

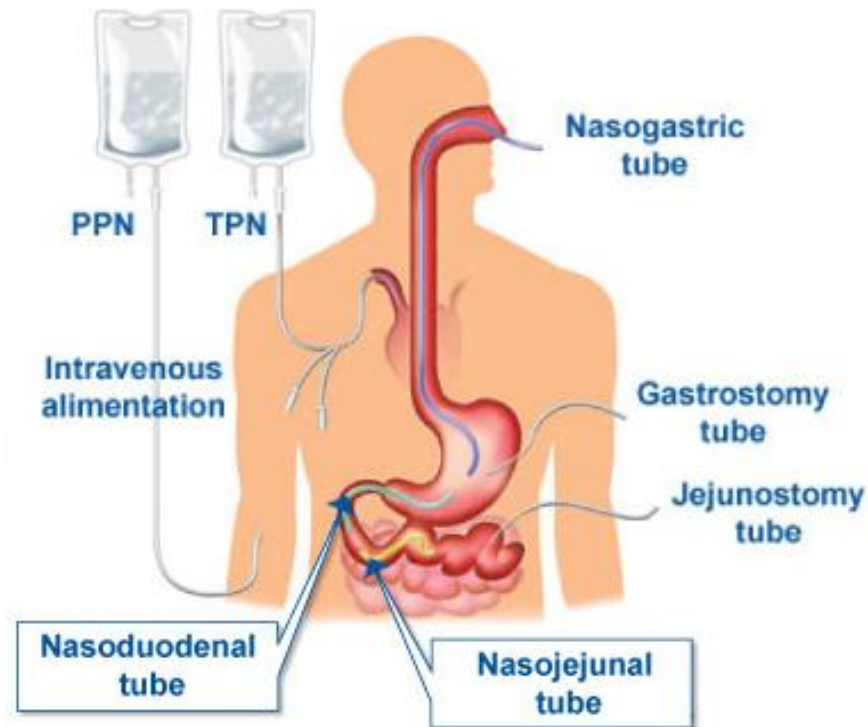


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Journal Club
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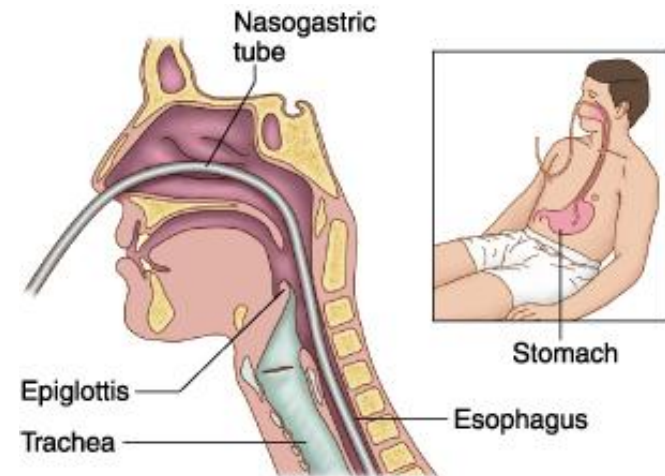
臨床問題(案例)

- 王先生因胃癌接受胃部切除手術，手術前採TPN營養補給，手術後需禁食5-7日，並採NG Decompression...



前言

- 胃癌病人手術後普遍使用鼻胃管減壓引流與鼻腸管引流
 - Decrease postoperative ileus, nausea, vomiting, gastric distension, wound and respiratory complications, anastomotic leaks, leakage from the duodenal stump.



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REVIEW ARTICLE

Is Nasogastric or Nasojejunal Decompression Necessary Following Gastrectomy for Gastric Cancer? A Systematic Review and Meta-Analysis of Randomised Controlled Trials

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Hao Liu • Guoxin Li

Abbreviated Journal Title (linked to journal information)	ISSN	JCR Data ⁱ						Eigenfactor [®] Metrics ⁱ	
		Total Cites	Impact Factor	5-Year Impact Factor	Immediacy Index	Articles	Cited Half-life	Eigenfactor [®] Score	Article Influence [®] Score
J GASTROINTEST SURG	1091-255X	7872	2.391	2.814	0.571	287	5.4	0.02457	0.935

步驟1:系統性文獻回顧探討的問題為何?

- 研究族群/問題(population/problem)
 - after gastrectomy
 - gastric cancer
- 介入措施(Intervention)
 - non Nasogastric or Nasojejunal Decompression
- 比較(Comparison)
 - routine Nasogastric or Nasojejunal Decompression
- 結果(Outcomes)
 - time to first flatus
 - time to starting oral diet
 - anastomotic leakage
 - pulmonary complications
 - wound dehiscence
 - length of hospital stay
 - morbidity and mortality



步驟2:系統性文獻回顧的品質如何? (FAITH)

F-研究是否找到所有的相關證據?

是

搜尋5個資料庫

surgery has not been established to date. Given the amount of recently accumulated data, an updated systematic review and meta-analysis of RCTs is now appropriate to determine whether ND is necessary after gastrectomy for gastric cancer.

Materials and Methods

Search Strategy

PubMed, Embase, Cochrane Library, Web of Science, and BIOSIS Previews were searched for literature published prior

to January 2014 that compared the outcomes following gastrectomy for gastric cancer between patients who had postoperative ND and those who did not. The following terms and their combinations were used: nasogastric decompression, nasojejunal decompression, nasogastric tube insertion, gastrectomy, and gastric cancer surgery. The summary, methods, and references of the retrieved articles were browsed to broaden the search range manually. There was no language restriction. Two investigators (D W and TT L) independently reviewed the titles and abstracts, and assessed the full texts to establish the eligibility of the studies for inclusion in our meta-analysis, thereby identifying all relevant RCTs.

