Percutaneous Interspinous Fixation for Posterolateral Arthrodesis in Degenerative Lumbar Instability: A Retrospective Case Series of 4 Patients

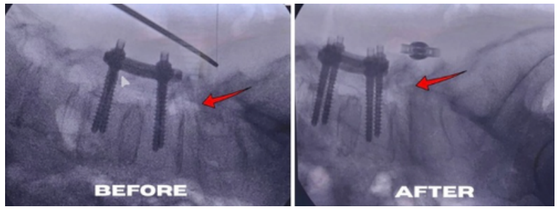
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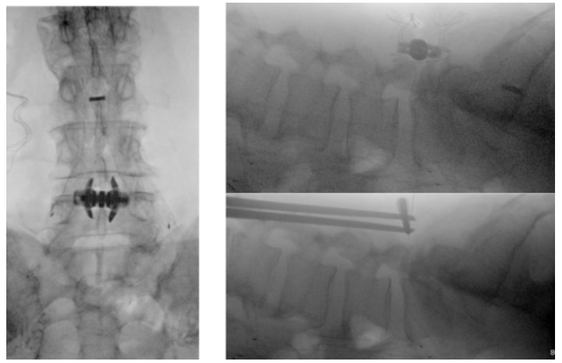
Introduction: Degenerative lumbar instability with spondylolisthesis and/or spinal stenosis is common in elderly patients with medical comorbidities that preclude open surgical decompression and fusion. Minimally invasive percutaneous interspinous fixation offers posterolateral arthrodesis with markedly lower surgical morbidity than open instrumented fusion.

Objective: To assess pain relief, functional outcomes, and safety of percutaneous interspinous fixation (Minuteman G5/G6) used alone, as an alternative to open decompression/fusion in patients considered poor surgical candidates.

Materials and Methods: Retrospective case series of 4 male patients (mean age 77 years, range 58 to 90) with degenerative lumbar instability, spondylolisthesis, and/or severe spinal stenosis at L3/4 and/or L4/5, each considered a poor candidate for open decompression/fusion because of medical comorbidity and/or patient preference; 2 of 4 were explicitly deemed nonsurgical candidates by neurosurgery. All patients underwent percutaneous interspinous fixation (Minuteman G5/G6) alone at one or two levels. VAS and ODI were recorded at baseline and 2 weeks to 6 months.



Lateral view before and after: increase in foraminal size and disc height



Minuteman G6 placement, AP and lateral views

Results: Baseline VAS was 8/10 in all 4 patients; at last follow up (3 to 6 months) mean VAS improved to 1.5 (a decrease of 6.5 points) and mean ODI improved from 26.3 to 17.5 (a decrease of 8.8 points). Three of four patients reported near complete (80 to 100%) resolution of leg and back pain, including resumption of gardening, unassisted ambulation, and relief of neurogenic claudication; the fourth reported 60 to 70% relief with improved ability to walk upright. No revisions, infections, or neurologic complications occurred.

"Minuteman G5/G6 alone produced near complete (80 to 100%) resolution of leg and back pain in 3 of 4 high risk surgical candidates"

Pt	Age/Sex	Level(s)	VAS (base→final)	ODI (base→final)	F/U	Result
1 (JW)	82/M	L3/4 and L4/5	8→1	24→14	3 mo	Near complete relief
2 (WT)	90/M	L4/5	8→1	24→14	6 mo	Near complete relief
3 (HP)	58/M	L3/4 and L4/5	8→3	30→21	6 mo	60 to 70% relief
4 (GM)	79/M	L4/5	8→1	27→21	3 mo	Near complete relief

Conclusion: Percutaneous interspinous fixation using Minuteman G5/G6 alone provided meaningful pain relief and functional improvement with low morbidity in elderly, comorbid patients with degenerative lumbar instability who were poor candidates for open surgical decompression/fusion, supporting its role as a minimally invasive alternative in this high risk population.



REFERENCES:
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