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Background

- During traditional colonoscopy, insufflation of air or carbon dioxide - is used to facilitate visualization of the colonic lumen on the way to the cecum.
- However, gas insufflation does distend and lengthen the colon, which can cause technical difficulty for the physician and increase abdominal discomfort in the patient..
- A specially designed proprietary visualization balloon (Vizballoon™) is placed in front of colonoscope to keep the colonic lumen open without CO2 or air insufflation to facilitate advancement of the colonoscope to the cecum.

AIM of the Study

To compare non-insufflation colonoscopy using Vizballoon™ (study group) to traditional colonoscopy using CO2 insufflation (control group).

METHODS

- 40 consecutive adult patients undergoing colonoscopy were randomly assigned:
 - To CO2 insufflation colonoscopy or
 - To colonoscopy with a Vizballoon™ without any CO2 insufflation.
- Main study outcomes were the time required to reach the cecum and the length of the endoscope needed to reach the cecum.
- Secondary outcomes were the amount of propofol used during colonoscopy advancement, difficulty of colonoscopy insertion, abdominal pain immediately following the procedure and 24 hours after procedure.

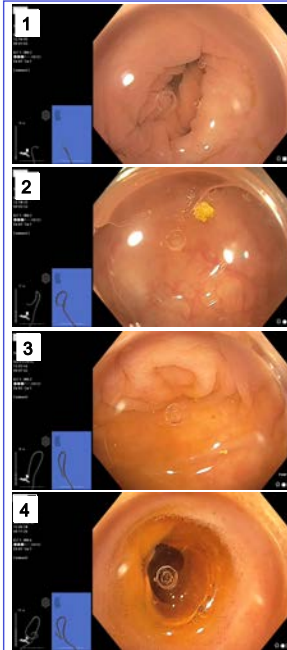


Figure 1: Colonoscope with a Vizballoon™ is introduced into rectum

Figure 2: Colonoscope with a Vizballoon™ is advanced into transverse colon

Figure 3: Colonoscope with a Vizballoon™ has reached appendicular orifice

Figure 4: Colonoscope with a Vizballoon™ is inserted into distal ileum

RESULTS

- Patients in the study and control groups were similar in terms of age (62.4±13.7 vs 66.0±11.3 years, p=0.3703) and body mass index (30.5±8.2 vs 29.0±6.9, P=0.5486).
- The cecum was reached much faster with the use of Vizballoon™ (249±79 seconds vs 354±96 seconds, p=0.0006).
- Vizballoon™ eliminated colonoscope looping - average length of colonoscope required to reach the cecum in the study group was 87.2±13.3 vs 117.1±25.0 in control group (p=0.0001).
- Colonoscopy with Vizballoon™ guided advancement was technically much easier to perform, did not require any external pressure or changing the patient's position and required significantly less (p=0.0459) Propofol (161.0±57.6 mg), compared to CO2-based colonoscopy (206.0±78.7 mg).
- There was also significantly less pain immediately following colonoscopy (p=0.0004) and 24 hours post procedure (p=0.0057) when Vizballoon™ was used.

CONCLUSIONS

Use of the specially designed visualization balloon allows non-insufflation advancement of a colonoscope to the cecum, eliminates colonic looping, makes insertion of the colonoscope to cecum technically easier, faster, and decreases abdominal discomfort during and after colonoscopy.

DISCLOSURE

- Dr. Kantsevov holds equity in Apollo Endosurgery Inc, Austin, TX.
- None of the authors have any conflict of interests to report.