關鍵詞：

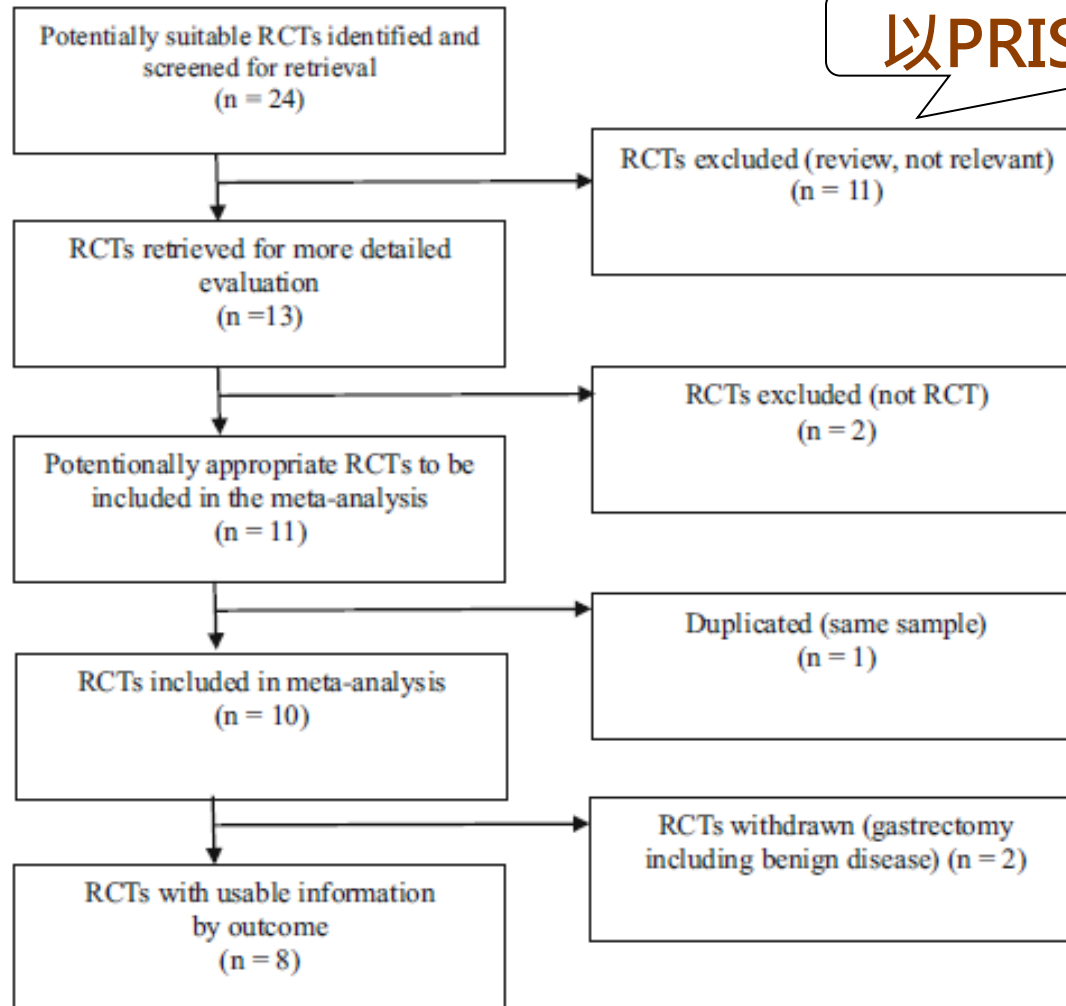
nasogastric decompression, nasojejunal decompression, nasogastric tube insertion, gastrectomy, and gastric cancer surgery



步驟2:系統性文獻回顧的品質如何? (FAITH)

F-研究是否找到所有的相關證據?

以PRISMA流程圖呈現



步驟2:系統性文獻回顧的品質如何? (FAITH)

A- 文獻是否經過嚴格評讀(Appraisal)

使用Cochrane risk of bias
進行文獻評讀

是

Fig. 2 Risk of bias summary:
Judgments about each risk of bias
item for each included RCT

Six domains :

- 1)sequence generation,
- 2)allocation concealment,
- 3)blinding,
- 4)incomplete outcome data,
- 5)selective outcome reporting
- 6)other sources of bias.

Yoo et al,2002	Wu et al,1992	Tavassoli et al,2010	Li et al,2011	Lee et al,2002	Hsu et al,2007	Fabio et al,2013	Doglietto et al,2004	
+	+	?	+	+	+	+	+	Random sequence generation (selection bias)
?	?	?	?	?	?	?	?	Allocation concealment (selection bias)
?	?	?	?	?	?	?	?	Blinding of participants and personnel (performance bias)
?	?	?	?	?	?	+	+	Blinding of outcome assessment (detection bias)
+	+	+	+	+	+	+	+	Incomplete outcome data (attrition bias)
+	+	+	+	+	+	+	+	Selective reporting (reporting bias)
+	+	+	+	+	+	+	+	Other bias



步驟2:系統性文獻回顧的品質如何?(FAITH)

I- 是否只納入(included)具有良好效度的文章?

Inclusion and Exclusion Criteria with Quality Assessment of the Literature

是

For the study selection, citations identified by the initial search were subsequently screened for eligibility. The inclusion criteria were (1) studies that compared outcomes following ND with those following no ND, (2) studies of patients who had gastrectomy for gastric cancer, (3) RCT studies, and (4) any sample size. The exclusion criteria were (1) studies including benign gastric diseases, unless the data were presented separately, (2) studies in which fewer than three interested indices were reported or those in which the indices were difficult to calculate from the results, and (3) studies with overlapping data. The selected trials were reviewed and appraised for methodological quality using the Cochrane Collaboration's tool for assessing risk of bias, which addressed seven items: random sequence generation, allocation concealment, blinding of participants and personnel, blinding of outcome assessment, incomplete outcome data, freedom from selective reporting, and freedom from other bias.⁶



步驟2:系統性文獻回顧的品質如何?(FAITH) T- 作者是否以圖表及表格總結試驗結果?

