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Emergency Endoscopy and the Importance of Endoscopy Training in General Surgery Residency: A Survey-Based Study

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Background: Emergency endoscopy is a life-saving technique of great significance. The aim of our study was to draw attention to endoscopy training activities of general surgeons and their opinions on this issue.

Material/Methods: We asked general surgery specialists where they received their general surgery training, the institution where they currently worked, how many years they had been practicing, if they had endoscopy training during or after residency, if a gastroenterologist was available in their hospital, and whether they used endoscopy. We also asked some questions, including 'Should general surgeons perform emergency or elective endoscopy?', 'Is endoscopy training required in general surgery', and 'What is your opinion regarding this issue?', and we assessed the answers.

Results: Of the 138 general surgeons undertaking surveys, 63% of participants received their general surgery training in university hospitals and 37% in training and research hospitals. The duration of practicing as a general surgeon was 5 years for 23.9%, 5–15 years for 38.4%, 15–20 years for 20.3%, and over 20 years for 17.4% of participants. The rate of receiving endoscopy training at residency was 51.4%, 25.4% did not have endoscopy training, and 23.2% had postgraduate training. All participants replied affirmatively to the question 'Should general surgeons perform emergency or elective endoscopy?'.

Conclusions: Although endoscopy has been widely used recently, gastroenterologists are not available in every hospital. Consequently, it is evident that endoscopy should be part of general surgery training.

MeSH Keywords: Duodenoscopy • Education • Endoscopy, Gastrointestinal

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Background

Endoscopy is a long-standing minimal invasive procedure used for diagnosis and treatment of gastrointestinal tract diseases. Emergency endoscopy is of great significance because it is life-saving [1]. By means of this technique, urgent or elective therapeutic interventions, particularly of the upper gastrointestinal tract, may be performed [2]. The procedure frequently performed in elective conditions may also be conducted in emergency settings with local anaesthesia. Simple sedation enables the procedure to be well-tolerated and comfortable. Diseases of the upper gastrointestinal tract, including the esophagus, stomach, and duodenum, may be easily diagnosed and treated using this technique [3]. Although endoscopy is considered a safe procedure, it is associated with complications, including intestinal hemorrhage and perforation [4].

While often performed to diagnose symptomatic patients, endoscopy also enables biopsy, polyp excision, removal of ingested foreign bodies, control of upper gastrointestinal bleeding (esophageal varices sclerotherapy, and coagulation), and endoscopic gastrostomy [5]. Endoscopy is also a very important technique with which to diagnose early gastrointestinal cancer [6]. The ability to perform all these interventions simultaneously is another advantage of the procedure [7–12].

Endoscopy is performed by gastroenterologists and general surgeons in Turkey and world-wide. However, there is not a standardized training program for general surgeons in our country, and a debate is ongoing regarding this issue. General surgeons who do not receive endoscopy training at residency participate in certification programs to have this education in Turkey and around the world [13–18].

The aim of this study was to investigate endoscopy training activities of general surgeons, emergency endoscopy interventions they performed, and their opinion regarding this issue, as well as to draw attention to endoscopy training of general surgeons.

Material and Methods

This was a nation-wide survey study conducted between March and April 2017. We asked general surgery specialists where they received their general surgery training, the institution where they worked, how many years they had been practicing, if they had endoscopy training during or after residency, if a gastroenterologist was available in their hospital, whether they performed endoscopy, what kind of endoscopy they performed (urgent/elective), and how many cases of foreign body extraction they had performed. We also asked some other questions, including 'Should general surgeons perform emergency or elective endoscopy?', 'Is endoscopy training required in general surgery', and 'What is your opinion regarding this issue?' and assessed the answers. A total of 11 questions were asked. The questions were addressed to general surgeons by delivering surveys during a general surgery congress, and some participants were reached by email.

Statistical analysis

The SSPS 21 Pocket Program was used for data analysis.

