

A systematic review and meta-analysis of single incision vs multi-port laparoscopic complete mesocolic excision (CME) colectomy for colon cancer

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Introduction

Increasing evidence suggest that CME may improve overall and disease free survival in colon cancer. Our aims were to investigate the safety and efficacy of single incision laparoscopic CME colectomy (SILCC) compared to multiport CME laparoscopic colectomy (MPCLC) providing the first meta-analytical evidence

Method

Pubmed, Scopus and the Cochrane library were searched. Studies comparing the SILCC to MPCLC in adults with colon adenocarcinoma were included. The studies were critically appraised using the Newcastle Ottawa Scale. Statistical heterogeneity was assessed with X^2 and I^2 . The symmetry of the funnel plots were examined for publication bias.

Figure 1. Lymph node harvest

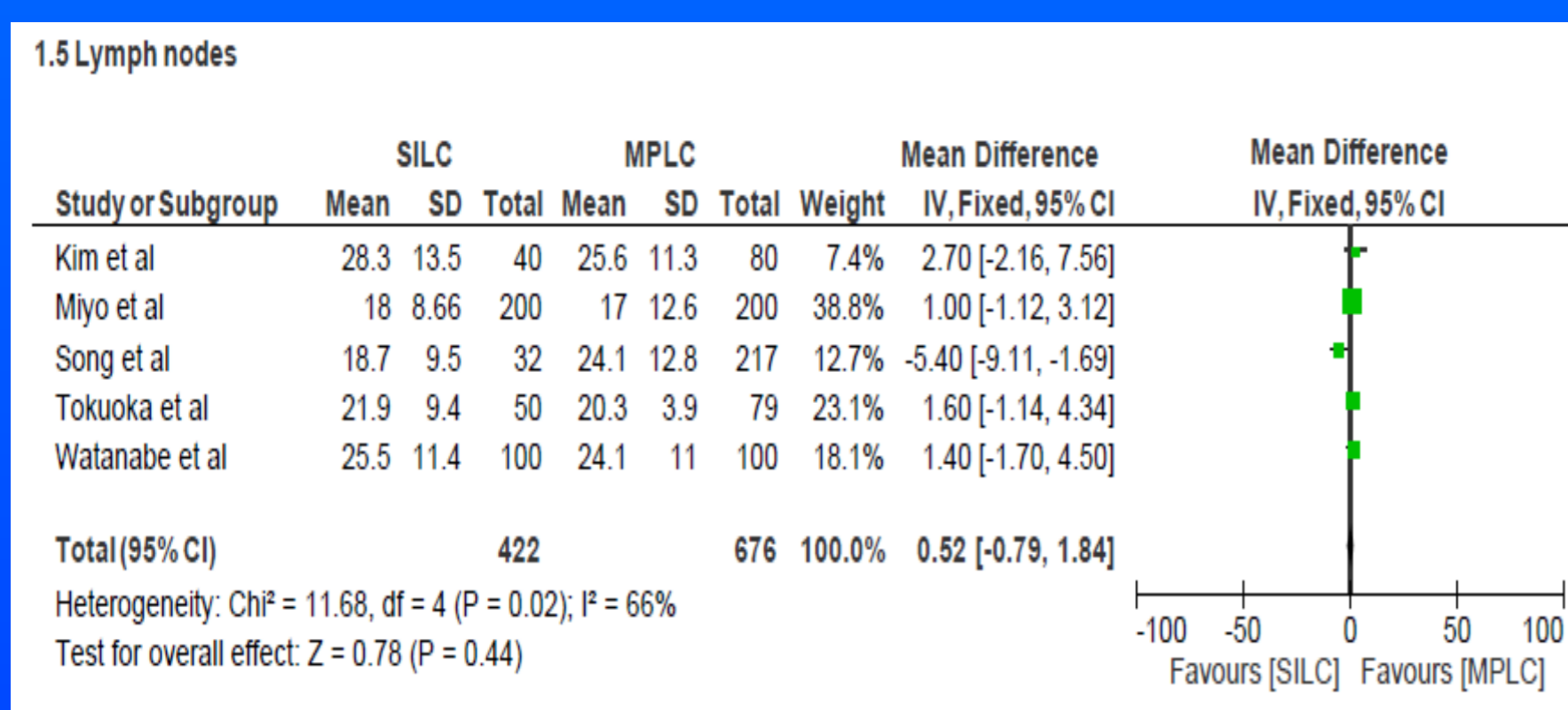
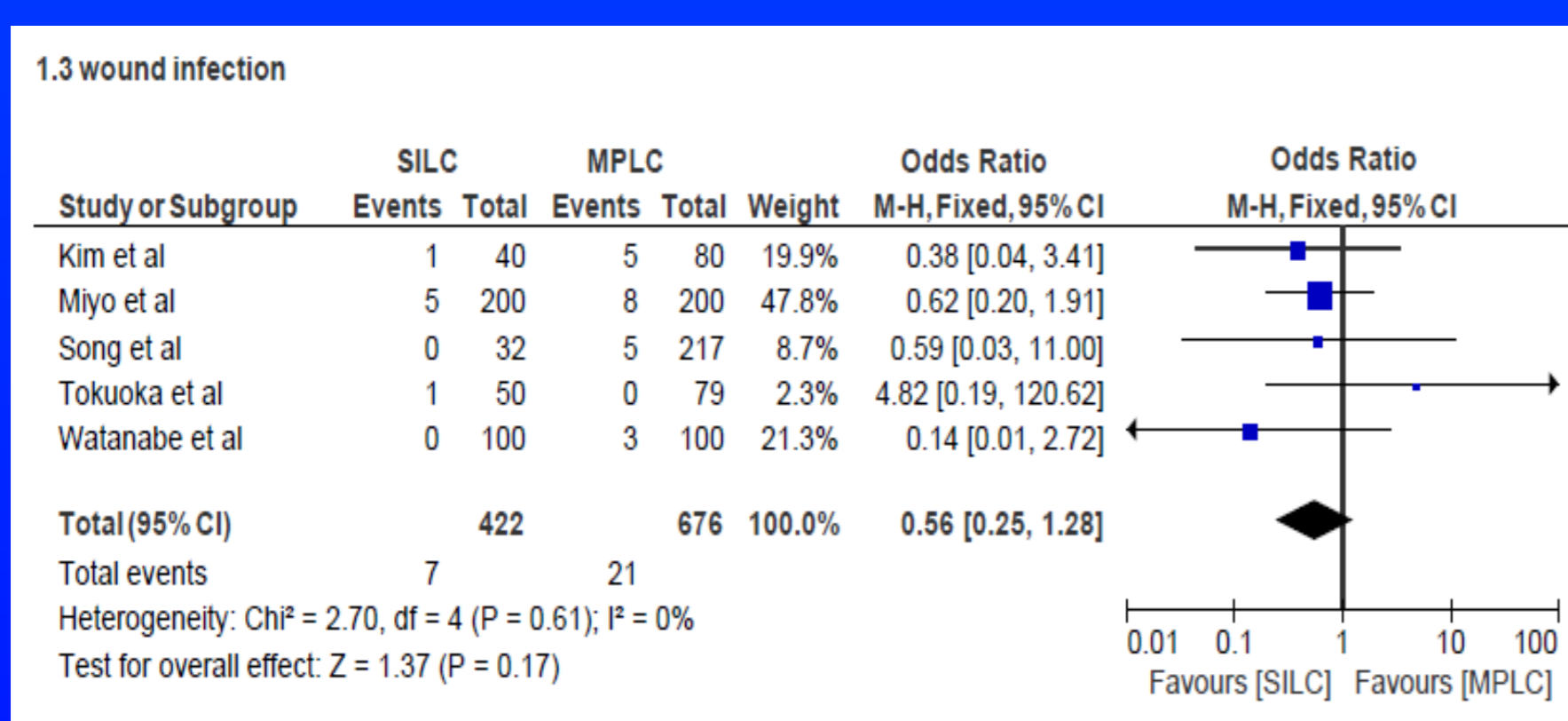