是

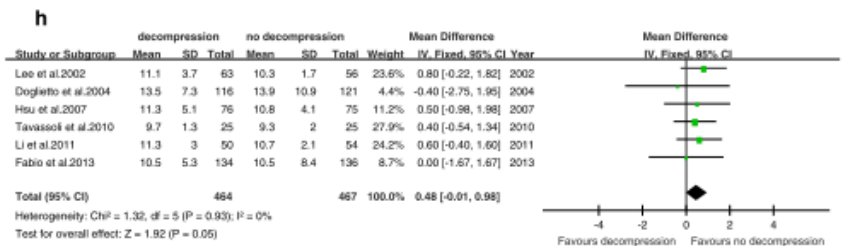
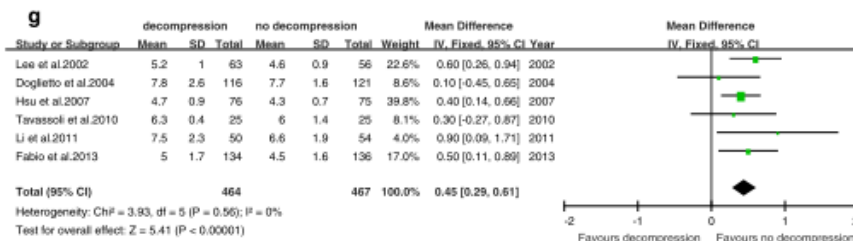
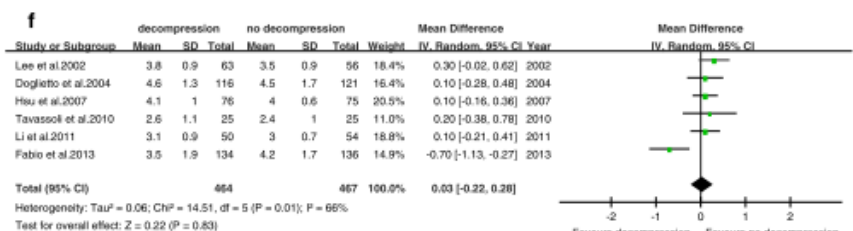
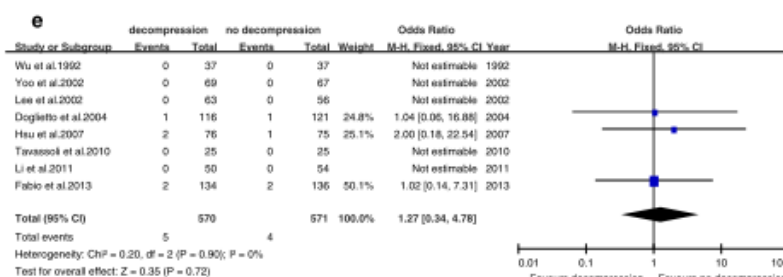
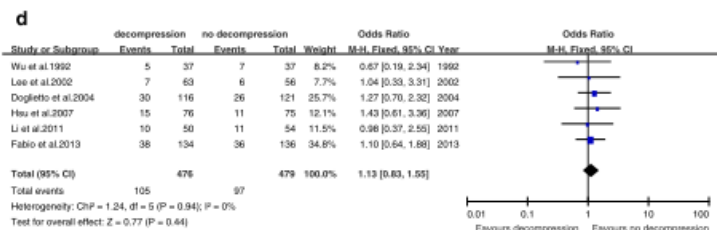
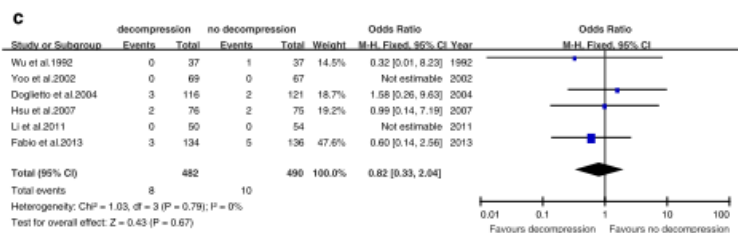
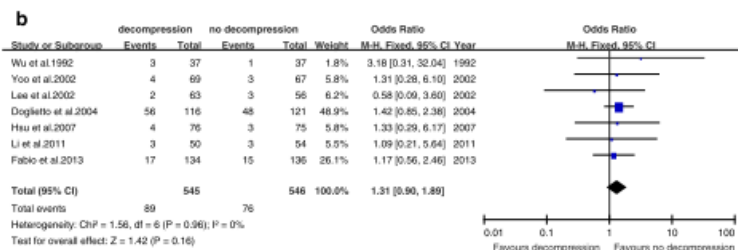
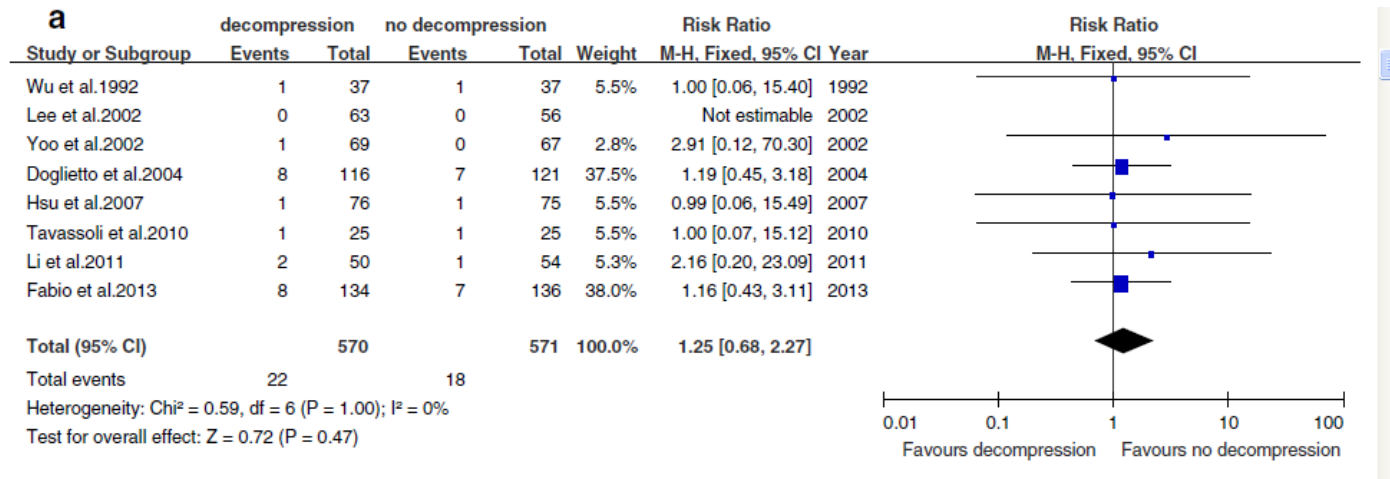


