

Systematic Ileoscopy In A Community Practice: Feasibility, Relevance, And Factors Of Success: 510 Examinations Within 1 Year

B Maroy

Citation

B Maroy. *Systematic Ileoscopy In A Community Practice: Feasibility, Relevance, And Factors Of Success: 510 Examinations Within 1 Year*. The Internet Journal of Family Practice. 2004 Volume 3 Number 2.

Abstract

A prospective descriptive study of routine ileoscopy during colonoscopy was performed during 1 year among successive 510 unselected, community patients. The success rate was 93% within a mean intubation time of 1.25 min, 83% within 2 min and 70% within 1 min. An additional 2% were blindly biopsied. The mean length of ileum visualized was 17.8 cm. Significant lesions were seen among 1.8% of the patients. A systematic attempt at entering the ileum is logical, easily performed, quick, well tolerated, safe, maintains the physician's skill and proves that the caecum has been reached.

INTRODUCTION

Ileoscopy is the logical extension of colonoscopy (1,2,3,4,5,6,7,8,9). However, most often, lower digestive endoscopy is limited to the caecum without any attempt at penetrating the ileum (5, 10,11,12). Routine ileoscopy has seldom been studied and not yet in community practice (1,2,3,4,5,6, 13, 14).

Thus, I have performed a prospective, descriptive study of my day-to-day practice, to precisely define the factors influencing feasibility of routine ileoscopy, time to intubate the valvula, depth of intubation of the ileum and relevance of its examination.

PATIENTS AND METHODS

PATIENTS

Was included every patient who underwent a colonoscopy performed during 12 consecutive month. No patient was rejected for inclusion. The patients were informed that they entered a descriptive study devoid of any risk and all accepted to be included.

SETTING

Primary referral, private practice based in a medium-sized city of the West of France.

METHODS

Endoscopy was performed either at office under IV sedation, administered as needed by the endoscopist, or under general

anaesthesia during a daytime, out-patient hospitalization.

Progression technique and endoscopes were conventional (Fuji video-colonoscopes 200 1.35 or 1.5 m). The length of ileum intubated is difficult to assess precisely. It was measured as the length of colonoscope retracted between the start of mucosa's sliding back and the outer part of valvula. This method is expected to minimize the measured length.

Data on 29 variables were collected for analysis with the PCSM+ software.

RESULTS

Five hundred and ten colonoscopy were performed on 255 females and 255 males, aged 62 years (IC95%=60,8-63,1). The caecum was reached 502 times. The 7 organic strictures and the technical failure were eliminated of the statistics below.

The ileum was intubated in 452 (93%). It was normal in 98.5%, abnormal in 7 patients (1.5%) and blindly biopsied in 10 (2%), i.e. 7% partial and 5% total failures. The mean time needed to intubate was 1.25 min (IC95%=1.1-1.4) (minimum 0.1 min, maximum 11 min), to be compared with a mean progression time before reaching the caecum of 9.9 min (IC 95%=9.3-10.5 min)(2-56 min), and a total time for completion of examination of 17 min (IC95%=16.3-17.7 min) (5-55 min). The mean length of ileum explored was 17.8 cm (IC95%=16.4-18.5 cm) (1-60 cm).

There was no correlation with the clinical indication requiring endoscopy nor with the performance with or without anaesthesia. Failure to intubate the ileum was correlated with poor right colon cleanliness ($p < 10^{-4}$), worsened in case of a difficult progression in the right colon. Time to intubate was significantly correlated with a slow ($p < 10^{-4}$), difficult ($p < 10^{-4}$) or hyperalgesic ($p < 10^{-2}$) progression and to age ($p < 10^{-3}$), to the need for sedation and to its dose ($p < 10^{-2}$).

The length of ileum visualised correlated negatively with the difficulty and time of progression to the caecum ($p < 10^{-4}$), then with age ($p < 10^{-3}$), hyper-algesia during progression ($p < 10^{-2}$) and time to intubate. A previous colonic resection increased the depth of insertion ($p = 0.02$).

If time to intubate was limited to 1 min, the rate of success was 70%, and 83% when limited to 2 min. The ileum was abnormal in 1.5% of the cases: 4 ulcerative ileitis, 3 congestion, 1 radicle ileitis and 1 vascular dysplasia.

No complication was encountered.

DISCUSSION

The length explored is significant and, sometimes, as long as with push-enteroscopes (_{2, 15, 16}). Moreover, the intubation of the ileo-caecal valve is more difficult with an enteroscope and the rate of success is lower (_{15, 16}). The time spent is relatively short (_{2, 3, 6, 13}) (12.6% of the progression time to the caecum and 7.4% of the total colonoscopy duration) for a high success rate, like in academic studies dealing with adults (_{1, 3, 4, 5, 6, 9, 11, 12, 13, 14}) or children (₂).

Therefore, there is no reason to fail to attempt at intubate the ileum as a natural extension of colonic visualization (_{1, 3, 4, 5, 6, 7, 8, 9, 13}). Moreover, the visualisation of the ileum is the most reliable proof that the valvula has been reached (_{1, 10, 12, 16}).

