Which patient position provides the best view of the cecum during a colonoscopy?

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Abstract

- Patient positioning has been found to be a simple technique to improve luminal distention and visualization during colonoscopy.
- The purpose of this study is to assess which patient position (left lateral decubitus (lld), right lateral decubitus (rld), or supine (s)) will provide a colonoscopist with the best view of the cecum.
- It was hypothesized that water would fill the ascending colon with the patient in the right lateral position and air will rise and fill the less dependant cecum, such that right lateral decubitus would be the optimal position for visualizing the cecal mucosa.
- The results of this study indicate that positioning patients in the right lateral decubitus position provides the best view of the cecum during colonoscopy.

Introduction

- Colorectal cancer is the second most common cancer in Canada and is an important source of mortality and morbidity[1].
- The recent declines in colorectal cancer incidence rates are likely due to the increasing use of colonoscopy screening.
- For these initiatives to be successful, a colonoscopy must be of high quality to provide comprehensive neoplasia detection[2].
- Unfortunately, a recent meta-analysis of tandem colonoscopy trials reveals that the missed adenoma rate is higher than originally thought, particularly in the right colon[4].

Study design

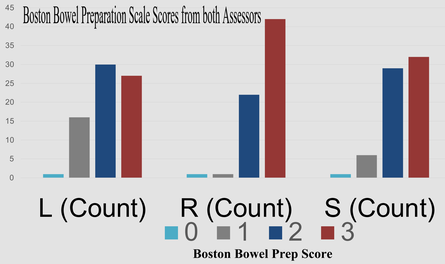
- This study was part of a larger randomized controlled trial that was performed in St. John's, NL between April 1, 2019 and September 30, 2019, of 185 patients undergoing an elective colonoscopy.[3]
- This study was conducted using a survey research design. Ninety consecutive sets of photos of the cecum were obtained from patients undergoing a non-urgent colonoscopy from the trial.
- Each set included cecal images of patients while lying in three different positions – right lateral decubitus, left lateral decubitus, and supine.
- Two authors reviewed these sets of images and excluded those that were incomplete or unclear. A third author, who was blinded to the patient position, selected the final 33 sets of images to be entered into a survey.
- Two experienced endoscopists completed the survey of each image set. They were asked to use the Boston Bowel Prep Scale to assess and score each image.

Outcome measurements/ statistical analysis

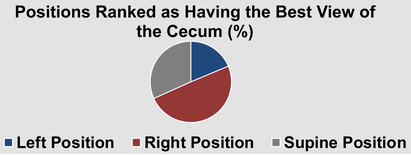
- The Boston Bowel Preparation Scale (BBPS), used to assess mucosal visualization in each of the three patient positions, was used as the primary outcome measure.
- The scoring system was as follows: 0 = Unprepared colon segment with mucosa not seen due to solid stool that cannot be cleared. 1 = Portion of mucosa of the colon segment seen, but other areas of the colon segment not well seen due to staining, residual stool and/or opaque liquid. 2 = Minor amount of residual staining, small fragments of stool and/or opaque liquid, but mucosa of colon segment seen well. 3 = Entire mucosa of colon segment seen well with no residual staining, small fragments of stool or opaque liquid.
- The secondary outcome measure was a ranking of each photo in a set based upon the overall view of the cecum.
- Data were collected using the Qualtrics online survey program. Nonparametric tests were used to analyze the data using SPSS software (v.25). A p-value of ≤0.05 was considered significant.

Results

- Results showed that the right lateral decubitus position received higher Boston Bowel Preparation scores overall, with 63.6% of the images scoring a three.



- The Kruskal-Wallis Test was used to compare the three different positions using the Boston Bowel Prep Scale and showed a significant difference between patient positions (p=0.005).
- The Mann-Whitney U test was used to compare each pair of images.
- The U tests indicated that the right lateral position was ranked higher than either left lateral or supine positions. There was no significant difference in the left and supine patient positions.
- For the secondary measure, the ranking of images showed a clear stepwise progression where the right side was ranked as having the best view most of the time and the left side having the worst view.



Conclusion

- This study found that the right lateral decubitus position improved the overall view of the cecum during a colonoscopy.
- It also showed that visualisation of the blind spot between the terminal ileum and the appendiceal orifice was improved with right lateral decubitus positioning.
- Based on these findings, the right lateral decubitus position should be used when adequate views cannot be obtained when the patient is placed in the left lateral or supine position.

References

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