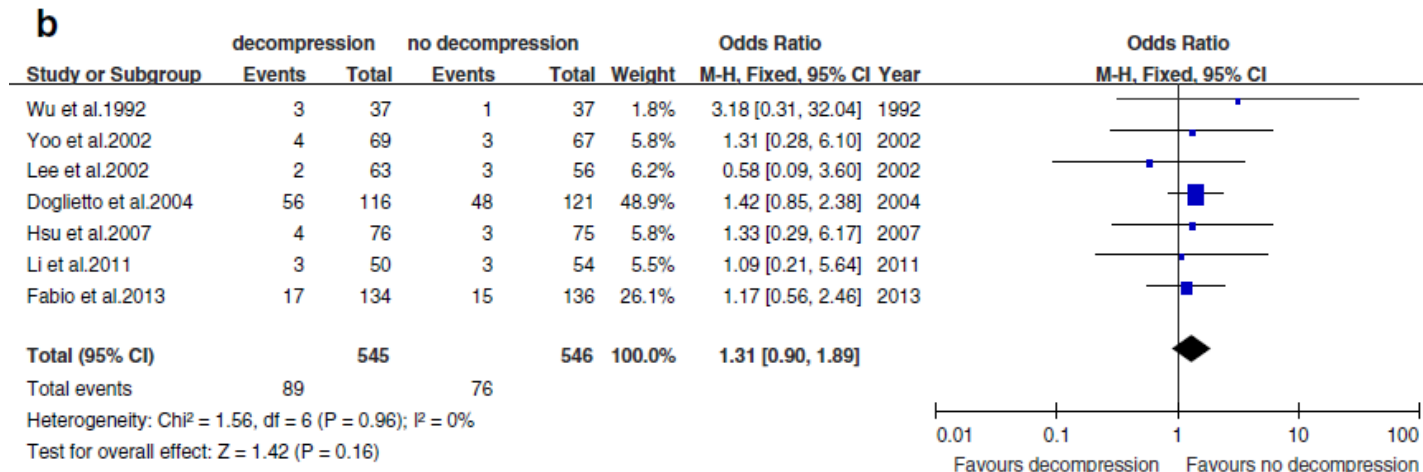
Fig. 3 (continued)

Meta-analysis comparing with or without nasogastric or nasojejunal decompression

- Effect of nasogastric or nasojejunal decompression on **anastomotic leak**.



- Effect of nasogastric or nasojejunal decompression on **pulmonary complications**.



Meta-analysis comparing with or without nasogastric or nasojejunal decompression

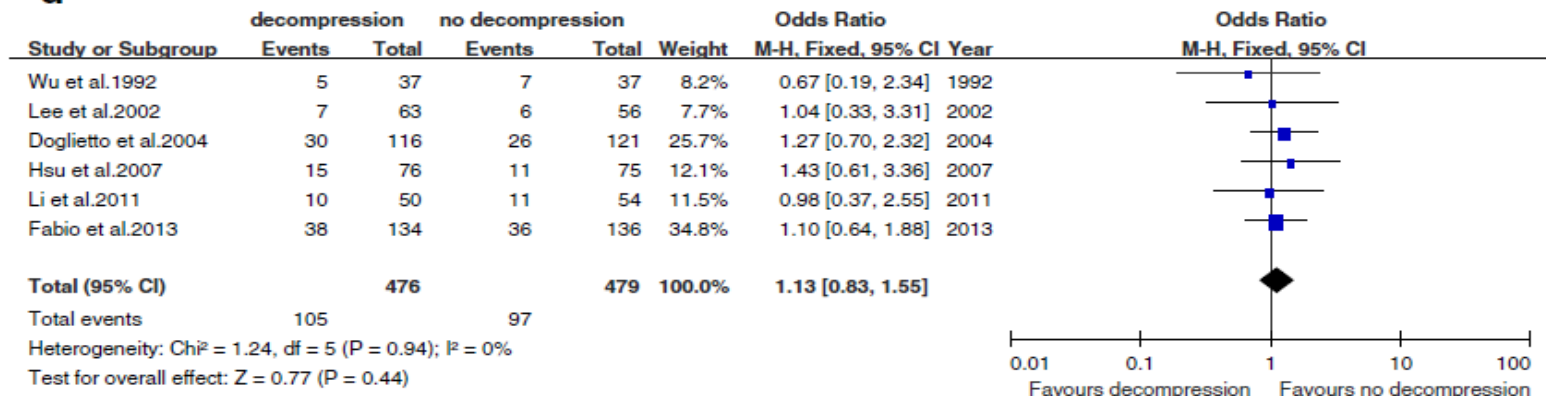
- Effect of nasogastric or nasojejunal decompression on **wound dehiscence**.

