Descriptive Analysis of Upper and Lower Gastrointestinal Endoscopies in a Referral Pediatric Hospital of Colombia

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Summary

We analyzed 1521 pediatric esophagogastroduodenoscopy (EGD) and 219 colonoscopies from January 1998 to December 2007. *Results:* The major indication for EGD were in adolescents and schools while for colonoscopies were toddlers and schools. EGD was done under general anesthesia in 46% compared with 97.26% of the colonoscopies. The main indications for EGD was acid peptic disease and for colonoscopies was lower gastrointestinal bleeding. We mainly found gastritis and rectal polyps. Also, EGD and colonoscopies were used as therapeutic. There were just two complications with the EGD but none with colonoscopies. *Conclusion:*. The pediatric gastrointestinal endoscopies are safe and useful as diagnostic and therapeutic tools having the trained human resources as well as the appropiate technological resources.

Introduction

The use of endoscopy has grown in pediatrics in the last three decades and at present, endoscopy plays a primary role in the diagnosis of pediatric gastrointestinal disorders. Moreover, in some cases, it is also useful in the treatment or management such as sclerotherapy, percutaneous endoscopic gastrostomy, polypectomy and endoscopic removal of foreign bodies. Our Hospital has the human and technological resources to perform diagnostic and therapeutic gastrointestinal endoscopy since August 1996. In our team

there are Pediatrics Gastroenterologist, nurse and endoscopy assistant, which makes safe the procedures. The aim of present study was to describe our experience, the characteristics of our population, medical indications for endoscopy, endoscopic findings and complications.

Material and methods

A retrospective and descriptive study was made and the data was collected only from the reports of endoscopic procedures. We reviewed the reports of upper and lower gastrointestinal endoscopies performed between January 1998 and December 2007 done in patients between 0 – 18 years old. The reports from August 1996 until December 1997 were not included because some data were not consigned. Thus, a total of 1521 esophagogastroduodenoscopy (EGD) and 219 lower endoscopy were analyzed. We evaluated variables such as gender, age group (infant, toddler, school, adolescent) type of anesthesia (faryngeal, sedation with endovenous midazolam, general), clinical indication, findings and type of procedure (EGD, Colonoscopy, diagnostic, therapeutic), complications related with the procedure. The endoscopies have been performed by the same pediatric gastroenterolist and in the special procedure room of Pediatric Gastroenterology Unit or in the Surgery room. EGD were made initially with the fully flexible endoscope Olympus XP 20 (1996 -2002) and then with the videoendoscope Fuji EG250PE5 (2003-2008). The colonoscopies were conducted in the first period with the fully flexible colonoscope Olympus OSF-2 (1996-2003) and thereafter with the videoendoscope Fuji EC 250LP5 (2003-2008).

The information was processed in Statgraphics 5.1 and the statistics analysis was performed using absolute frequencies, percentages (%) and mean.

Results

The distribution of 1521 EGD according to gender was 867 female (57%) and 654 male (43%). The age group with greater indication for EGD was adolescents (47.3%) followed by scholars (25.2%). We did not find any differences related to gender in the 219 colonoscopies (110 male and 109 female). The distribution by age was mainly scholars (41.55%) and toddlers (38.36%).

All the patients during upper endoscopies received pharyngeal anesthesia according to our hospital´s protocol. Apart from that, some of them received general anesthesia (46.05%), sedation with midazolam (14%) and 40% received only pharyngeal anesthesia. On the other hand, almost all the lower endoscopies were performed under general anesthesia (97.26%).

In relation to the medical indication, the mayority of the EGD were indicated by acid peptic disease (29.34%) followed by recurrent abdominal pain and upper gastrointestinal bleeding (Table 1). The lower endoscopies were indicated in 81.21% by lower gastrointestinal bleeding, followed by suspicion of inflamatory bowel disease and rectal polyps (Figure 1). In 43.85% of upper endoscopies the findings were gastritis and 25.77% were normal (Table 2). In

Table No. 1. Indications for upper gastrointestinal endoscopies (n=1521).

Indications	N	%
Peptic acid disease	446	29.3
Recurrent abdominal pain	281	18.5
Upper gastrointestinal bleeding	158	10.4
Portal hypertension	115	7.5
Esophagitis	110	7.2
Malabsorption sydrome	99	6.5
Foreing body ingestion	78	5.1
Caustic ingestion	56	3.7
Others	178	11.8
Total	1521	100

Table No. 2. Findings in upper gastrointestinal endoscopies (n=1521).

Findings	n	%
Gastritis*	667	43.9
Normal	392	25.7
Esophageal varices	115	7.5
Esophagitis	98	6.4
Foreing body	47	3.1
Esophageal stricture	34	2.2
Ulcer (gastric and duodenal)*	22	1.5
Duodenitis	20	1.3
Others	126	8.4
Total	1521	100

*Ratio gastritis/ulcer is 30:1

42.92% of the lower endoscopies the findings were rectal polyps and 32.88% were normal (Figure 2). 11.9% of the upper endoscopies were therapeutics (mainly sclerotherapy of esophageal varices) and 44,7% of colonoscopies were therapeutics which 45,7% of them were for polypectomy (Figure 3).

