Early Oral Feeding after Oesophagectomy: A Systematic Review & Meta-Analysis of Randomised Controlled Trials

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Background

Oesophagectomy remains an important cornerstone in the management of oesophageal cancer. Timing of initiation of oral feeding after oesophagectomy remains an area of controversy on account of fears regarding anastomosis leak and aspiration.

Methods

- PubMed, Embase and Cochrane Library Databases were searched to identify randomised controlled trials comparing early oral feeding and delayed oral feeding.
- All relevant trials until March 2025 were included.
- Outcomes of interest included type of oesophagectomy, type of anastomosis, intervention protocols, incidence of anastomotic leak, type of supplemental nutrition, incidence of chyle leak, incidence of pneumonia, 30-day mortality, length of hospital stay, readmission rate, time to first bowel movement and health-related quality of life (HRQoL) determined post-operatively at 4 weeks.

Results

- A total of 5 trials with 663 patients were included in the analysis.

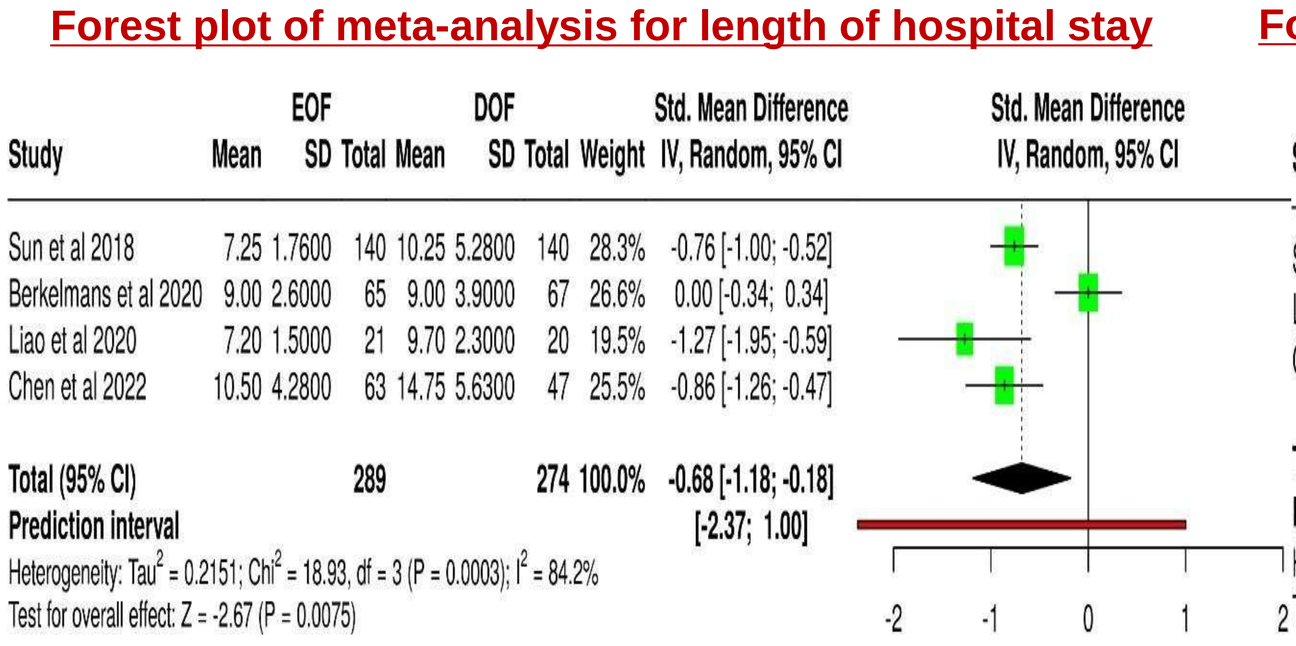
Baseline Characteristics of Patients included in analysed Studies

Study	Age (Years)	BMI (Kg/m^2)
Sun	EOF 63.00 ± 7.49 DOF 63.33 ± 8.24	EOF 23.60 ± 3 DOF 23.60 ± 3.15
Berkelmans	EOF 64.70 ± 8.34 DOF 65.30 ± 6.8	EOF 25.90 ± 4.60 DOF 26.30 ± 3.40
Liao	EOF 57.00 ± 8.20 DOF 58.00 ± 9.80	EOF 21.76 ± 1.23 DOF 21.03 ± 1.23
Yang	EOF 60.62 ± 6.74 DOF 60.28 ± 6.61	EOF 22.42 ± 1.30 DOF 21.97 ± 1.25
Chen	EOF 62.67 ± 6.83 DOF 64.00 ± 7.65	EOF 22.63 ± 2.88 DOF 23.47 ± 4.51

