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Nodal Harvest for Right-Sided Colon Cancer: A Case-Matched Assessment of Laparoscopic vs. Robotic Approaches

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Does Location of Birth Influence the Outcomes of Infants With Gastroschisis?

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Program: General Surgery

Type: Original Research

Background: In children with gastroschisis, many consider delivery at a specialized pediatric center optimal perinatal care. Previous studies have suggested delivery at the center of definitive surgical care may expedite primary closure, while decreasing time to full enteral feeds. We sought to understand the influence of perinatal transfer to specialized centers on outcomes in infants with gastroschisis.

Methods: Patients from Pediatric NSQIP, 2013 – 2017, who had gastroschisis repair were divided into those born in a specialized center and those transferred after birth. The primary outcomes were days to repair, length of stay, and rate of overall complications. Secondary outcomes included 30-day mortality, occurrence of wound or infectious complications, or need for parenteral nutrition (TPN) at discharge.

Results: There were 638 transferred patients and 452 patients born in center identified. There was a difference in the days between admission and surgical repair for those transferred and those not (3.2 days vs. 2.5 day, respectively, $p = 0.02$). There was no difference seen in length of stay, mortality, or need for TPN at discharge, but a difference was identified in the rate of wound complications. Transferred patients had 60 (9.4 %) wound complications compared to 23 (5.1%) for those born in center ($p = 0.008$). Most of the wound complications were superficial infections or superficial dehiscence.

Conclusion: Perinatal transfer of patients with gastroschisis is associated with a longer time to repair and a higher incidence of wound-related complications. However, these findings do not appear to increase length of stay, mortality, or need for TPN at discharge. ■

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Nodal Harvest for Right-Sided Colon Cancer: A Case-Matched Assessment of Laparoscopic vs. Robotic Approaches

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Background: As robotic assisted colectomy (RAC) becomes prevalent, it is imperative that this approach provides equivalent oncologic quality standards when compared to laparoscopic colectomy (LC). The purpose of this study was to evaluate the short-term outcomes, including the quality of nodal harvest, of LC and RAC for right sided colon cancers. We hypothesized RAC would provide an equivalent number of lymph nodes while improving surgeons' ability to complete the case in a minimally invasive fashion when compared to LC.

Methods: A retrospective review of the American College of Surgeon's National Surgical Quality Improvement Program Colectomy Procedure Targeted Database from 2014 – 2017 was performed. Patients were identified as having undergone laparoscopic or robotic segmental colectomy for malignancy of the cecum, ascending colon, and hepatic flexure. A total of 9,289 cases were identified [RAC=1,055 (11.4%), LC=8,234 (88.6%)]. RAC cases were then case matched based on year of operation, ASA classification, BMI, age, sex, tumor location, and stage. Of the original cases, 140 were excluded due to inability to appropriately match, resulting in 915 pairs. A secondary analysis of case matched data was performed. Categorical variables were compared with Chi-square and Fischer's exact tests as appropriate. Continuous variables were analyzed with independent samples t-tests. $P<0.05$ was considered statistically significant.

Results: The case matched cohort did not significantly vary in baseline demographics or distribution of medical comorbidities. Operative times were longer in RAC (188±70 vs. 146±62 mins, $P<0.0001$). Patients undergoing RAC were less likely to be converted to open surgery (3.83% vs. 6.99%, $P<0.01$). The median number of lymph nodes retrieved was similar between the two groups (RAS 24±11 vs. LAP 23±10) with similar rates of adequate nodal harvest ≥ 12 (RAS 96.16% vs. LAP 96.16%). Overall 30-day complications were similar between the two groups. RAC patients had a shorter length of hospitalization (4.4 days vs. 4.9 days, $P<0.05$).

Conclusion: In this case matched analysis of patients undergoing colectomy for right sided colon cancer, the robotic approach was equivalent to conventional laparoscopy in terms of nodal harvest and short-term outcomes. While RAC cases had significantly longer operative times than LC, they were associated with a lower rate of conversion to open surgery. ■

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