Results

Of the 138 general surgeons who took the survey, 48 (34.8%) worked in university hospitals, 43 (31.2%) in city hospitals, 33 (23.9%) in state hospitals, and 14 (10.1%) in private hospitals.

Sixty-three percent of participants received their general surgery training in university hospitals, and 37% in training and research hospitals. The duration of practicing as a general surgeon was 5 years for 23.9%, 5–15 years for 38.4%, 15–20 for 20.3%, and over 20 years for 17.4% of participants. The number of surgeons receiving endoscopy training at residency was 75 (51.4%), while 35 (25.4%) did not have endoscopy training and 35 (23.2%) had postgraduate training. We found that 24.6% had a gastroenterologist in their institution. The number of surgeons using endoscopy was 97 (70.3%), while the remaining 41 (29.7%) did not. Fifty percent of participants performed urgent endoscopy.

Among surgeons who received their training in university hospitals, 64.4% performed endoscopies, while 80.4% of surgeons who are training and research hospital graduates do so (p, 0.035). Endoscopic foreign body removal rate was 12%. All participants (100%) agreed that general surgeons should perform urgent and elective endoscopies. The question 'Is endoscopy training required in general surgery residency?' was answered positively by 137 participants (99.3%) and negatively by 1 participant (0.7%) (Tables 1, 2).

Seventy-nine (50%) participants stated they removed foreign bodies with endoscopy from the esophagus (46) and stomach (33). The foreign bodies were 16 fishbones, 3 toothpicks, 17 bone pieces, 21 coins, 5 toy pieces, and 7 dental protheses.

Most of our participants believed that endoscopy training should be provided in the general surgery residency training curriculum. Other commonly-held opinions were that 'All general surgeons should perform urgent and elective endoscopy' and 'There are not enough gastroenterologists, so general surgeons should have certified endoscopy training'.

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Table 1. How long participants practiced as general surgeons (years) and answers.

Practicing duration (years)	1–5 n (%)	5–15 n (%)	15–20 n (%)	≥20 n (%)	Total n (%)
Number of surgeons	33 (23.9%)	53 (38.4%)	28 (20.3%)	24 (17.4%)	138 (100%)
Receiving endoscopy training in residency					
Yes	20 (14.5)	28 (39.4)	11 (15.5)	12 (16.9)	71 (51.4%)
No	10 (7.2)	9 (6.5)	10 (7.2)	6 (4.3)	35 (25.4%)
Receiving postgraduate endoscopy training					
Yes	3 (2.2%)	16 (11.6%)	7 (5.1%)	6 (4.3%)	35 (23.2%)
Performing endoscopy					
Yes	21 (15.2)	40 (29.9%)	19 (13.8%)	17 (12.3%)	97 (70.3%)
No	12 (8.7%)	13 (9.4%)	9 (6.5%)	7 (5.1%)	41 (29.7%)
Should general surgeonsuseendoscopy?					
Yes	33 (23.9%)	53 (38.4%)	28 (20.3%)	24 (17.4%)	138 (100%)
No	0	0	0	0	0
Is endoscopytrainingrequired in general surgeryeducation?					
Yes	32 (23.2%)	53 (38.4%)	28 (20.3%)	24 (17.4%)	137 (99.3%)
No	1 (0.7%)				1 (0.7%)

Table 2. The institutions where participants received general surgery training, and answers.

	University Hospital (UH) n (%)	Training and Research Hospital (TRH) n (%)	Total n (%)
Theinstitution general surgery training was received	87 (63.0%)	51 (37.0%)	138 (100%)
Endoscopytraining			
Inresidency	42 (48.3%)	29 (40.8%)	71 (51.4%)
Postgraduate	26 (29.9%)	9 (25.7%)	32 (25.4%)
None	19 (21.8%)	13 (25.5%)	35 (25.4%)
Active endoscopy			
Yes	56 (64.4%)	41 (80.4%)	97 (70.3%)
No	31 (35.6%)	10 (19.6%)	41 (29.7%)
Should general surgeonsuseendoscopy?			
Yes	87 (63.0%)	51 (37.0%)	138 (100%)
No	0	0	0
Is endoscopytrainingrequiredfor general surgeons?			
Yes	87 (63.0%)	50 (36.3%)	137 (99.3%)
No	0	1 (0.7%)	1 (0.7%)

P: 0.035 (Surgeons receiving general surgery residency in training and research hospitals use endoscopy more commonly).