C



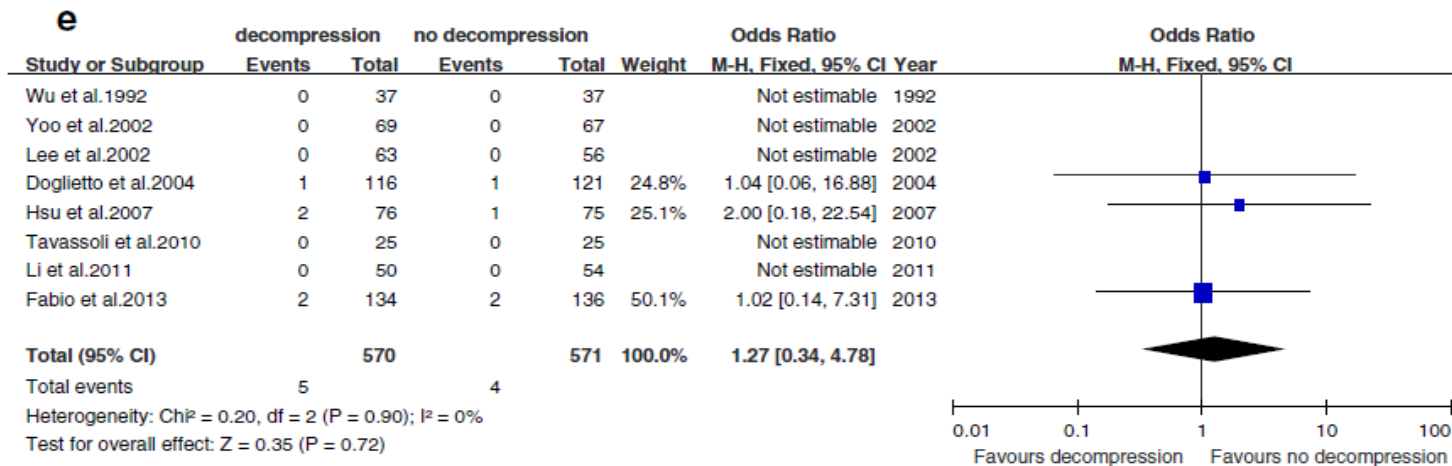
- Effect of nasogastric or nasojejunal decompression on **morbidity rates**.

d

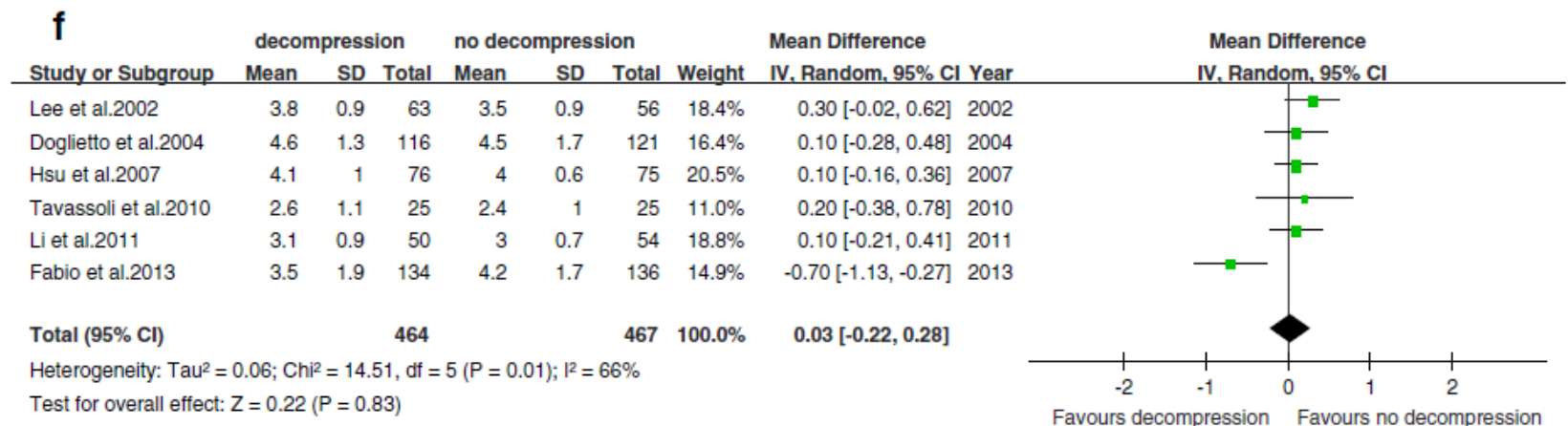


Meta-analysis comparing with or without nasogastric or nasojejunal decompression

- Effect of nasogastric or nasojejunal decompression on **mortality rates**.

