Drain Utilization Does not Improve Outcomes after Incidental Durotomies in Elective Spine Surgery

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OBJECTIVE

To assess whether drain parameters affect perioperative outcomes in patients with a dural tear

METHODS

Retrospective cohort study of all primary lumbar spine decompression and/or fusions from 2017-2021

All patients with a dural tear were included. All patients received subfascial lumbar drains

Dural tear repair methods included DuraSeal, suture, and/or DuraGen

Patients were grouped by readmission status and final 8-hour drain output for statistical analysis

High drain output (HDO) defined as final 8-hour drain output of ≥40 mL and low drain output (LDO) as <40 mL

RESULTS

179 patients with dural tear

No difference between dural tear repair methods and drain output or readmission

No drain parameters associated with a readmission

Table 1. High vs Low Drain Output

	Drain Output		
Variable	Low (n = 113)	High* (n = 66)	P Value
Female sex	55 (48.7)	32 (48.5)	1.000
Age (years)	66.5 ± 10.1	65.9 ± 9.31	0.671
BMI (kg/m^2)	29.9 ± 5.67	30.0 ± 5.73	0.633
ASA class	2.65 ± 0.50	2.31 ± 0.75	0.005†
CCI	0.73 ± 1.03	0.92 ± 1.11	0.159
No. Fused	2.07 ± 1.58	2.11 ± 1.71	0.825
No. Decompressed	2.23 ± 0.98	2.34 ± 1.10	0.552
DuraSeal used	100 (88.5)	62 (93.9)	0.350
Suture used	51 (45.1)	28 (42.4)	0.845
DuraGen used	56 (49.6)	38 (57.6)	0.378
Length of stay (days)	4.26 ± 2.10	4.02 ± 1.90	0.269
Readmission	9 (7.96)	7 (10.6)	0.744
Surgery during readmission	3 (2.65)	4 (6.06)	0.594

Table 2. Drain Parameters and Readmissions

	Readmission		
Variable	No (n = 173)	Yes (n = 16)	P Value
Final 8-hour drain output (mL)	37.7 ± 43.7	42.8 ± 48.0	0.857
Penultimate 8-hour drain output (mL)	48.2 ± 47.8	68.8 ± 58.0	0.192
Last delta shift in drain output (mL)	−10.45 ± 53.2	−25.94 ± 53.1	0.298
Total output (mL)	667 ± 401	566 ± 331	0.317
Average daily output (mL)	779 ± 577	607 ± 349	0.690
Drain duration (days)	282 ± 145	304 ± 260	0.453

Data presented as mean ± standard deviation

CONCLUSIONS

Drain output (high vs low) is not associated with postoperative readmissions following dural tear

Adequate fascial closure and the absence of symptoms may be satisfactory for standard patient discharge regardless of the amount of drain output.

LIMITATIONS

- Single center, retrospective
- Dural tears poorly reported
- No control group of patients without drain

FULL TEXT MANUSCRIPT

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