Discussion

Widespread use of endoscopy is relevant to early diagnosis and treatment of emergency upper gastrointestinal system diseases [14]. However, gastroenterologists may not be available in all institutions. In the present study, we found that approximately 75% of general surgeons performed urgent and elective endoscopy.

Resolving emergency conditions is of great importance, especially for patients living far from city centers. Referral of these patients from emergency services to distant medical centers is time-consuming and costly. By means of urgent endoscopy, pediatric and adult patients can be treated easily at their local hospitals.

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Patients with ingested foreign bodies should be managed particularly cautiously, and evaluated with plain radiographs and endoscopy after physical examination [2]. Endoscopic training of general surgeons is important to make endoscopy easily accessible in emergency situations.

In the present circumstances, the studies and debates regarding this issue are ongoing in Turkey. It may be useful to consider experiences in other countries. In 2 survey studies by Bradley and Skubleny et al., it was stated that all general surgeons in Canada received endoscopy training in residency and that the intensity of endoscopy in the curriculum was 50% [13,15]. We found that this rate was 51.4% in Turkey. Only 23.2% of general surgeons receive postgraduate endoscopy training and 74.6% of general surgeons overall have endoscopy training.

Patel et al. stated that the Residency Review Committee for Surgery increased the endoscopy requirement for general surgery residents in 2009 in the USA to decrease the burden on gastroenterologists and that general surgeons should have endoscopy certificates [13]. In Turkey, no routine certification programs exist, and available ones are controversial. The General Surgery Endoscopy Certification Program initiated by the Turkish Ministry of Health has not come to a conclusion yet. In our study, 100% of general surgeons indicated willingness to use endoscopy and complained about inadequate training opportunities. A study by Jones et al. found that 38% of general surgeons in the UK performed endoscopy versus 60% of gastroenterologists, and reported that general surgeons should gain accreditation for endoscopy [16]. In Turkey, no institution currently provides routine accreditation in endoscopy training in a general surgery residency.

In another survey, study Vo et al. called attention to general requirement of endoscopy training for surgeons [17]. In a similar article, by Schwesinger et al. reported that 82% of general surgeons in the USA receive endoscopy training and most endoscopic interventions were performed by gastroenterologists in urban centers, but general surgeons should also receive endoscopy training [18]. This rate is approximately 10% higher than in Turkey.

In the present study, of the participants using endoscopy, 48 (34.8%) worked in university hospitals, 43 (31.2%) in city hospitals, 33 (23.9%) in state hospitals, and 14 (10.1%) in private hospitals. Of these surgeons, most surgeons performing urgent endoscopy worked in state hospitals and city hospitals where gastroenterologists were not available. Of the surgeons that removed ingested foreign bodies, 46% worked in city centers while 54% worked in state hospitals. Based on this, it is obvious that general surgeons should use endoscopy in emergency situations where gastroenterologists are not available, such as in state hospitals. In some emergency conditions such as swallowed foreign bodies, endoscopic intervention performed by a general surgeon may reduce delay and costs due to undue patient referral, and, most importantly, death, which may result in legal actions [4]. Fifty percent of participants in the present study reported they removed foreign bodies and that it was necessary to do so because central hospitals were far away. All participants (100%) stated that general surgeons should receive endoscopy training.

Conclusions

Endoscopy can be performed in both emergency and elective circumstances. Emergency endoscopy should not be delayed. It is clear that endoscopy should remain a core component of general surgery training in Turkey, as it is in other developed countries. Authorities have great responsibility and should show consideration regarding this issue.

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Conflict of interest

None.

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