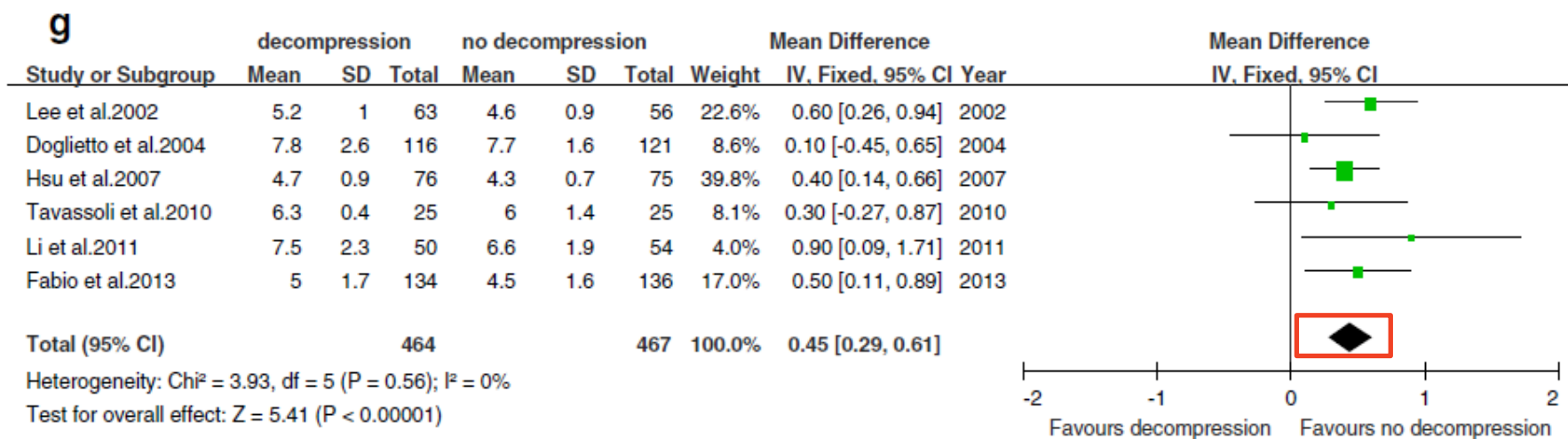


- Effect of nasogastric or nasojejunal decompression on **time to first flatus**.



Meta-analysis comparing with or without nasogastric or nasojejunal decompression

- Effect of nasogastric or nasojejunal decompression on **time to starting oral diet**.

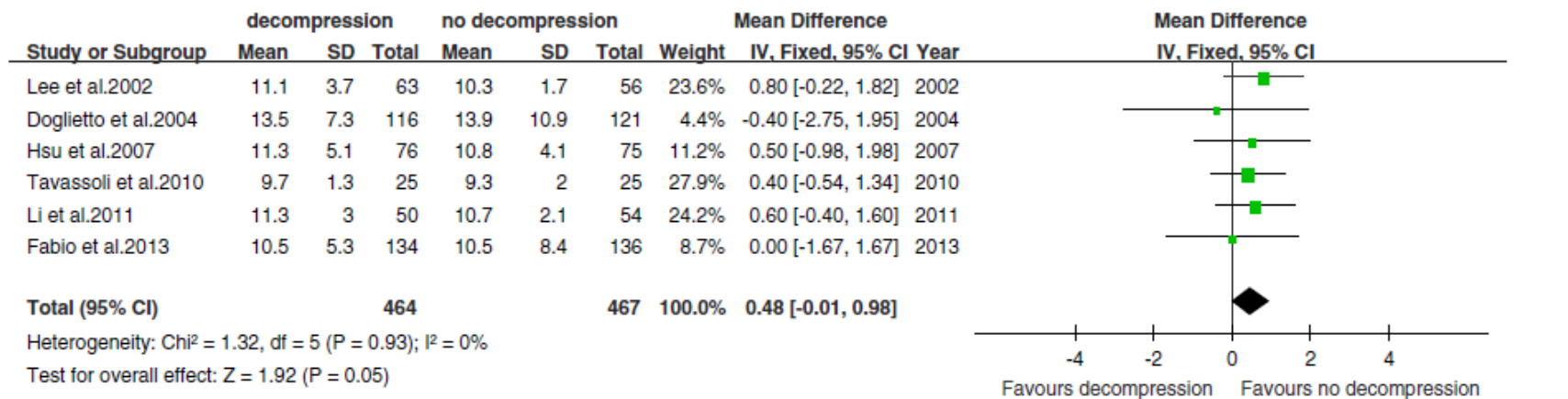


A pooled analysis showed that the time to starting oral diet was significantly shorter for the patients who did not receive decompression (WMD=0.45, 95 % CI=0.29 to 0.61, $p < 0.001$; test of heterogeneity: $p = 0.56$, $I^2 = 0\%$; Fig. 3g).

Meta-analysis comparing with or without nasogastric or nasojejunal decompression

- Effect of nasogastric or nasojejunal decompression on **length of hospital stay**

h



Sensitivity Analysis

無差異

Removing individual studies from the data set did not substantially change the Peto OR or the level of significance for the five most important clinical outcomes (anastomotic leakage, pulmonary complications, wound dehiscence, morbidity, and mortality).

敏感度分析 (sensitivity analysis) :

敏感度分析主要的目的是將某些不合適的論文刪除後，看看剩餘論文的合併效果是否會因此更改，藉以測試綜合性效果的穩定度。



Subgroup Analysis

次群組分析

Table 2 Subgroup analysis of effects of nasogastric or nasojejunal decompression after subtotal gastrectomy and total gastrectomy

Outcome	Total gastrectomy				Subtotal gastrectomy			
	Studies	Patients	WMD/OR, 95 % CI	<i>p</i> value	Studies	Patients	WMD/OR, 95 % CI	<i>p</i> value
Time to flatus (days)	2	287	0.13[-0.19,0.45]	0.43	1	270	-0.70[-1.13,-0.27]	0.001
Time to starting oral diet (days)	2	306	0.20[-0.20,0.59]	0.33	2	344	0.52[0.13,0.90]	0.009
Postoperative length of hospital stay (days)	2	287	0.29[-0.58,1.16]	0.51	1	270	0[-1.67,1.67]	1
Anastomotic leak	5	418	1.42[0.58,3.45]	0.44	5	619	1.01[0.40,2.53]	0.99
Pulmonary complications	1	237	0.42[0.85,2.38]	0.18	2	344	1.3[0.65,2.62]	0.45
Wound dehiscence	1	237	1.58[0.26,9.63]	0.62	2	344	0.54[0.14,2.0]	0.35
Morbidity	1	237	1.27[0.70,2.32]	0.43	2	344	1.02[0.62,1.66]	0.95
Mortality	2	287	1.04[0.06,16.88]	0.98	2	344	1.02[0.14,7.31]	0.99

WMD weighted mean difference, OR odds ratio, CI confidence intervals

ND could significantly shorten time to flatus (WMD=-0.7, 95 % CI=-1.13 to -0.27, $p=0.001$), but prolong time to starting oral diet (WMD=0.52, 95 % CI=0.13 to 0.90, $p=0.009$) in the patients with subtotal gastrectomy.

