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

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Citation

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 (1,2,5,6,7,8,9,10,11,12). 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 (12,13,14).

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, maximum11 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 radic ileitis and 1 vascular dysplasia.

No complication was encountered.

**DISCUSSION**

The length explored is significant and, sometimes, as long as with push-enteroscopes (1, 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 (1, 3, 4, 15) (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, 15, 16) or children (1).

Therefore, there is no reason to fail to attempt at intubate the ileum as a natural extension of colonic visualization (1, 3, 4, 15, 16). Moreover, the visualisation of the ileum is the most reliable proof that the valvula has been reached (1, 3, 4, 15, 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 (3, 4, 15, 16), but the discovery of an unexpected ileal abnormality may be crucial (1). In case of bleeding without any colonic lesion, of chronic diarrhoea (1, 14), of a possible Crohn’s (1) or coeliac disease (17) or in Eastern countries (3, 4), the clinical benefit is clearly higher. Ileoscopy is definitely superior to barium studies (1).

Moreover, routine intubation of ileum maintains the skill of the endoscopist (1, 2, 3, 4, 15, 16) and allows him to succeed more frequently when the visualisation of the ileum is needed on clinical grounds (1, 4, 16). 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%.

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