Appropriateness of indications for upper gastrointestinal endoscopy in a Tunisian endoscopy unit

Pertinence des indications de la fibroscopie œsogastroduodénale dans un centre hospitalier universitaire Tunisien

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RÉSUMÉ

Prérequis : La fibroscopie œsogastroduodénale (FOGD) est l'examen de référence pour le diagnostic des anomalies du tube digestif haut. Sa prescription doit être rationalisée tenant compte du rapport coût/bénéfice. L'indication appropriée peut être facilitée par le recours à des critères explicites tels que ceux élaborés de l'EPAGE (European Panel on the Appropriateness of Gastrointestinal Endoscopy). Les objectifs de notre étude étaient d'évaluer l'application en pratique clinique de ces critères et la pertinence des indications de la FOGD.

Méthodes : Etude prospective transversale menée sur 6 mois ans (Janvier à Juin 2011) portant sur toutes les FOGD diagnostiques réalisées. La pertinence de l'indication était évaluée à l'aide d'un logiciel élaboré par l'EPAGE. Les caractéristiques épidémiologiques ainsi que la présence de lésions endoscopiques significatives étaient comparés selon la pertinence de l'indication.

Résultats : Parmi 182 FOGD, les critères de l'EPAGE étaient applicables dans 89,1% des cas. Il s'agissait de patients d'âge moyen de 49,4 ans [14 - 91] avec un sex ratio égal à 0,9. Les indications étaient jugées appropriées et nécessaires, appropriées, incertaines et inappropriées dans respectivement 21,6%, 47,4%, 22,2% et 8,8%. Parmi les patients ayant une lésion endoscopique significative, l'indication a été jugée appropriée dans 70,7%. Parmi les patients ayant une indication appropriée, des lésions significatives ont été retrouvés dans 59% contre 54% en cas d'indication inappropriée. Les cancers étaient diagnostiqués exclusivement dans le groupe d'indications appropriées. Les sujets avec une indication appropriée étaient plus âgés (53,6 ans versus 39,9 ans, p =0,0001).

Conclusion : Dans cette étude, les critères de pertinence de l'EPAGE étaient applicables dans 89,1 % et les indications de la FOGD appropriées dans plus de deux tiers des cas. Devant la découverte de lésions significatives dans certaines indications jugées inappropriées par l'EPAGE, et l'absence d'applicabilité de ces critères dans des situations souvent rencontrées dans notre pratique clinique, cet outil ne devrait constituer qu'une aide au renforcement du raisonnement médical du praticien et Page 4/15 Tunisie Medicale devrait être adapté aux conditions du pays.

Mots-clés
La fibroscopie œsogastroduodénale, indication, pertinence

SUMMARY

Background : Introduction: Upper gastrointestinal endoscopy (UGE) is an increasing and reliable procedure. Given the high costs and potential risks, appropriate indication of UGE may be facilitated by referring to qualifying criteria such as those devised by the European Panel (EPAGE). This prospective study evaluates the applicability and efficacy of these criteria in clinical practice.

Methods: Cross sectional study. Consecutive patients were referred to our unit endoscopy for diagnostic upper gastrointestinal endoscopy between January 2011 and June 2011. Demographic data, indication of the procedure, and endoscopic diagnosis were collected. The appropriateness of UGE was assessed based on EPAGE II criteria before the procedure.

Results: EPAGE criteria were applicable in 89.1% of cases. They were 78 men (48.1%) and mean age was 49 years [14 - 91]. Indications for UGE were extremely appropriate, appropriate, inappropriate and uncertain in 21.6%, 47.4%%, 8.8% and 22.2% respectively. Among patients with clinically significant lesions detected by UGE, 70.7% had an appropriate indication. Clinically significant lesions were disclosed in 59% of the appropriate group and 54% of the inappropriate group. All cancers were observed in patients with appropriate indications. Patients with appropriate indication were older than patients belonging to the inappropriate group (53.6 years versus 39.9 years, p =0,0001).

Conclusion: In this present study, EPAGE criteria were applicable in 89.1% and indication was judged appropriate in more than two-third of cases. However, clinical significant lesions were observed in a proportion of patients with inappropriate indication, and in some relevant clinical situations EPAGE criteria were not applicable. Therefore, even if these criteria are helpful for decision-making, final decision must however rely upon practitioner. Qualifying criteria for an appropriate selection of endoscopical procedure adapted to our population are advisable.

