

Using Barthel index and performance status scale(ECOG) to predict in patient bowel preparation quality

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Purpose:

Bowel preparation, cecal intubation rate, and adenoma detection rate influence the quality of colonoscopy and interval cancer rate. Adequate bowel preparation is first and essential step for not only procedure safety but also lesions defection ability. According to literature, several factors affect inpatient bowel preparation such as age, socioeconomic class, opiate/ tricyclic antidepressants use, and physical status classification system by American society of anesthesiologists. However, there was still lack of general predicting model. Under hypothesis that patient's activity may be related to bowel movement then influence the bowel preparation. Thus we tried to predict inpatient bowel preparation by activity scoring system: Barthel index and performance status scale by eastern cooperative oncology group that routinely assessed in our inpatient nursing work. This study was aimed to evaluate predicting power of Barthel index and performance status scale by eastern cooperative oncology group for inpatient bowel preparation. We also investigated the cutoff values of scoring systems for inadequate bowel preparation.

Methods:

All consecutive patients hospitalized for colonoscopy at the gastroenterology ward between 2016 May to 2016 June were retrospectively analyzed. We used Aronchick scale for bowel preparation evaluation. The level "excellent" and "good" were defined as adequate; "fair" and "poor" were defined as inadequate. All patients' activity statuses were assessed by Barthel index and performance status scale by eastern cooperative oncology group. The results were tested by receiver operating characteristic curve. Final the cutoffs were calculated by Youden's index.

Results:

During the period of study, 100 hospitalized patients were retrospectively reviewed. The adequate bowel preparation rate was 70%. In addition, adenoma detection rate was 35%; cecal intubation rate was 99%. In receiver operating characteristic curve, area under curve of Barthel index was 0.798; area under curve of performance status scale by eastern cooperative oncology group was 0.824. Both of them were good discrimination for bowel preparation. After Youden's index calculation, we found 82 was cutoff for Barthel index and 1 was for performance status scale by eastern cooperative oncology group.

Conclusion:

Both Barthel index and performance status scale by eastern cooperative oncology group were valuable to predicting inpatient bowel preparation. In daily practice, cutoffs let medical team pay more attention to possible inadequate bowel preparation.

Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
1. The learner will be able to figure out that bowel preparation is the key for safety and quality of colonoscopy	1.Nurses assess patient's Barthel index and performance status scale by eastern cooperative oncology group (ECOG) 2.Discussion if the doctor recommends what is called split-dosing and drugs(PEG-ELS or sodium phosphate formulations). 3.Nurses give patients education about colonoscopy preparation to ensure accurate results.
2. The learner will be able to use Aronchick scale to evaluate bowel preparation quality	1.We can get the results later on the computer system as soon as the colonoscopy is over,we also can know that doctor took biopsies or removed polyps 2.At the same time ,we can use Aronchick scale to evaluate bowel preparation quality. 3.Give patients proper education for after colonoscopy.
3. The learner will be able to apply routinely nursing evaluation scale to predict quality of inpatient bowel preparation	1.Learning to assess Barthel index and performance status scale by eastern cooperative oncology group (ECOG) 2.Give patients proper education for bowel preparation.