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Can We Predict Low Quality Colonoscopy? Establishing Open Access Colonoscopy at a Fellow-run Gastroenterology Clinic

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Background
- Adenoma detection rate (ADR) is considered the primary measure of quality with performance targets of ≥30% for men and ≥20% for women. Studies have shown a 3% reduction in CRC incidence and a 5% reduction in mortality for each 1% increase in ADR.
- Other quality measures include withdrawal time ≥ 6 minutes and ≥95% cecal intubation rate with photo-documentation.
- Bowel preparation can affect all quality measures. A strong recommendation was given to provide both oral and written patient education instructions and emphasize the importance of compliance.
- Open access colonoscopy (OAC) is the process by which a patient is referred directly for colonoscopy, without a pre-colonoscopy office visit. This can lead to decreased wait time which improves adherence.
- Several studies demonstrate no differences in understanding or patient satisfaction compared with having a prior office visit. Studies have also shown no differences in cancellations and no-show rates.
- One study of 365 patients who underwent OAC demonstrated 87% of patients to have good or excellent bowel preparation.
- A New York City-based study of screening colonoscopy among African American and Hispanic patients demonstrated OAC and a bilingual patient navigator resulted in successful completion in 66% of patients; an improvement over baselines.

Methods
Objectives:
- Determine patient-specific factors and comorbidities which would preclude OAC eligibility and therefore increase time to screening colonoscopy.
- Identify any difference in quality parameters between OAC eligible and ineligible patients

Study Design:
- Retrospective chart review of screening colonoscopies scheduled at our GI Clinic from July 1, 2016 to June 30, 2018
- Included only patients at average risk undergoing initial screening colonoscopy
- All patients seen at an office visit prior to their procedure
- Charts reviewed to determine eligibility for OAC
- Eligible patients were compared to ineligible patients using ADR, preparation adequacy, cecal intubation rate, and any procedure related complications

Exclusion Criteria for OAC Pathway

<table>
<thead>
<tr>
<th>Condition</th>
<th>Moderate ADR or worse (%)</th>
<th>Moderate ADR or worse (%)</th>
<th>NHYA III CHF or worse (%)</th>
<th>Hemoglobin &lt;9 g/dL (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CKD-45</td>
<td>20.4%</td>
<td>13.3%</td>
<td>8.8%</td>
<td>22.7%</td>
</tr>
<tr>
<td>IBD CRO</td>
<td>18.5%</td>
<td>13.7%</td>
<td>8.8%</td>
<td>22.7%</td>
</tr>
<tr>
<td>Prior difficult intubation</td>
<td>18.5%</td>
<td>13.7%</td>
<td>8.8%</td>
<td>22.7%</td>
</tr>
<tr>
<td>Non-ambulatory</td>
<td>Active AAOS</td>
<td>Presence of AAD or inpatient (%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TABLE 1. Study exclusion criteria with incidence rates in parentheses.

Results
- 45 of 68 (66.2%) patients would have been eligible for OAC
- Higher proportion of Hispanic patients (57%) enrolled, but also statistically more likely to be eligible for OAC
- Overall, no significant differences in quality indicators were found between the groups
- Individual factors found to be associated with inadequate prep:
  1) NYHA class III CHF or worse
  2) CKD-45
  3) HgbA1C > 8%
  4) Use of systemic anticoagulant
- No association between the presence of an exclusion criterion and ADR
- No difference in “no-shows” or cancellations – 22 overall, but evenly distributed with 11 in each group

Discussion
- Literature on open access is robust, but pathways involving trainees and evaluation of exclusion criteria are less prevalent.
- Our study demonstrates no significant difference in quality indicators between the two groups, but interestingly, the ADR for ineligible patients (27.3%) was higher than that for eligible patients (22.2%).
- No difference in “no-shows” or cancellations between the groups, but unclear if this will translate to the actual open access pathway.
- Our study potentially identifies significant predictors of low quality colonoscopy: NYHA class III or IV CHF, CKD-45, use of a systemic anticoagulant, and uncontrolled diabetes (HgbA1c 8% or greater). Further studies are required to confirm this finding.
- Our exclusion criteria require further examination in order to identify other potential risk factors or sub-populations at risk for low quality colonoscopy.
- Despite no significant differences, the trends also indicate that further evaluation is required to determine the true value of a pre-colonoscopy office visit to each patient.

REFERENCES
- Takala, AJ. Open access colonoscopy in the training setting: which factors affect patient satisfaction and pain? Endoscopy 2014;46(10):100.

TABLE 3. Comparison of quality indicators between eligible and ineligible patients.

<table>
<thead>
<tr>
<th>Preparation Adequacy</th>
<th>Analysis Sample (n=68)</th>
<th>OAC Eligible (n=45)</th>
<th>OAC Ineligible (n=23)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CKD-45</td>
<td>14 (21.2%)</td>
<td>10 (22.2%)</td>
<td>4 (17.4%)</td>
<td>0.74</td>
</tr>
<tr>
<td>HgbA1c &gt; 8%</td>
<td>5 (7.35%)</td>
<td>3 (6.7%)</td>
<td>2 (8.7%)</td>
<td>0.26</td>
</tr>
<tr>
<td>Cecal Intubation</td>
<td>54 (80.3%)</td>
<td>42 (93.3%)</td>
<td>12 (52.2%)</td>
<td>0.0399</td>
</tr>
</tbody>
</table>

TABLE 2. Comparison of demographics between eligible and ineligible patients of the analysis sample.