ND組較快排氣，但較晚進食

Subgroup Analysis

次群組分析

Table 3 Subgroup analysis of effects of nasogastric or nasojejunal decompression stratified for Roux-en-Y gastrojejunostomy for total gastrectomy, Roux-en-Y gastrojejunostomy for subtotal gastrectomy and Billroth I + Billroth II gastrojejunostomy for subtotal gastrectomy

Outcome	Roux-en-Y for TG			Roux-en-Y for SG			B I + B II for SG		
	Patients	WMD/OR, 95 % CI	p value	Patients	WMD/OR, 95 % CI	p value	Patients	WMD/OR, 95 % CI	p value
Time to flatus (days)	287	0.13[-0.19,0.45]	0.43	136	-1.0[-1.52,-0.48]	0.0002	134	-0.43[-1.13,0.27]	0.23
Time to starting oral diet (days)	287	0.20[-0.2,0.59]	0.33	136	0.4[-0.07,0.87]	0.1	134	0.45[-0.18,1.08]	0.16
Postoperative length of hospital stay (days)	287	0.29[-0.58,1.16]	0.51	136	-0.7[-4.13,2.73]	0.69	134	0.8[-0.74,2.34]	0.31
Anastomotic leak	287	1.18[0.44,3.15]	0.74	136	1.17[0.23,6]	0.85	208	1.09[0.32,3.72]	0.89
Pulmonary complications	237	1.42[0.85,2.38]	0.18	136	2.46[0.59,10.26]	0.22	208	1.42[0.93,2.16]	0.11
Wound dehiscence	237	1.58[0.26,9.63]	0.62	136	1.16[0.16,8.51]	0.88	208	0.30[0.05,1.93]	0.20
Morbidity	237	1.27[0.7,2.32]	0.43	136	0.98[0.46,2.09]	0.96	208	0.61[0.33,1.14]	0.12
Mortality	287	1.04[0.06,16.88]	0.98	136	3.53[0.14,88.15]	0.44	208	0.44[0.04,4.92]	0.50

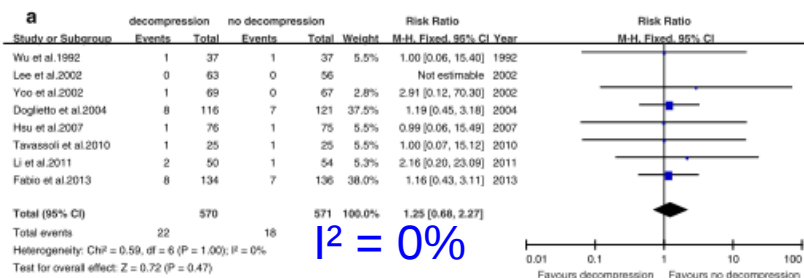
WMD weighted mean difference, OR odds ratio, CI confidence intervals, TG total gastrectomy, SG subtotal (distal) gastrectomy, B I + B II Billroth I + Billroth II gastrojejunostomy

But more specifically, only in Roux-en-Y reconstruction for subtotal gastrectomy subgroup, the difference reached a significant level in term of time to flatus (WMD=-1.0, 95 % CI=-1.52 to -0.48, $p=0.0002$). However, no significant differences were found in stratified subgroups with respect to other major outcomes such as anastomotic leakage, pulmonary complications, wound dehiscence, morbidity, and mortality.

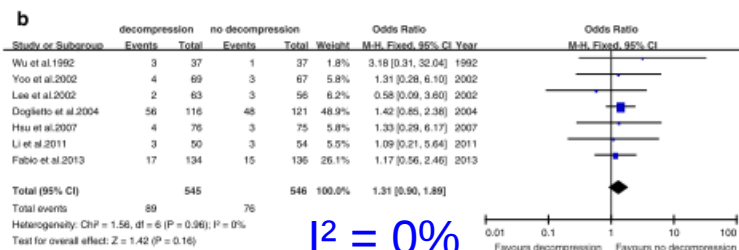
步驟2:系統性文獻回顧的品質如何?(FAITH)

H-試驗結果是否相近-異質性?

