Effectiveness of PICO Dressing in Managing Spinal Wound Complications

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Background

- Surgical site infections (SSIs) increase morbidity and cost post spinal surgery.
- Negative Pressure Wound Therapy (NPWT) is effective in managing these complications.
- PICO dressing: a portable, single-use NPWT system.

Purpose and Objective

- To assess the effectiveness of PICO dressing in postoperative spinal patients.
- Primary goals: wound healing, and avoiding repeat surgical debridement.

Methodology

- Study Type: Retrospective single-centre review (2022–2024).
- Participants: 11 patients (10 male, 1 female), mean age 51 years.
- Conditions: 5 trauma, 3 metastasis, 2 infections, 1 degenerative.

Patient Case Summary

Diagnosis	Patients	Procedures
Trauma (e.g., burst fx)	5	PSIF +/- ACCF
Metastasis	3	PSIF + Laminectomy
Infections (discitis)	2	PSIF + Debridement
Degenerative Disease	1	TLIF

- Trauma (e.g. C6/C7 bifacet, T11-L1 burst): 5 patients
- Spinal metastasis (e.g. T5, T6 –T11): 3 patients
- Pyogenic discitis: 2 patients
- Degenerative (lumbar stenosis): 1 patient
- Procedures: PSIF, ACCF, TLIF, laminectomies

PICO Application

- Applied after surgical debridement (n=4) or after bedside wound inspection (n=7).
- All received antibiotics (IV or oral).
- Dressing cycles:
 - After surgical debridement group(n=4) wound healed at least 2 cycles.
 - After bedside wound inspection group
 (n=7) wound healed maximum of 2 cycles.



Results

- 100% wound healing rate.
- No patient required repeat surgical debridement.
- Some patients discharged home with PICO in place.
- Wounds healed in ward or outpatient with +/- 2 cycles.

Discussion

- PICO effective across traumatic, metastatic, infectious cases.
- Reduced reoperations, hospital stays, and costs.
- Enabled outpatient healing and improved patient comfort.
- Portable design supports post-discharge use.
- Limitations include retrospective nature and small sample size.

Limitations

- Small patient cohort (n=11)
- Retrospective design
- Single-centre study
- No control group for comparison

Conclusion

- PICO dressing is a reliable adjunct in spinal wound care.
- Facilitates healing, avoids repeat debridement, improves outcomes.
- Recommends further investigation in larger prospective studies.

References

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