The prognostic evaluation of lymph-vascular space invasion to patients with endometrioid cancer and non-endometrioid cancer

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Background

• The impact of lymph-vascular space invasion (LVSI) on the prognosis of endometrial cancer (EC) patients remains controversial and lacks support from large sample size studies. Very few have examined whether LVSI is related to prognosis of non-endometrioid cancer patients.

• We conduct a multicenter cohort study to compare the impact of LVSI on the prognosis between patients with endometrioid and non-endometrioid cancer.

Methods

• This is a retrospective cohort study from six hospitals in China.

• Key inclusion criteria:
  1) Propensity score matching (PSM) algorithm
  2) Univariate and multivariate Cox proportional hazards regression analysis
  3) Kaplan-Meier analysis

Results

• This study included 3358 endometrioid and 357 non-endometrioid cancer patients. The LVSI positive rate was 8.55% (287/3358) in the endometrioid cancer patients and 16.53% (59/357) in the non-endometrioid cancer patients.

• In a multivariate Cox proportional hazards regression analysis, LVSI was an independent risk factor of DFS (hazard ratio [HR], 2.62 [95% CI, 1.35-5.10]; P=0.005) and not OS (HR, 1.24 [95% CI, 0.43-3.13]; P=0.66) for endometrioid cancer patients. LVSI was not a prognostic factor of neither DFS (HR, 1.28 [95% CI, 0.58-2.81]; P=0.54) or OS (HR, 1.33 [95% CI, 0.55-3.13]; P=0.52) for non-endometrioid cancer patients.

Conclusion

• LVSI is an adverse prognostic factor for patients with endometrioid cancer, but not for patients with non-endometrioid cancer. For patients with positive LVSI, further postoperative treatment should be considered for endometrioid cancer patients, while the necessity of adjuvant therapy needs to be carefully evaluated for non-endometrioid cancer patients.

Table 1. Characteristics of patients in the before and after PSM cohorts

Table 2. Multivariate Cox proportional hazards regression analysis for DFS and OS in the after PSM cohort

Abbreviations: PSM, propensity score matching; LVSI, lymph-vascular space invasion; BMI, body mass index; GA-125, cancer antigen 125; FIGO, International Federation of Gynecology and Obstetrics; TH, total hysterectomy; BSO, bilateral salpingo-oophorectomy; G, histopathologic grades; DFS, disease-free survival; OS, overall survival; HR, hazard ratio; CI, confidence interval. Empty cells: no statistical difference.

Funding: This study was supported by the Taishan Scholar Youth Project of Shandong Province and Research Leader Studio of Jinan (tsq201812130 and 2019GXR049).

Conflict of interests: None

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Kaplan-Meier curves for the before (A/B) and after (C/D) PSM cohorts

While, for patients with non-endometrioid cancer, there was no statistical difference in neither DFS (C) or OS (D) after PSM.

Survival of patients with endometrioid cancer

Survival of patients with non-endometrioid cancer

Final publication Number: 552P