Key-words
Upper gastrointestinal endoscopy, appropriateness, indication

The upper gastrointestinal endoscopy (UGE) requests have increased steadily in the last few years, resulting in a significant burden on public health. The main reasons for this include: the superiority of UGE versus non-invasive procedures in detecting diseases; the fact UGE has become the gold standard for the diagnosis of gastric diseases, specifically gastric cancer; the increased demand for health from the population, and the resulting increase in the number of UGE being requested by clinicians especially general practitioner. In other hand, the procedure is expensive and associated with a small but definite rate of complications, in addition to the patient's reluctance. Therefore, the appropriateness of the indications for UGE is crucial in improving cost-effectiveness and reducing the waiting lists. Appropriate indication for UGE may be facilitated by referring to qualifying criteria such as those devised by the European Panel (EPAGE) [1]. The EPAGE II guidelines were developed by a panel of 14 experts (gastroenterologists, primary care physicians, internists and surgeons) from different European countries: the UK, Denmark, Switzerland, Germany, Spain, France, the Netherlands, Norway and Italy.

The aim of the current study was to evaluate, according to the EPAGE guidelines, the appropriateness of indications for diagnostic UGE referred to a Tunisian endoscopy unit.

METHODS

A prospective observational study was conducted in a Tunisian endoscopy unit at a tertiary care referral center. Consecutive patients were referred for diagnostic UGE between January 2011 and June 2011. Demographic data, indication of the procedure, and endoscopic diagnosis were collected. The type of specialty practiced by the referring physician, either primary care physicians or specialist, was not recorded. The UGE was performed by experienced endoscopists. The appropriateness of UGE was assessed based on EPAGE II criteria before the procedure using the EPAGE software www.epage.ch. The criteria for appropriateness of UGE were defined based on the interrelation of characteristics such as gender, age, non-steroidal anti inflammatory drugs (NSAID) use, test result for Helicobacter pylori, presence of eradication or antisecretory treatment, and endoscopic result of previous investigations. Indications were rated for appropriateness of performing UGE on a 9-point scale. The use of endoscopy was considered appropriate if the panel's median rating was between 7 and 9, without disagreement; inappropriate if the value was between 1 and 3; and uncertain if the value was between 4 and 6 or revealing disagreement between the panelists [1]. Referrals for UGE were then classified into those extremely appropriate, appropriate, inappropriate and uncertain. The endoscopy was performed regardless of this classification.

The relationship between appropriateness and detection of significant lesions was examined. Endoscopical findings were classified into clinically significant or not according to the classification of Froehlich and al, [2]. The non–significant endoscopical finding included: normal endoscopy, uncomplicated hiatal hernia, non erosive gastritis, and non erosive duodenititis. Clinically significant findings comprised: erosive esophagitis, esophageal varices, Barett's esophagus, esophageal cancer, benign esophageal stenosis, achalasia, Mallory-Weiss tears, erosive gastritis, gastric ulcer, gastric cancer, hypertensive gastropathy, angiodysplasia, erosive duodenitis, ulcer and cancer of the duodenum. When there was more than one endoscopic diagnosis, the most severe one was used for analysis.

Statistical analysis: The data was summarized by descriptive statistics (means and frequencies) and analysed with SPSS version 19. Data are shown as percentage, mean and standard deviation (SD). Differences among demographical, indications and endoscopical findings between the appropriate (extremely appropriate and appropriate) and inappropriate (inappropriate and uncertain) groups determined by EPAGE criteria were studied using the chi-square or Fischer tests. P value less than 0.05 was accepted as statistically significant.

RESULTS

A cohort of consecutive patients referred for UGE was prospectively enrolled. Out of the 558 UGE performed during this period patients, the website guideline was consulted in 182 cases. The reason for not consulting the website was due to lack of time or unavailability of internet connection.

Applicability and assessment of appropriateness of indication for UGE

EPAGE criteria were applicable to 162/182 patients (89.1%) because the indication for UGE did not correspond to any of the 7 defined clinical situations (Table 1). The indications that did not correspond to any of defined situations were as follow: screening for endoscopic signs of portal hypertension (n=8), suspicion of gastro-intestinal bleeding without blood exteriorization (n=2), iron –deficiency anemia without previous colonoscopy (n=2), searching for primary tumor in patients with metastases (n=1), assessing acute injury after caustic ingestion (n=2), Crohn disease (n=5).

