Appendix 3. Intraoperative complications

Study	Procedure type	Overall complication rate (%)	Recurrence rate (%)	Dural tear (%)	Neurological deficit (%)	Instability (%)	Infection (%)	Blood transfusion (%)	DVT (%)
Mosaad et al. [10] (2023)	Nonfusion (MD, n=30)	60		20	33.33	6.67		0	
	Fusion (TLIF/PLF, n=30)	86.66[a)]		13.33	53.33	6.67		13.33	
Ahsan et al. [11] (2021)	Nonfusion (RD, n=110)	32.73	7.27	7.27	6.36	2.73	3.64	0	
	Fusion (TLIF, n=25)	28	0	8	4	0	4	44	
El Shazly et al. [12] (2013)	Nonfusion (RD, n=15)	53.3	6.7	26.7	13.3	6.7	0		0
	Fusion (TLIF, n=15)	26.7	0	13.3	6.7	0	0		6.7
	Fusion (PLF, n=15)	13.3	0	6.7	0	0	6.7		0
Yao et al. [13] (2017 Mar)	Fusion (MIS-TLIF, n=58)	1.72	0						
	Fusion (PELD, n=47)	8.51	10.62						
Fu et al. [15] (2005)	Nonfusion (RD, n=15)	13		13	0		0		
	Fusion (PLF, n=21)	16.7		11.1	0		5.6		
Yao et al. [14] (2017 Apr)	Fusion (MIS-TLIF, n=26)	3.85	0						
	Nonfusion (MED, n=20)	10	15						
	Nonfusion (PELD, n=28)	14.29	25						
Wang and Yu [16] (2020)	Nonfusion (PELD, n=24)	8.33	20.83[a)]						
	Fusion (MS-TLIF, n=22)	4.55	0						
Liu and Zhu [17] (2017)	Nonfusion (PELD, n=209)	11	5.74	0.96	0.48	3.83	0		
	Fusion (MIS-TLIF, n=192)	6.25	0	3.13	0	0	0.52		
Guan et al. [18] (2017)	Nonfusion (RD, n=25)	8							
	Fusion (TLIF, MIS-TLIF, or PLIF; n=12)	17							
D'Oria et al. [19] (2023)	Nonfusion (MD, n=45)	22.5		11.1	8.9		2.5	0	0
	Fusion (MIS-TLIF, n=45)	10		2.5	2.5		2.5	0	2.5

Kruskal-Wallis test (chi-square=19.216, df=15, p=0.2041), no statistically significant difference in complication rates across procedure groups. Turkey honest significant difference test (from ANOVA, p=0.0485), showed largest differences from revision discectomy with fusion (highest) compared to MIS-TLIF and PELD (lowest complication rates). ANOVA testing found no statistical differences in recurrence rate between procedure groups (p=0.262).
DVT, deep vein thrombosis; MD, microdiscectomy; TLIF, transforaminal lumbar interbody fusion; PLF, posterolateral fusion; RD, revision or repeat discectomy (unspecified); MIS-TLIF, minimally invasive transforaminal lumbar interbody fusion; PELD, percutaneous endoscopic lumbar discectomy; MED, microendoscopic discectomy; ANOVA, analysis of variance; df, degrees of freedom.
[a)]Z-score analysis identified Mosaad et al. [10] (2023) fusion (TLIF/PLF) as an outlier for overall complication rate (Z=+3.136), Yao et al. [14] (2017 Apr) nonfusion (PELD) as an outlier for recurrence rate (Z=+2.35).