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대장 수술 후 장폐색과 급성 신부전의 관계

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Postoperative Ileus is an Important Risk Factor of Acute Kidney Injury in Patients Undergoing Colorectal Surgery

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Background: Recently, emerging evidence suggest a presence of gut-kidney crosstalk. Despite major advance in surgical techniques from open surgery to robot assisted surgery, acute kidney injury (AKI) is still major postoperative complication in colorectal surgery. The purpose of this study is to compare the incidence of postoperative AKI according to different surgical techniques and also the risk factors, outcome of AKI in patients undergoing colorectal surgery.

Methods: This is a single center, retrospective study. A total of 299 patients who received colectomy due to colorectal cancer from 2010 to 2012 were enrolled and their clinical data were reviewed.

Results: The mean age was 62±12 years and male was 64.2%. Preoperative creatinine was 0.93±0.20 mg/dL. Stage I, II and III cancer were found in 63%, 6%, and 31% respectively. Open surgery was performed in 9% and laparoscopic assisted surgery or robot assisted surgery were performed in 54.8% or 36.1% of patients. AKI developed in 16 patients (5.4%), and 3 (25%) of them received acute hemodialysis. Postoperative ileus developed in 58 patients (29%). Incidence of AKI was not different according to surgical techniques. However, the presence of diabetes, hypertension, chronic kidney disease (CKD), intraoperative shock, postoperative ileus and postoperative infection were associated with the development of AKI. Interestingly, postoperative ileus was found to be the only independent risk factor of AKI in multivariate analysis (odds ratio : 10.79, p=0.003). In addition, AKI patients showed significantly longer hospital stay and higher mortality than non AKI patients.

Conclusion: Despite advances in surgical techniques, paralytic ileus is a common manifestation after colorectal surgery and it showed strong association with the development of AKI. These results can suggest that enhanced bacterial translocation or increased intraabdominal pressure possibly resulting from postoperative ileus might be partially responsible for the development of postoperative AKI following colectomy. More careful attention should be paid on the development of posoperative ileus or AKI in patients who undergo colectomy regardless of surgical techniques.

Key Words: 수술 후 장폐색, 급성신부전, 대장수술
Postoperative ileus, AKI, Colorectal surgery