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Assessment of Practice of Colonoscopy in Pediatrics in Brazzaville, Congo

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Abstract

Background: In Congo, there is no pediatric gastroenterology department and the activity of colonoscopy has never been evaluated. The aim of this study is to report the indications and the results of pediatric colonoscopy in Brazzaville. **Methods:** A retrospective study was conducted from January 2016 to August 2017 by analyzing reports of colonoscopy performed in the gastroenterology department in Brazzaville. Sex, prescribers, indications and results of colonoscopy were the variables study. **Results**: over the 19-month period, 489 colonoscopies have been performed, in which 13 (2.7%) colonoscopies were performed in children under 17 years, with an average age of 9.8 ± 4.6 (8 males and 6 females) and the extreme ranging from 1 - 17 years. The sex ratio (H/F) was 1.6. The prescribers were gastroenterologist (n = 4), pediatrician (n = 4), surgeons (n = 2), general practitioners (n = 2), pediatric students (n = 1). Chronic bowel inflammatory diseases and polypectomy was the most frequent conditions for colonoscopy indication. Seven (7) colonoscopies were normal. 4 cases were recto-polyps, and 2 cases were ulcerative colitis. **Conclusion:** pediatric colonoscopy is a powerful diagnostic and therapeutic means. The pediatricians should think about it to improve the management of children with digestive symptoms that meet the indications of pediatric colonoscopy.

Keywords

Pediatric, Colonoscopy, Practice, Brazzaville

1. Introduction

Colonoscopy is a technique of exploration of the low digestive tract using a co-

lonoscopy. The use of colonoscopy in paediatric practice meets several indications diagnostic but is also therapeutic in many morbid situations like diarrhoea, pain abdominal, iron-deficiency anaemia, or rectorrhagia [1]. Recommendations on paediatric colonoscopy have been published for some years [2] [3], but little work has been done in Africa [2] and African literature seems poor. In Congo, there is no paediatric gastroenterology department and no studies have been conducted on the paediatric colonoscopy to date. Thus, we carried out the present study in order to describe the epidemiolocal aspects of the children, the indications and the results of colonoscopy in the children having digestive symptoms, as well as the profile of prescribers in Brazzaville.

2. Methods

This was a retrospective study, conducted from January 1, 2016 to August 31, 2017, which is 20 months. The colonoscopies were carried out in the private centres of digestive exploration of Brazzaville in republic of Congo, in particular the centre of exploration in hepato-gastroenterology located at the Congolese housing office (OCH) and the medical centre of the schnell foundation in Talangaï, where all the colonoscopies have been performed. The investigation was based on the use of low digestive endoscopy reports made during the study period. All colonoscopy reports for children aged 1 to 17 years were collected. Not included in the study were all colonoscopy reports with incomplete information. The colonoscopy preparation in children over 10 years included a diet without residues 7 days prior to examination and 4-liter intake of polyethylene glycol (Fortrans®) the day before the exam (2 liter between 18 and 19 hours than 2 liter between 21 and 22 hours); for children under 10 years, the preparation was done with dihydrogen phosphate enema (Normacol®) diluted with mineral water the day before the day before examination. Colonoscopy was conducted without sedation, premedication with nefopam was performed in children from 4 years. The examinations were performed by gastroenterologist with an Olympus adult colonoscopy type CF-Q145 I, CF-100 HI, suitable for children over 4 years. The examinations were performed by gastroenterologist with an Olympus adult colonoscopy type CF-Q145 I, CF-VL, CF-100 HI, suitable for children over 4 years, in the absence of paediatric colonoscopy. In younger children, an Olympus brand gastro-cope type GIF-Q145 and GIF-V2 were used. The study variables were epidemiological, age and sex of child; the profile of the prescribers; indications and results of colonoscopy. The data was entered on Excel and the analysis done on SPSS software. 19. The qualitative were expressed in percentages and quantitative variables in average and/or standard deviation.

3. Results

During the study period, 489 colonoscopy reports were reviewed, of which 13 (2.7%) were for children under 17 years of age. There were eight (62%) boys and five (38%) girls, the sex ratio was 1.6. The average age of the children was 9.8 ±

4.6 years; extremes ranging from 1 to 17 years. According to the age group, there were two (15%) children under 5 years of age, three (23%) aged between 5 to 10 years, seven (5%) aged 10 to 15 years, and one (8%) child 17 years old. The prescribers of colonoscopies in these children were respectively represented by gastroenterologist and paediatricians in 4 cases (31%) each, surgeons in 2 cases (15%), general practioners, 2 cases (15% and 4%) and in one case, it was a trainee interned in paediatric specialty. Table 1 illustrates the distribution of patients according to indications. The results of the colonoscopy of the patients are in Table 2.

