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TABLE SI Risk Factors for Neurological Failure (minimum of 2-year follow-up)				
Surgical risk factors	Overall	Failure (%)	No Failure (%)	p-value
Operation time (min)	187.5 ± 68.6	181.6 ± 91.8	188.6 ± 64.2	0.653
Approach				
• Anterior	107	11 (10.3%)	96 (89.7%)	0.027
• Posterior	51	12 (23.5%)	39 (76.5%)	
Anterior approach				
• Fusion				
○ Implant	13	0 (0%)	13 (100%)	0.193
○ Iliac crest	94	11 (11.7%)	83 (88.3%)	
• Levels				
○ 1 level	77	8 (10.4%)	69 (89.6%)	0.721
○ 2 level	25	3 (12.0%)	22 (88.0%)	
○ 3 level	5	0 (0%)	5 (100%)	
Posterior approach				
• Laminoplasty				
○ Plate	11	1 (9.1%)	10 (90.9%)	<0.01
○ Suture	13	9 (69.2%)	4 (30.8%)	
• Laminectomy alone				
○ Without fusion	1	1 (100%)	0 (0%)	NA
○ With fusion	28	2 (7.1%)	26 (92.9%)	
Medical / radiological risk factors	Overall	Failure (%)	No Failure (%)	p-value

• Smoking				
• Yes	25	3 (12.0%)	22 (88.0%)	0.693
• No	133	20 (15.0%)	113 (85.0%)	
• Diabetes mellitus				
• Yes	30	5 (16.7%)	25 (83.3%)	0.716
• No	128	18 (14.1%)	110 (85.9%)	
• Hypertension				
• Yes	79	10 (12.7%)	69 (87.3%)	0.499
• No	79	13 (16.5%)	66 (83.5%)	
• Hyperlipidaemia				
• Yes	39	3 (7.7%)	36 (92.3%)	0.161
• No	119	20 (16.8%)	99 (83.2%)	
• Ischaemic heart disease				
• Yes	24	1 (4.2%)	23 (95.8%)	0.117
• No	134	22 (16.4%)	112 (83.6%)	
• Renal failure				
• Yes	12	2 (16.7%)	10 (83.3%)	0.829
• No	146	21 (14.4%)	125 (85.6%)	
• OPLL				
• Yes	20	7 (35.0%)	13 (65.0%)	<0.01
• No	138	16 (11.6%)	122 (88.4%)	
• T2-hyperintensity				
• Yes	120	21 (17.5%)	99 (82.5%)	0.062
• No	38	2 (5.3%)	36 (94.7%)	

TABLE SII Risk Factors for Neurological Failure (< 2-year follow-up)				
Surgical risk factors	Overall	Failure (%)	No Failure (%)	p-value
Operation time (min)	173.6 ± 56.2	175.5 ± 56.7	172.6 ± 57.1	0.887
Approach				
• Anterior	23	8 (34.8%)	15 (65.2%)	0.695
• Posterior	14	4 (28.6%)	10 (71.4%)	
Anterior approach				
• Fusion				
○ Implant	6	1 (16.7%)	5 (83.3%)	0.278
○ Iliac crest	17	7 (41.2%)	10 (58.8%)	
• Levels				
○ 1 level	19	6 (31.6%)	13 (68.4%)	0.482
○ 2 level	4	2 (50.0%)	2 (50.0%)	
○ 3 level	0	-	-	
Posterior approach				
• Laminoplasty				
○ Plate	3	1 (33.3%)	2 (66.7%)	0.414
○ Suture	3	2 (66.7%)	1 (33.3%)	
• Laminectomy alone				
○ Without fusion	0	-	-	N.A.
○ With fusion	9	1 (11.1%)	8 (88.9%)	
Medical / radiological risk factors	Overall	Failure (%)	No Failure (%)	p-value

• Smoking				
• Yes	7	2 (28.6%)	5 (71.4%)	0.809
• No	30	10 (33.3%)	20 (66.7%)	
• Diabetes mellitus				
• Yes	11	4 (36.4%)	7 (63.6%)	0.740
• No	26	8 (30.8%)	18 (69.2%)	
• Hypertension				
• Yes	18	7 (38.9%)	11 (61.1%)	0.414
• No	19	5 (26.3%)	14 (73.7%)	
• Hyperlipidaemia				
• Yes	13	4 (30.8%)	9 (69.2%)	0.874
• No	24	8 (33.3%)	16 (66.7%)	
• Ischaemic heart disease				
• Yes	6	3 (50%)	3 (50%)	0.315
• No	31	9 (29.0%)	22 (71.0%)	
• Renal failure				
• Yes	3	2 (66.7%)	1 (33.3%)	0.186
• No	34	10 (29.4%)	24 (70.6%)	
• OPLL				
• Yes	8	5 (62.5%)	3 (37.5%)	0.040
• No	29	7 (24.1%)	22 (75.9%)	
• T2-hyperintensity				
• Yes	31	11 (35.5%)	20 (64.5%)	0.367
• No	6	1 (16.7%)	5 (83.3%)	

TABLE SIII Choice of surgical procedure over time				
Time period	Anterior		Posterior	p-value
1999 – 2006	39		12	0.154
2007 – 2013	38		26	
2014 - 2020	53		27	
Time period	ACDF with iliac crest / implant	P value	Laminoplasty / Laminectomy ± fusion	p-value
1999 – 2006	38 / 1	< 0.001	8 / 4	0.231
2007 – 2013	35 / 3		12 / 14	
2014 - 2020	38 / 15		10 / 17	

TABLE SIV Overall and Factor-specific 10-year Survivorship (minimum of 2-year follow-up)		
Group	Neurological survivorship (95% CI)	
	5 years	10 years
Overall	0.953 (0.897 – 0.979)	0.824 (0.724 – 0.891)
Approach		
Anterior	0.952 (0.877 – 0.982)	0.915 (0.816 – 0.962)
Posterior	0.954 (0.824 – 0.988)	0.647 (0.431 – 0.798)
Suture laminoplasty		
Yes	0.842 (0.504 – 0.958)	0.421 (0.155 – 0.670)
No	0.964 (0.905 – 0.986)	0.892 (0.798 – 0.944)
OPLL		
Yes	0.831 (0.560 – 0.943)	0.647 (0.324 – 0.846)
No	0.972 (0.915 – 0.991)	0.851 (0.743 – 0.917)
Renal failure		
Yes	0.857 (0.334 – 0.979)	NA
No	0.958 (0.902 – 0.983)	0.836 (0.735 – 0.902)
T2-hyperintensity		
Yes	0.941 (0.872 – 0.973)	0.815 (0.702 – 0.889)
No	1.000	0.867 (0.564 – 0.965)