This study is the first meta-analysis to compare DCF (docetaxel, cisplatin, and 5-fluorouracil) and ECF (epirubicin, cisplatin, and 5-fluorouracil) regimens for advanced gastric cancer. The results showed that PFS, OS and total AEs between the DCF and ECF groups were comparable. The DCF group was significantly better in terms of ORR and DCR than the ECF group. However, the incidence rate of grade 3-4 AEs was also greater in the DCF group than that in the ECF group, especially for neutropenia and febrile neutropenia. Therefore, DCF regimen seems to be more suitable for advanced gastric cancer than the ECF regimen.