Table 1: Clinical situations selected by EPAGE Panel where the prescription of UGE could be contemplated

Number	Clinical situations selected by EPAGE
1	Uncomplicated dyspepsia
2	Frequent symptoms suggesting gastro esophageal reflux disease or history of reflux-associated mucosal disease of the esophagus, without alarm symptoms and without Barrett's esophagus
3	Known Barrett's esophagus, without alarm symptoms
4	Atypical chest pain
5	Alarm symptoms: recent upper gastro intestinal bleeding, esophageal dysphagia, unexplained weight loss, iron deficiency anemia
6	Risk factors and pre-malignant conditions of upper gastrointestinal tract: pernicious anemia, atrophic gastritis, status post-gastrectomy, gastric polypus, familial adenomatous polyposis
7	Miscellaneous indications: assess healing of benign gastric ulcer, follow-up of sclerotherapy/banding, suspected malignant lesions, suspected malabsorption syndrome

In the EPAGE applicable group, they were 78 men (48.1%) and mean age was 49 years [14 - 91]. The most frequent indications for UGE were: uncomplicated dyspepsia in 37% of cases, alarm symptoms in 28.4%, and symptoms suggesting gastroesophageal reflux disease in 6.1%.

Indications for UGE were classified as extremely appropriate in 21.6%, appropriate in 47.4% inappropriate in 22.2% and uncertain in 8.8%. Alarm symptoms were more frequent in the appropriate group than in the inappropriate group (36.6% vs 6 %; p=0.0001). In the inappropriate group, uncomplicated dyspepsia and symptoms suggesting gastroesophageal reflux disease were the most frequent indications for UGE (68 % vs 33% ; p = 0.0001).

Endoscopical findings in the group of patients with applicable EPAGE criteria

Clinical significant lesions were disclosed in 57.4% of patients (n=93). Normal endoscopies and clinically non –significant lesions were observed respectively in 24.7 % (n=40) and 17.9% (n=29) of patients. For clinically significant lesions, the indication was appropriate in 70.7% indication and inappropriate in 29.3% indication with no significant difference (p=0.9). Frequencies of clinically significant lesions in the appropriate and non appropriate group were equivalent: 59% and 54% respectively. All cases of cancers were observed in patients with appropriate indications (n=4). Concerning demographic data: clinically significant lesions were more frequent in men (54.8% vs 45.1%, p=0.004); patients with appropriate indication were older (53.6 years vs 39.9 years, p =0.0001).

DISCUSSION

This study prospectively investigated the appropriateness if the EPAGE guidelines in a sample of a Tunisian population. EPAGE criteria were applicable 89.1 %. We reported a relatively high rate of appropriate use of UGE (69.1 %). For UGE, the broad clinical categories evaluated by the panel includes: uncomplicated dyspepsia, symptoms suggesting gastroesophageal reflux disease or history of reflux-associated mucosal disease of the esophagus, known Barrett's esophagus, atypical chest pain, upper gastro-intestinal alarm symptoms (hematemesis, melena, dysphagia, weight loss), screening for premalignant conditions of the upper gastro-intestinal tract and miscellaneous indications [2-7] (Table 1). Indications such search for portal hypertension, iron deficiency anemia without previous colonoscopy, caustic ingestion and Crohn's disease were not applicable for the EPAGE criteria. Nevertheless, in these clinical situations, UGE can be a precious tool for patient care. Therefore, adaptation of these criteria for the local practice of our country may be necessary and is possible using the same explicit method.

A number of studies have shown that a significant proportion of UGE are performed for inappropriate indications, most such studies have been carried out retrospectively, using a review of medical records [6, 8 – 15]. The rate of inappropriate indication (30.8%), in our cohort, is close to the rate disclosed by a French study [16]. In our case, this result can be explained by the fact that many patients were referred to our endoscopy unit, for UGE by non – gastroenterologists.

Although for clinically significant lesions, the indication was more often appropriate, the difference was not significant, in contrast with previous studies [17]. In our cohort, any case of gastric cancer was found when the indication was inappropriate. This may be related to the fact that patients consult only when symptoms are extensive. Moreover, older age and male gender were risk factors for significant lesions.

These findings could help us to elaborate our own criteria for appropriate selection of UGE peculiar to our population, as it has already been proposed by the British and American societies [18,19].

The strengths of this study are the type of the study: prospective, and the utilization for the first time in Tunisia of the EPAGE which is a validated score. Nevertheless, some limitations have to be considered such as the sample size.

CONCLUSION

The present study confirmed that UGE performed referred to EPAGE qualifying criteria is a useful procedure for clinical practice. All cancers and most severe lesions were detected when endoscopy was performed for an appropriate reason. However, clinical significant lesions were observed in a proportion of patients with inappropriate indication, and in some relevant clinical situations EPAGE criteria were not applicable. Therefore, even if these European criteria are helpful for decision-making, final decision must however rely upon practitioner advice to avoid missed diagnosis. Qualifying criteria for an appropriate selection of endoscopical procedure adapted to our population are advisable.

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