Risk factors for anastomotic leakage after colorectal resection in ovarian cancer surgery: A multi-centre study

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Objective:

To determine pre-/intraoperative risk factors for anastomotic leak after modified posterior pelvic exenteration (MPE) or colorectal resection in ovarian cancer and to create a practical instrument for predicting anastomotic leak risk.

Background:

In advanced ovarian cancer surgery, there is rather limited published evidence, drawn from a small sample, providing information about risk factors for anastomotic leak.

Methods:

Eight hospitals participated in this retrospective study. Data on 695 patients operated for ovarian cancer with primary anastomosis were included (January 2010–June 2018). Twelve pre-/intraoperative variables were analysed as potential independent risk factors for anastomotic leak. A predictivemodel was created to stablish the risk of anastomotic leak for a given patient.

Results:

The anastomotic leak rate was 6.6% (46/695; range 1.7%–12.5%). A total of 457 patientswere included in the final multivariate analysis (Figure 1). The following variables were found to be independently associated with anastomotic leakage (table 1): age at surgery (OR 1.046, 95% CI 1.013–1.080, p=0.005), serumalbumin level (OR 0.621, 95% CI 0.407–0.948, p = 0.027), one or more additional small bowel resections (OR 3.544, 95% CI 1.228–10.23, p = 0.019), manual anastomosis (OR 8.356, 95% CI 1.777–39.301, p = 0.007) and distance of the anastomosis from the anal verge (OR 0.839, 95% CI 0.726–0.971, p=0.018).

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Table 1. Multivariable logistic regression model				
C-Index 0.73 Validated C-Index 0.64	Estimate	OR	CII 95%	P-value
(Intercept)	-6.563	0.001	[0,1.091]	0.053
Age at diagnosis	0.045	1.046	[1.013,1.080]	0.005
BMI	-0.002	0.998	[0.930,1.071]	0.95
Diabetes	-0.050	0.951	[0.263,3.443]	0.94
Neoadjuvant chemotherapy	-0.632	0.532	[0.235,1.204]	0.13
Albumin serum level	-0.476	0.621	[0.407,0.948]	0.027
Additional bowel resection – No		1	-	
Large bowel	-0.294	0.745	[0.303,1.832]	0.52
Large and Small bowel	0.379	1.461	[0.469,4.553]	0.51
Small bowel (≥1)	1.265	3.544	[1.228,10.23]	0.019
Operating time log	0.827	2.288	[0.844,6.20]	0.10
Type of anastomosis – Stapled anastomosis + reinforcing suture		1	-	
Hand sewn	2.123	8.356	[1.777,39.301]	0.007
Stapled	0.691	1.996	[0.841,4.740]	0.12
Stomies - No		1	-	
Ghost ileostomy	-1.275	0.279	[0.060,1.298]	0.10
Ileostomy	-0.059	0.943	[0.413,2.153]	0.89
Use of HIPEC	-0.095	0.909	[0.322,2.565]	0.86
Distance anastomosis anal verge	-0.175	0.839	[0.726,0.971]	0.018
IOP transfusion (additional Red blood unit)	-0.141	0.868	[0.697,1.081]	0.21

Open App available at:

<https://oaa.app.link/LrSzCkpZoT>

Conclusions

Due to the low incidence of AL in ovarian cancer patients, a **restrictive stoma policy based on the presence of risk factors** should be the actual recommendation.
Hand-sewn anastomosis should be avoided.