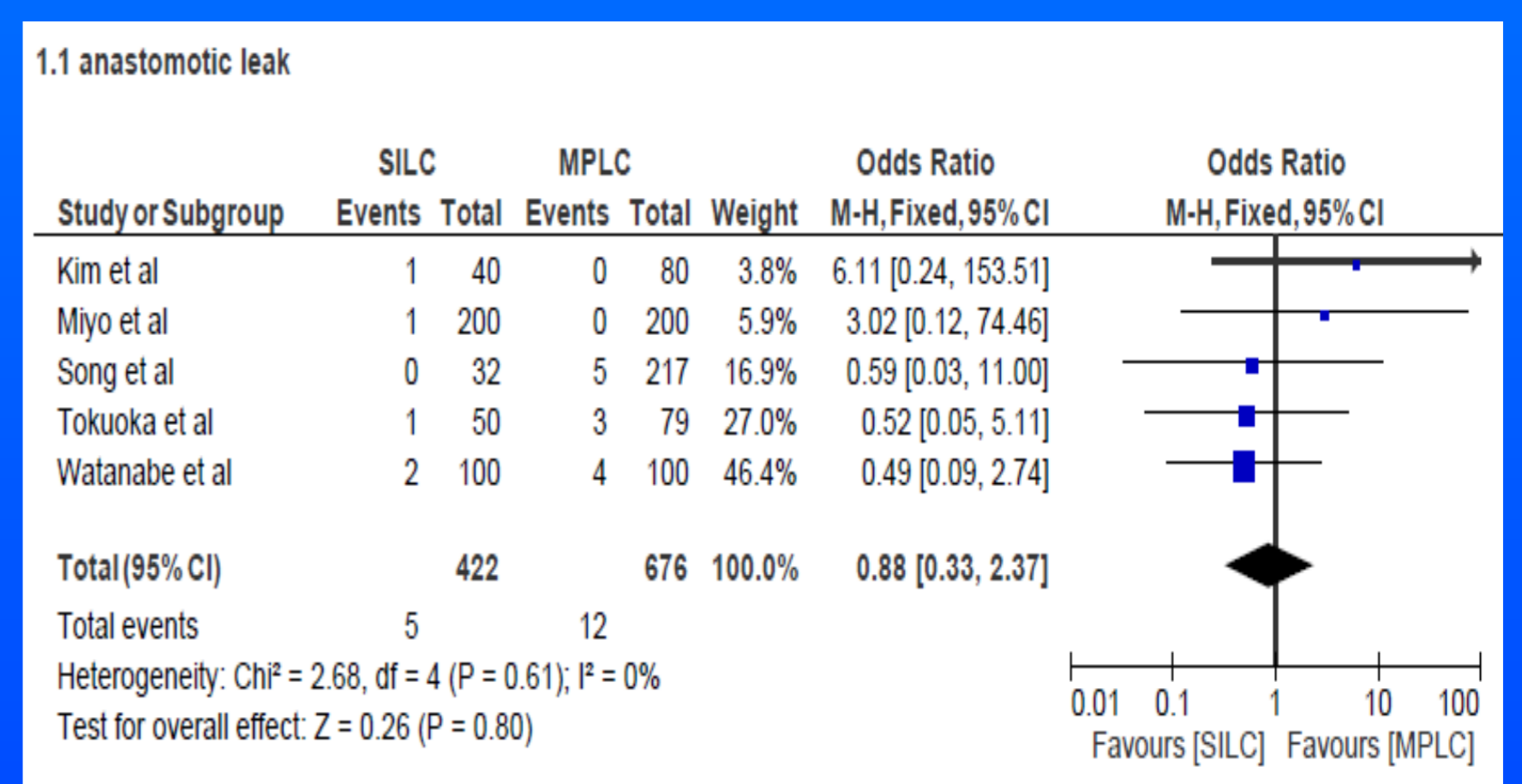
Figure 2. Surgical Site Infection



Results

One randomized and four case control trials were included (540 SILCC Vs 609 SL). No difference was found in anastomotic leakage [OR: 0.88 (0.33, 2.37); $P=0.80$], post-operative ileus [OR=0.84 (0.38, 1.86); $P=0.67$], surgical site infection [OR=0.56 (0.25, 1.28); $P=0.17$], number of retrieved lymph nodes [Weighted mean difference (WMD)= 0.52 (-0.79, 1.84), $P=0.44$], length of hospital stay [WMD= -0.05 (-0.25, 0.15); $p=0.64$] and pulmonary complications [OR= 2.05 (0.28, 15.20); $P=0.48$]. Operative time was significantly longer in the MPCLC [WMD= -14.01 (-19.94, -8.09); $P=0.001$] but with a moderate to high level of heterogeneity $i^2= 61\%$.

Figure 3. Anastomotic Leak



Conclusion

The increased technical requirements of the SILCC don't seem to increase morbidity or mortality. The equal number of lymph nodes in the two groups suggest that the extent of the dissection in the single incision group was not compromised.