是



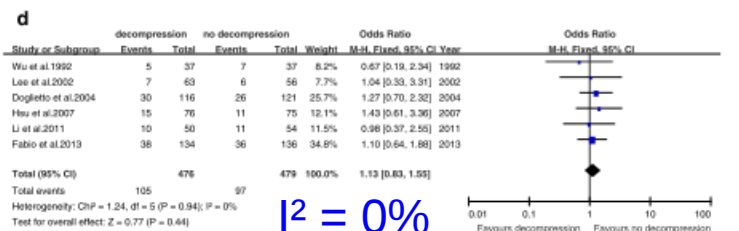
$I^2 = 0\%$



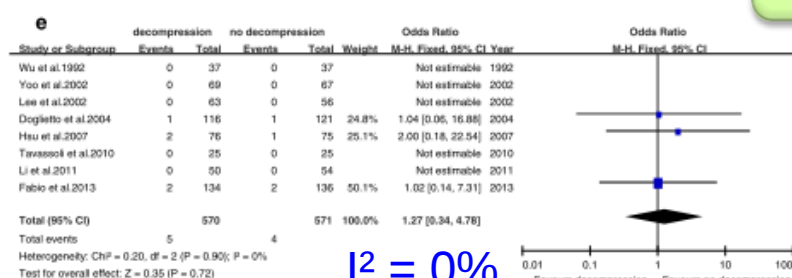
$I^2 = 0\%$



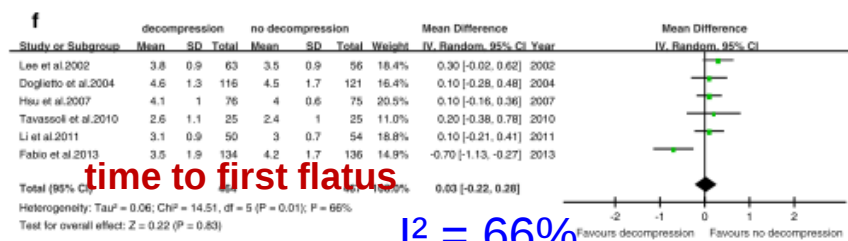
$I^2 = 0\%$



$I^2 = 0\%$

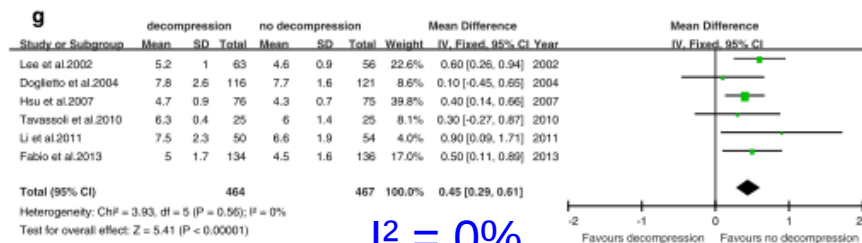


$I^2 = 0\%$

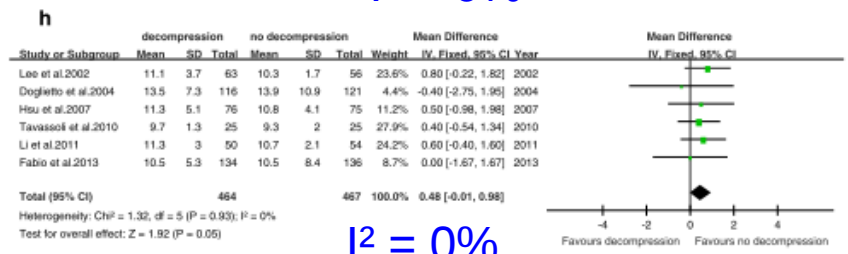


time to first flatus

$I^2 = 66\%$



$I^2 = 0\%$

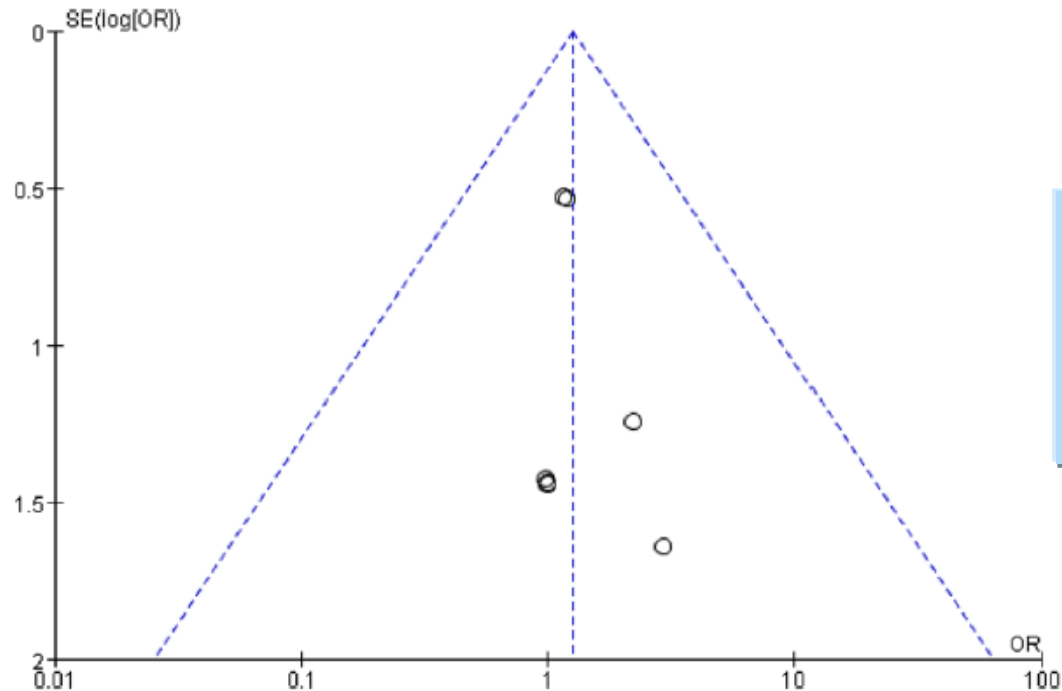


$I^2 = 0\%$

Fig. 3 (continued)

Test for Publication Bias

Funnel plot 漏斗圖
the outcome **anastomotic leakage**.



看對稱性



OR

討論重點

- 現況於胃部手術後仍採NG/ NJ Decompression較多
- 本研究對象之年齡介於50-60歲，本院接受胃部手術病人多為70-80歲，文獻納入之族群相對年輕
- 本文有無NG/ NJ Decompression之開始進食時間僅差異0.5日，出院天數也僅差異0.48日，雖有統計上顯著的差異，但是否具有臨床意義？
- 手術方式與時俱進，宜納入考量
- 臨床上是否要取消常規NG/ NJ Decompression，須考量手術縫合狀況、病人病情...，並非一體適用，建議視病人個別化的狀況，考慮術後儘早拔除管路



臨床運用

胃部手術後，能否取消鼻胃管減壓引流？

- 同意:0票
- 懷疑:25票
- 不同意:3票





thank
you!