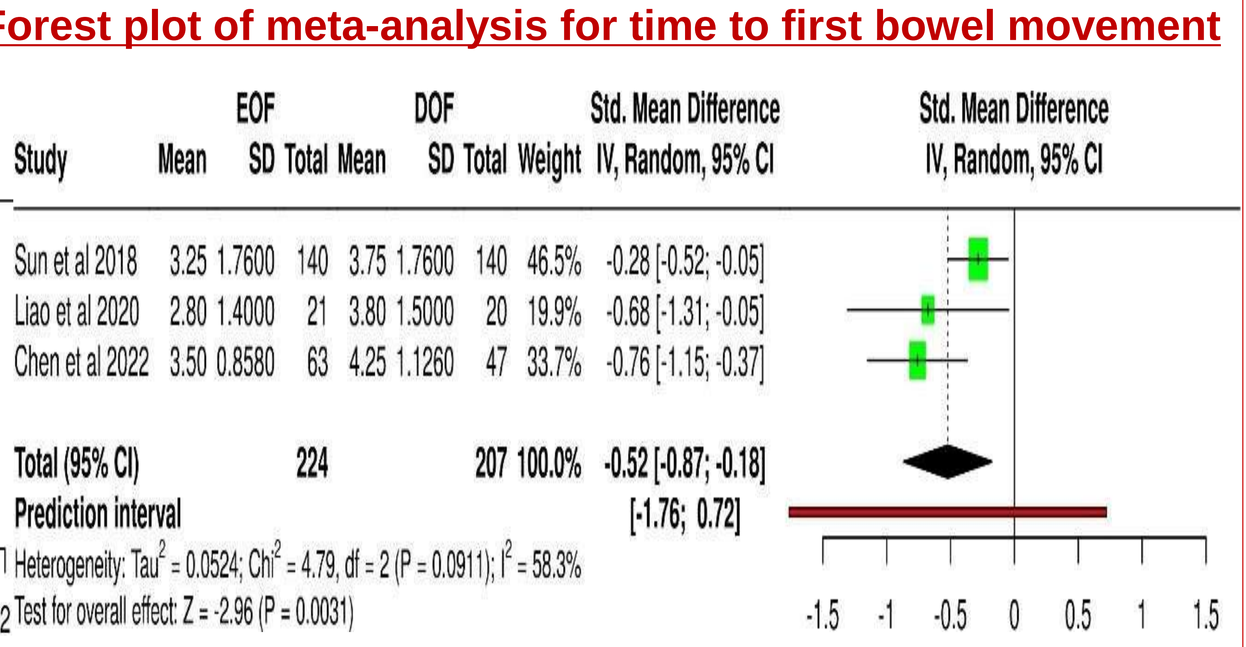
Post-operative complications, length of hospital stay, 30-day mortality and readmission rate

Study	Anastomosis Leak	Pneumonia	Chyle Leak	30-Day Mortality	Re-admission Rate
Sun	EOF 5/140 DOF 6/140	EOF 15/140 DOF 17/140	EOF 1/140 DOF 0/140	EOF 0/140 DOF 0/140	EOF 2/140 DOF 1/140
Berkelmans	EOF 12/65 DOF 11/67	EOF 16/65 DOF 23/67	EOF 1/65 DOF 7/67	EOF NR DOF NR	EOF 9/65 DOF 11/67
Liao	EOF 0/21 DOF 0/20	EOF 1/21 DOF 2/20	EOF 0/21 DOF 0/20	EOF 0/21 DOF 0/20	EOF NR DOF NR
Yang	EOF 0/50 DOF 1/50	EOF 3/50 DOF 1/50	EOF NR DOF NR	EOF NR DOF NR	EOF NR DOF NR
Chen	EOF NR DOF NR	EOF NR DOF NR	EOF NR DOF NR	EOF NR DOF NR	EOF NR DOF NR

Forest plot of meta-analysis for length of hospital stay



Forest plot of meta-analysis for time to first bowel movement



- **No statistically significant difference** was found in terms of **anastomosis leak** (RR 0.99 [95% CI, 0.53-1.83]; I^2 0%)
- **No statistically significant difference** was found in terms of **pneumonia** (RR 0.80 [95% CI, 0.54-1.20]; I^2 0%)
- **No statistically significant difference** was found in terms of **chyle leak** (RR 0.51 [95% CI, 0.03-9.46]; I^2 58.6%)
- Across the domains of health-related quality of life, a **statistically significant difference** was noted in favour of early oral feeding for **saliva swallowing** (MD, −0.21 [95% CI, -0.41 to −0.01]; *P* =0.044) and **global health condition** (MD, 0.72 [95% CI, 0.43 to 1.02]; *P* =0.0001).

Conclusion

- Early oral feeding after oesophagectomy can be safely commenced without concerns for post-operative complications like anastomosis leak.
- Further high-quality trials with standardised intervention and definitions of post-operative complications are needed to address the existing shortcomings in the literature

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