

## Comparison of robotic and laparoscopic gastrectomy with surgical site infection

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**Background:** Robotic surgery is an advanced minimally invasive technique, which has been applied in many surgical fields. However, there were few reports about surgical site infection (SSI) after robotic surgery, especially in gastric cancer. Therefore, we investigated the comparison of robotic and laparoscopic gastrectomy with SSI in patients with advanced gastric cancer (AGC). **Methods:** A retrospective cohort study was conducted on patients with AGC undergoing robotic gastrectomy or laparoscopic gastrectomy between January 2015 and December 2015 at a 2400-bed tertiary hospital in South Korea. SSI was defined according to NHSN criteria. **Results:** Total 618 patients were included. Of them, 382 (61.8%) patients underwent laparoscopic gastrectomy, 236 (38.2%) patients underwent robotic gastrectomy. Median age was 58.4 years old, 37.8% were women. ASA class was lower than 3 in 79.5% of patients. The overall rate of SSI was 3.8% . The rate of SSI was not significantly different between laparoscopic and robotic gastrectomy (3.4% vs. 4.2%,  $p=0.595$ ). Overall mortality rate was not significantly different between two groups (0.3% vs. 0.4%,  $p=0.999$ ). **Conclusions:** In our study, the SSI rate in patients with AGC was not significantly different for robotic gastrectomy, compared with laparoscopic gastrectomy.

		Characteristics		p value	Total
		Lapa (n = 382)	Robotic (n = 236)		
Gender, F/M		35.6% (136) / 64.4% (246)	41.5% (98) / 58.5% (138)	0.140	
Age	Age < 60	50% (191)	72% (170)	<0.001	
	Age > = 60	50% (191)	28% (66)		
ASA	ASA (0,1,2)	77.5% (296)	81.4% (192)	0.252	
	ASA (3,4)	22.5% (86)	18.6% (44)		
HTN		33.8% (129)	25.4% (60)	0.029	
DM		13.1% (50)	11.9% (28)	0.656	
ICH		0.5% (2)	1.3% (3)	0.375	
CVA		3.7% (14)	2.5% (6)	0.444	
CHF		2.4% (9)	1.3% (3)	0.55	
CAOD		4.7% (18)	2.5% (6)	0.175	
CKD		4.7% (18)	5.1% (12)	0.834	
BMI	BMI < 25	66.2% (253)	71.2% (168)	0.199	
	BMI > = 25	33.8% (129)	28.8% (68)		
Smoking		53.9% (206)	50.4% (119/236)	0.397	
SSI		Lapa (n = 382) 3.4% (13/382)	Robotic (n = 236) 4.2% (10/236)	0.595	3.7% (23/618)
Death		0.3% (1/382)	0.4% (1/236)	0.999	0.3% (2/618)
50일 내 재입원		3.7% (14/382)	2.5% (6/236)	0.444	

## Risk factors of bacteremia by ESBL(+) E.coli or K.pneumoniae in need of complete assist by caregiver

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**Background:** Escherichia coli or Klebsiella pneumonia are most common and important pathogen among extended-spectrum beta-lactamase (ESBL)-producing bacteria. Patients with decreased physical activity are vulnerable to infections by multi-drug resistant bacteria due to frequent stay in hospital or long-term care facility. Therefore, predicting risks of ESBL-producing bacteria infection will be useful for deciding proper empirical antimicrobial agents. **Method:** 176 patients in need of complete assist by caregiver with E. coli or K. pneumonia bacteremia between 2010 and were retrospectively enrolled. Various clinical factors were collected in electric medical records. **Results:** 76 (43.2%) had ESBL-producing E. coli or K. pneumonia bacteremia. The rate of male in ESBL-producing group was higher than ESBL non-producing group (59.5 % vs. 39.2%,  $p=0.010$ ). The charlson index and main causative disease leading to complete assist were not different between two groups. The percentage of healthcare-associated bacteremia was higher in ESBL-producing group (57.0% vs. 39.2%,  $p=0.023$ ). The majority of origin of bacteremia was urinary tract in both groups without any significant discrepancy in rate. The ESBL-producing group had lower rate of intra-abdominal infection (6.3 % vs. 18.6%,  $p=0.023$ ). We did not find any significant difference for severity of bacteremia assessed by APACHE II and quick SOFA score as well as treatment methods like low-dose steroid or high-dose immunoglobulin. The percentage of patients with chronically indwelling catheters, especially feeding tube (7.6 % vs. 0%,  $p=0.007$ ), in ESBL-producing group was the significantly higher (54.4% vs. 30.9%,  $p=0.002$ ). In multivariate regression models, we found that previous isolation of ESBL-producing E. coli or K. pneumonia within one year was independent risk factor associated with occurrence of ESBL-producing bacteremia (OR, 35.3; 95% CI, 3.7-34.5;  $p=0.002$ ). **Conclusion:** When E. coli or K. pneumonia bacteremia is identified in patient in need of complete assist, physicians may carefully consider early use of carbapenem if patients had previously ESBL-producing E. coli or K. pneumonia in any samples.