Methods We retrospectively reviewed medical records of patients who received splenectomy as part of cytoreductive surgery in advanced ovarian cancer from 2007–2022. Patients were divided into the parenchymal invasion group and capsular/hilar invasion group. Clinical characteristics including histologic invasion patterns and survival outcomes were analyzed.

Results A total of 100 ovarian cancer patients received splenectomy; 55(55%), 40(40%) and 5(5%) cases were performed during primary debulking surgery, interval debulking surgery and at the time of disease recurrence respectively. The median age was 54.5 yrs, and all patients had FIGO stage IIIC-IV disease. 27(27%) patients had parenchymal invasions and all the lesions were accompanied by capsular or hilar metastasis without solitary parenchymal invasion. Among the patients with primary disease(n=95), 42(44.2%) patients had stage IV disease including 17(17.8%) patients with splenic parenchymal metastasis. There was no difference in residual disease (p=0.392), progression-free survival (p=0.339) and overall survival(p=0.841) between the patients with parenchymal invasion and capsular/hilar metastasis.

Conclusions Although splenic parenchymal metastasis reflected widespread tumor dissemination, all the lesions were followed by hilar or capsular involvement and surgically treatable disease. The prognosis of splenic parenchymal metastasis was not inferior to the capsule or hilar invasion, therefore, it needs to be considered as FIGO stage IIIC disease.