Predictive factors of postoperative complications after cytoreductive surgery for ovarian cancer

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BACKGROUND/AIM

Ovarian cancer is the leading cause of death from gynecological cancer for women. The standard treatment consists of an extensive cytoreductive surgery followed with adjuvant chemotherapy. This study aims to identify the common postoperative complications as well as to define predictive factors of their

METHODS

This prospective study was conducted at Hôtel-Dieu University Hospital in Lebanon between October 2017 and October 2018. All patients older than 18-year-old who underwent cytoreductive surgery for ovarian cancer were followed up from the postoperative admission in the intensive care unit till discharge from hospital or at least for 30 days. Correlations between perioperative characteristics and complications were searched and analyzed.

RESULTS

- 40 patients were included. The mean age was 55 years old. The mean surgical complexity score was 5.
- Major complications have occurred in 32% of cases. They were associated with neoadjuvant chemotherapy ($p = 0.009$), elevated surgical complexity ($p = 0.037$), need for intraoperative transfusion and stay at intensive care unit more than 48 hours ($p = 0.05$).
- Complications were infectious, hemodynamic, pulmonary, digestive and surgical.
- Need for parenteral nutrition was significantly correlated with longer operative time and neoadjuvant chemotherapy. No correlation was found between occurrence of complications and the following parameters: age, stage, APACHE II score, Charlson Comorbidity index and preoperative albuminemia.

Complications	Independent variables	P-value	OR + confidence interval
Severe Complications	High surgical complexity	0.037	4.6 (1.10-19.20)
	Neoadjuvant chemotherapy	0.009	7 (1.59-30.60)
	Intraoperative blood transfusion	0.025	-
	Stay in ICU > 48 hrs	0.05	-
Transfusion of Packed RBCs in ICU	Neoadjuvant Chemotherapy	0.015	7 (1.30-37.70)
	Intraoperative transfusion	0.05	4.125 (1.01-18.52)
Need for parenteral nutrition	Neoadjuvant chemotehrapy	0.011	13.8 (1.46-130.07)
	Operative duration	0.001	-
Re-admission	High surgical complexity	0.037	4.6 (1.038-20.38)
	Need for intraop. platelets transfusion	0.015	16 (1.53-166.53)
	Intubated during transfer to ICU	0.038	-
Need for vasopressors	Neodajuvant chemotherapy	0.05	-
	Need for intraoperative platelets transfusion	0.036	22.667 (1.56-328.94)
Hemodynamic complications	Stade III-IV	0.019	9.5 (3.76-24.00)
Infectious complications	Platelets transfusion (intraoperatively)	0.049	1.313 (1.03-1.66)
	Packed RBCs transfusion	0.017	6.909 (1.23-38.51)
	Intubated during transfer to ICU	0.049	1.313 (1.03-1.66)
Pneumonia	High surgical complexity	0.022	-
	Platelets transfusion (intraoperatively)	0.036	22.667 (1.56-328.94)
Urinary infection	High surgical complexity	0.05	6.5 (1.99-42.31)
Acute renal insufficiency	Neoadjuvant chemotherapy	0.007	-
	Complexité chirurgicale élevée aux	0.022	13.5 (1.31-138.61)
	high surgical complexity	0.009	24.75 (2.50-244.09)
Nausea/vomiting	Platelets transfusion (intraoperatively)	0.015	5.867 (1.30-26.32)
	Preoperative ascites	0.043	4.2 (1.00-17.57)

Table 1. significant correlations

CONCLUSION

Cancer stage, neoadjuvant chemotherapy, high surgical complexity, need for transfusions, delayed extubation and stay at intensive care unit more than 48 hours were predictive factors of higher postoperative morbidity in patients receiving cytoreductive surgery for ovarian cancer.