implications, and Health Policy Considerations

Randa Taher Natour, Oren Gal, Dorin Nicola, Fadi Abu Baker
Hillel Yaffe Medical Center, affiliated to Technion Faculty of Medicine, Haifa, Israel
Contact Information: Dr. Randa Natour, mail: randataher12@gmail.com

Introduction: The escalating utilization of gastroscopy (EGD) in young patients raises concerns about its diagnostic yield and cost-effectiveness [1]. This study aims to assess these aspects, examining the referral indications and their outcomes to inform better practices and enhance collaboration between primary care providers and gastroenterologists

Methods: This retrospective cohort analyzed EGD data from consecutive patients over 5 years at HYMC. Patients were categorized by age: 16-29, 30-39, 40-49, and ≥50 (controls). Indication-based analyses focused on clinically significant findings (CSF) and number needed to investigate (NNI). Multivariate analysis identified predictors of CSF.

Results: 1313 young patients were included with a mean age of 34.7±10.4 years. The predominant indication for EGD was epigastric pain (41.5%). the overall rate of CSFs was relatively low (12%), with a significantly high prevalence of H.Pylori gastritis observed in 41.1% (P<0.001). Malignancy rate was notably low (0.5%). Analysis by age subgroups revealed the increasing incidence of CSF with age, from 5.8% in those aged 30 and below to 15.2% in those aged 40-49. Indication-based analysis highlighted that upper gastrointestinal bleeding and iron deficiency anemia were strong independent predictors of CSFs among young patients.

TABLE 1: Baseline characteristics of both groups.

Characteristic	Age 16–49 n (%) N = 1313	Age ≥ 50 n (%) N = 3396	P value
Age (years)	34.7 ± 10.4	67.01 ± 10.3	<0.001
Sex (male)	608 (46)	1609 (47)	0.52
Ethnicity (Jews)	939 (71.5)	2877 (85)	<0.001

TABLE 3: Major pathology findings for both groups.

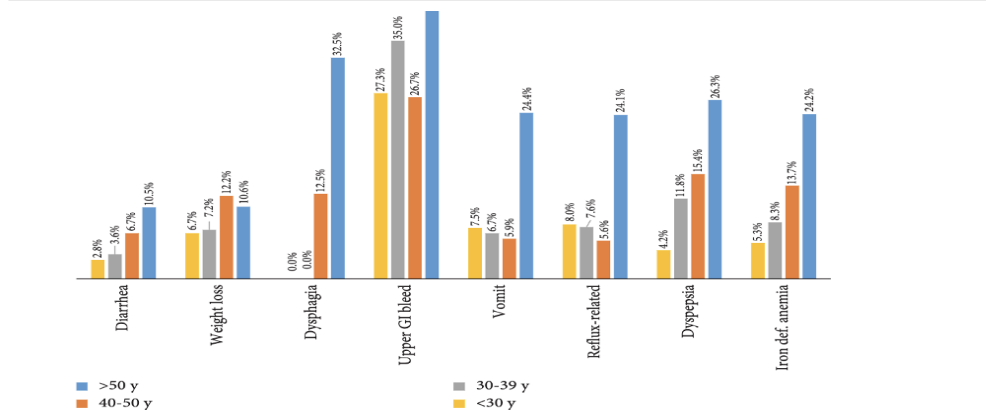| Histologic findings	Age 16–49 n (%) N = 1313	Age ≥ 50 n (%) N = 3396	P value
H. pylori-positive	539 (41.1)	984 (29.0)	<0.001
Chronic gastritis unspecified	378 (28.8)	1154 (34.0)	<0.001
Gastric atrophy	11 (0.8)	95 (2.8)	<0.001
Gastric intestinal metaplasia	89 (6.8)	649 (19.1)	<0.001
Dysplasia	0 (0.0)	14 (0.4)	0.015
Precancerous lesions overall	99 (7.5)	703 (20.7)	<0.001

FIGURE 1: Clinically significant findings' diagnosis rate as per indication throughout the age groups.
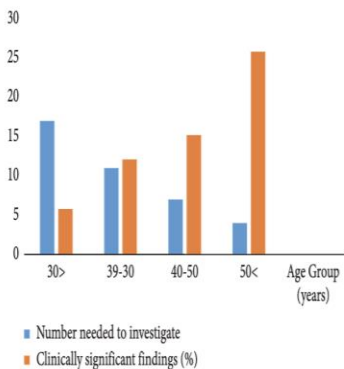

FIGURE 2: Clinically significant findings and the number needed to investigate trends throughout age groups.

Conclusion: The high prevalence of H.Pylori gastritis and the low diagnostic yield of EGD for specific indications suggest that non-invasive diagnostic approaches should be emphasis o avoid unnecessary procedures, which can be costly and limited in adding information. Promoting effective primary care management and non-invasive alternatives could potentially reduce healthcare costs while improving patient care outcomes.

[1] JAMA Netw Open.2023 Nov 1;6(11):e2341516