4. Discussion

The study focused on the analysis of colonoscopy reports of children made in the exploration centres in hepato-gastroenterology. The two centres selected were those of the capital city. Our study has selection biases concerning the location of location of endoscopy centres that was not accessible to all, the financial limit because the cost of examinations was borne by the parents of children and finally, archival difficulties making difficult to gather useful information on certain examination reports. All these reasons explain the small sample obtained during this study. Nevertheless, it should be noted that this is a preliminary study. Our series shows a low frequency of colonoscopy (2.7%). This result is

Table 1. Patient distribution as indicated.

Indications		n	%
Constipation	Recent	1	7.7
	Chronic	1	7.7
	Pain abdominale	1	7.7
Pain abdominal	Chronic	1	7.7
	Constipation	1	7.7
	Melena	1	7.7
Post polypectomy check		1	7.7
Polypectomy		2	15.4
Control of salazopyrine-treated IBD		3	23
Rectal tumor		1	7.7
Total		13	100

Table 2. Distribution of patients according to the result of colonoscopy.

Result	n	%
Normal coloscopy	7	53.8
Ulcerative colitis	2	15.4
Recto-colonic polyps	4	30.8

similar to that of Okon *et al.* in Ivory Coast, which yielded less than 1% over 19 years in Ivory Coast [2]. A frequency lower than ours; the difference may be due to the very small size of the sample and the evolution of the indications. Indeed, the indications for colonoscopy have been updated under the light of new data and technological advances of the last decade [3]. The African series are weaker than the Asian series, such as in China where Tam *et al.* [4] reported a series of 79 cases of paediatric colonoscopy over five years and Yoshino in Japan [1] reported 110 cases over 8 years. El Mouzan in Saudi Arabia [5] reported a series of 217 colonoscopies over 10 years. Abdominal pain isolated and/or associated with constipation or melena was found in 4 cases. Indeed, abdominal pain is part of the indications for colonoscopy in the follow-up of patients with Crohn's disease [3]. Yoshika *et al.* [1] report 20 cases of patients with abdominal pain; Okon *et al.* [2], describes 1 case of abdominal pain; however, the authors believe that abdominal pain was a bad indication. Polypectomy represented 2 cases, Okon *et al.* reported a close result (3 cases) of polypectomy [2]. Some indications in our study do not comply with the recommendations of colonoscopy indications. Recently, the American Society of Gastroenterology and Endoscopy and North American Society of Paediatric [6] confer **Table 3**. All colonoscopies were performed without anaesthesia during this study. This practice is also found in literature [2]. The use of adequate sedation in paediatric is necessary to obtain a better result of total colonoscopy [1]. The use of midazolam as a premedication has been reported in the literature by several authors [1] [2] [4]. The average age of children in our series is 10 years, and Tam *et al.* report the same result [4]. In Ivory Coast, request for colonoscopies are made exclusively by gastroenterologists [2]. In Congo, request for colonoscopies are made in the majority of cases by paediatricians and gastroenterologist (30.8%). Paediatric gastroenterology has become a subspecialty in many countries [7]. The development or creation of paediatric gastroenterology units or services would contribute to improving the

Table 3. Common indications of paediatric colonoscopy.

Diagnostic
Chronic diarrhea
Suspicion of low GI bleeding
Unexplained Anémia
Polyposis syndrome (oversight and diagnostic)
Growth retardation/weight loss
Therapeutic
Polypectomy
Foreign body extraction
Dilation of stenoses
Hémostasis

management of paediatric patients. The technical aspects of paediatric colonoscopy are comparable to those of adults. A good knowledge of endoscopic technical is necessary to avoid complications. We did not notice any complications in this work, to date, no per and post endoscopic complications are described in the literature [2] [4].

The main limitation of this study is the sample size, which is explained by the duration of the study and the lack of knowledge of paediatric colonoscopy by paediatricians in Congo.

5. Conclusion

Colonoscopy is an essential examination for the diagnostic and management of certain gastrointestinal pathologies in children. But this seems still unknown to health professionals taking care of children. Paediatricians and general practitioners must think about it when the indication is appropriate. However, the creation of paediatric gastroenterology units or gastroenterology services would help to improve the management of children with digestive diseases.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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