The performance of ileoscopy after reaching the caecum does not expose the patient to any higher risk, except, possibly, recently and in certain countries, to a risk of prion's transmission. However, this risk is most probably extremely low in the absence of any biopsy. These are performed only when necessary, i.e. in case of an abnormal mucosa (₁₄).

Therefore, if systematic ileoscopy is normal, it does not entail any noticeable risk. Conversely, if it is unexpectedly abnormal, the risk of biopsy is negligible, compared to usefulness for patient's management (₁₄).

The mean clinical benefit is modest among routine cases in Western countries (_{5, 6, 9, 13}), but the discovery of an unexpected ileal abnormality may be crucial (₁₇). In case of bleeding without any colonic lesion, of chronic diarrhoea (_{5, 14}), of a possible Crohn's (₁₁) or coeliac disease (₁₇) or in Eastern countries (_{3, 18}), the clinical benefit is clearly higher. Ileoscopy is definitely superior to barium studies (₇). However, as retrograde ileography is a part of standard barium enema (₇), there is no reason not to intubate the ileum after reaching the caecum.

Moreover, routine intubation of ileum maintains the skill of the endoscopist (_{1, 2, 4, 6, 13}) and allows him to succeed more frequently when the visualisation of the ileum is needed on clinical grounds (_{1, 4, 5, 6}). The only factors of failed, difficult or short intubation are, logically, linked to a difficult examination or to a poor cleanliness.

CONCLUSIONS

Routine ileoscopy is possible in community practice with a high rate of success, a significant depth of intubation, in a relatively short time and without complication. If needed, ileum can be seen in 92% of the patients and biopsied in 95%.

CORRESPONDENCE TO

Dr B. Maroy Maison Médicale de Lunesse 24 rue Chabernaud 16340 L'Isle d'Espagnac FRANCE Tel: +33 (0)545940094 Fax: +33 (0)45942500 E mail: maroyg@aol.com

References

1. Marshall JB, Barthel JS. The frequency of total colonoscopy and terminal ileal intubation in the 1990s. *Gastrointest Endosc* 1993;39:518-20.
2. Israel DM, McLain BI, Hassall E. Successful pancolonoscopy and ileoscopy in children. *J Ped Gastroenterol Nutr* 1994;19:283-9.
3. Bhasin DK, Goenka MK, Dhavan S et al. Diagnostic value of ileoscopy. *J Clin Gastroenterol* 2000;31:144-6.
4. Chen M, Khanduja KS. Intubation of the ileocecal valve made easy. *Dis Colon Rectum* 1997;40:494-6.
5. Zwas FR, Bonheim NA, Berken CA et al. Diagnostic yield of routine ileoscopy. *Am J Gastroenterol* 1995;90:1441-3.
6. Kundrotas LW, Clement DJ, Kubik C et al. A prospective evaluation of successful terminal ileum intubation during routine colonoscopy. *Gastrointest Endosc* 1994;40:544-6.
7. Lewis BS. Ileoscopy should be part of standard colonoscopy. *J Clin Gastroenterol* 2000;31:103-4.
8. Ristikankare M, Hartikainen J, Heikkinen M et al. The effects of gender and age on the colonoscopic examination. *J Clin Gastroenterol* 2001;32:69-75.
9. Wayne JD, Atchison MAE, Talbott MC et al. Transillumination of light in the right lower quadrant during

total colonoscopy.(letter) *Gastrointest Endosc* 1988;34:69.

10. Madal AK, Ponich T, Driman D et al. The diagnostic yield of terminal ileoscopy and biopsy.(abstract) *Gastro Intest Endosc* 1998;47:AB100.

11. Cirocco WC, Rusin LC. Confirmation of caecal intubation during colonoscopy *Dis Colon Rectum* 1995;38:402-6.

12. Cohen S, Elfant A, Peikin S et al. Value of routine ileoscopy during colonoscopy. *DDW* 1999.

13. Belaiche J, Van Kemseke C, Louis E. Use of enteroscope for colo-ileoscopy: low yield in unexplained lower gastrointestinal bleeding. *Endoscopy* 1999;31:298-301.

14. Yusoff IF, Ormonde DG, Hoffman NE. Routine colonic mucosal biopsy and ileoscopy increases diagnostic yield in patients undergoing colonoscopy for diarrhea. *J*

Gastroenterol Hepatol 2002;17:276-80.

15. Bouhnik Y, Bitoun A, Coffin B et al. Two way push videoenteroscopy in investigation of small bowel disease. *Gut* 1998;43:280-4.

16. Marshall JB, Brown DN. Photodocumentation of total colonoscopy: how successful are endoscopists? Do reviewers agree? *Gastrointest Endosc* 1996;44:243-8.

17. Sundar N, Mukhtar A, Finnie IA. Ileocolonoscopy diagnosis of coeliac disease. *Endoscopy* (letter) 2003;35:374.

18. Leung VKS, Tang WL, Cheung CH, Lai MS. Importance of ileoscopy during colonoscopy for early diagnosis of ileal tuberculosis: report of two cases. *Gastrointest Endosc* 2001;53:813-5.

Author Information

Bernard Maroy, M.D.

Maison Médicale de Lunesse 24 rue Chabernaud