Background Colorectal cancer with ovarian metastasis (CRC-OM) is a relatively rare disease and has been associated with poor prognosis. Due to the rarity of these cases, there are few reports that describe this disease. This was a study aimed at assessing the clinicopathological characteristics of colorectal cancer patients with ovarian metastasis and determining prognostic indicators and optimal management of CRC-OM.

Methods A retrospective medical record review of all female patients with CRC-OM from the year 2004 to the year 2017 from our medical center Sun Yat-Sen University Cancer Center was carried out.

Results In total 242 cases of colorectal cancer with ovarian metastases were reviewed. All the patients were female and aged between 16 to 74 years old (mean age was 45 years old). The most common primary location of colorectal cancer was from the sigmoid colon (29.3%), and the most common histopathologic type was mildly differentiated adenocarcinoma. 142 (58.6%) patients had synchronous ovarian metastases at the time of diagnosis. Metastectomy of ovarian metastasis was carried out in 194 (80.1%) patients. Optimal cytoreductive surgery was achieved in 122 patients, whereas 72 patients underwent sub-optimal cytoreductive surgery (R2), optimal cytoreductive surgery was associated with a significantly better 5-year overall survival (51.6% vs 13.7%, P<0.01). Metastectomy (hazard ratio (HR) 0.03; 95% confidence interval (CI) 0.222–0.008), diffuse peritoneal dissemination (HR 1.92, CI 0.265–0.648) and multiple chemotherapy regimens (HR 0.49, CI 0.301–0.82) were independent prognostic indicators of overall survival.

Conclusions Optimal cytoreductive surgery was associated with survival benefits in patients with colorectal cancer with ovarian metastasis. Metastectomy, diffuse peritoneal dissemination and multiple chemotherapy regimens were independent prognostic indicators of overall survival.