There were just two complications with the upper endocopies; one case pulmonary edema and the other one upper gastrointestinal bleeding. We did not find any complication in the lower procedures.

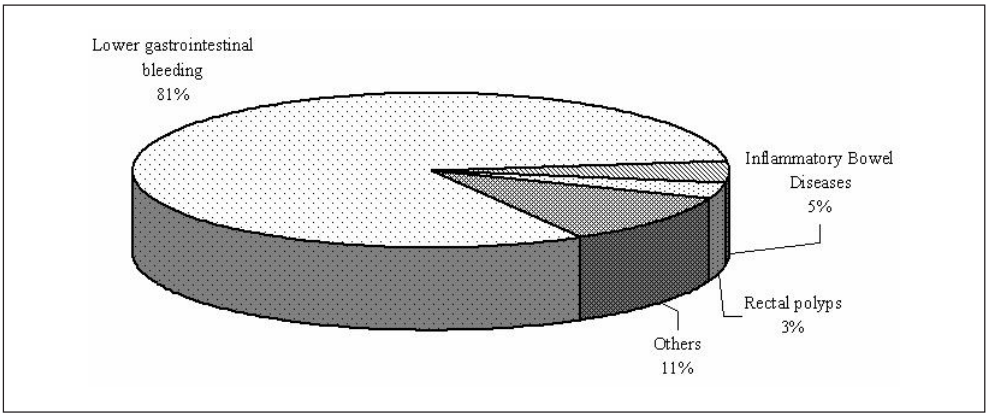

Figure No. 1. Indications for lower gastrointestinal endoscopies (n=219).

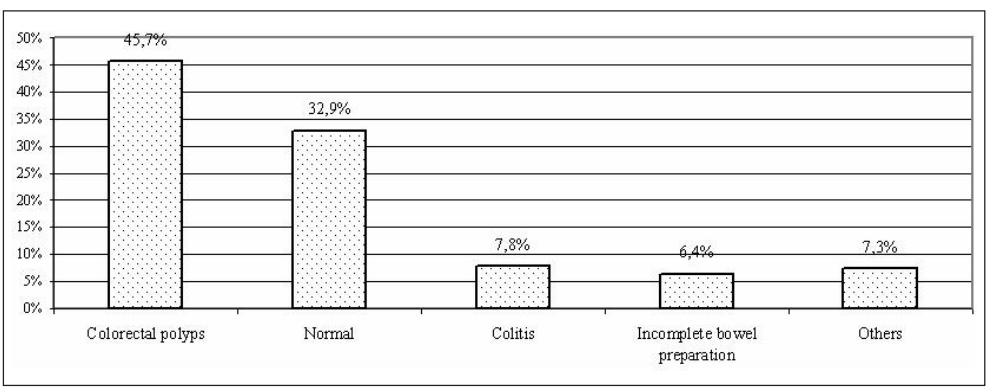

Figure No. 2. Findings in lower gastrointestinal endoscopies (n:219)

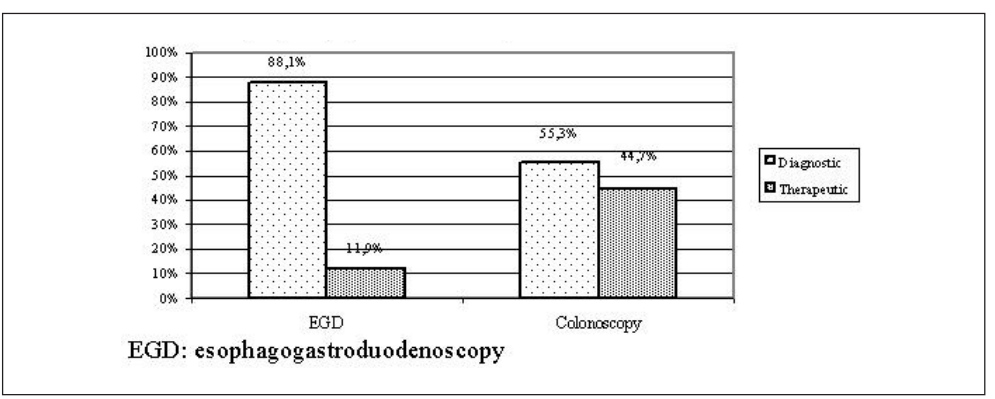

Figure No. 3. Distribution of the upper and lower endoscopies procedures by purpose, period: January 1998 and December 2007 .

Conclusion

This review revealed the major endoscopic findings in the population of one reference hospital in Colombia and it could have any application to the local epidemiology. The digestive endoscopic procedures are more frequently indicated in schools, adolescents and at last, in toddlers. The findings of the upper endoscopies are mainly gastritis (43.9%) and colorectal polyps (42.9) in the lower endoscopies. The findings were normal in 25,7% and in 32,9% respectively. They were used as therapeutic tool in 11.9% for the upper procedures and in the 44.7% of the lower endoscopies. The pediatric gastrointestinal endoscopies are safe and useful as diagnostic and therapeutic tools if they are performed by the team properly trained and if they have adequate technological resources.

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