Hybrid Sacroiliac Joint Fusion Using Combined Compressive Lateral and Posterior Implants in Patients with BMI 35 or Greater: A Retrospective Case Series of 10 Patients



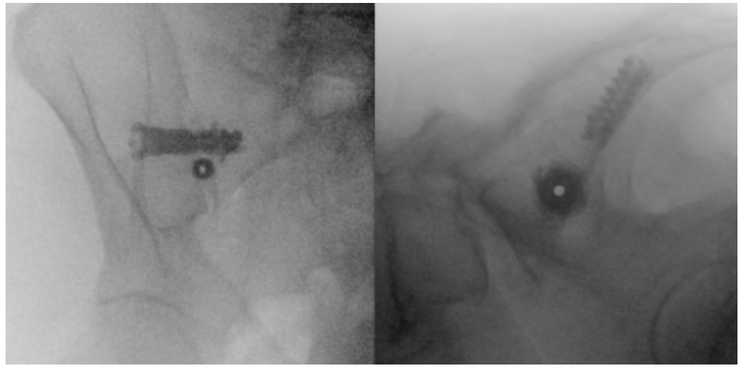
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Introduction: Sacroiliac joint (SIJ) dysfunction is an underrecognized source of chronic low back pain, accounting for an estimated 15 to 25% of cases. Elevated body mass index (BMI) is a common exclusion criterion in SIJ fusion trials and is associated with inferior outcomes after single implant fusion, leaving many symptomatic patients with few minimally invasive options.

Objective: To evaluate pain relief, functional improvement, and safety of hybrid SIJ fusion, combining a lateral compressive, transfixing titanium implant with a second posterior stabilizing implant, in patients with BMI of 35 or greater.

Materials and Methods: Retrospective case series of 10 consecutive male patients (mean age 56 years, range 33 to 78; mean BMI 38.6 kg/m2, range 35.0 to 48.4) with chronic sacral low back pain from bilateral sacroiliitis/sacrococcygeal dysfunction, treated at a single VA pain management practice. Each patient underwent unilateral SIJ fusion with a hybrid construct intended to limit motion across all axes of the joint. One patient had a prior contralateral single implant fusion. VAS, ODI, and subjective percent pain relief were recorded at 1, 3, and 6 months.



Hybrid fusion: inlet and lateral fluoroscopic views

"Five of ten patients achieved complete (100%) resolution of SIJ pain, with mean VAS improving from 7.2 to 1.2"

Pt	Age/Sex	BMI	Side	VAS (base→final)	ODI (base→final)	% Relief
1	52/M	45.0	L	7→2 (3mo)	27→21	80 to 90%
2	60/M	37.0	R	7→0 (6mo)	31→21	80 to 90%
3	59/M	48.4	L	7→0 (6mo)	31→24	100%
4	56/M	39.0	R	7→1 (6mo)	39→26	70 to 80%
5	44/M	40.0	R	7→2 (3mo)	25→19	80 to 90%
6	78/M	35.0	R	6→2 (3mo)	25→17	100%
7	58/M	35.0	R	9→1 (3mo)	29→14	100%
8	55/M	35.3	R	8→0 (3mo)	21→5	100%
9	65/M	35.0	R	7→0 (1mo)	31→21	100%
10	33/M	36.0	L	7→4 (1mo)	25→21	50%

Results: At last available follow up (1 to 6 months), mean VAS improved from 7.2 to 1.2 (a decrease of 6.0 points) and mean ODI improved from 28.4 to 18.9 (a decrease of 9.5 points; Table 1). Five of ten patients (50%) reported 100% resolution of SIJ pain; four reported 70 to 90% relief; one reported 50% relief. Functional gains included return to work in four patients and discontinuation of walker use in one; no complications, infections, revisions, or implant related issues occurred.

Conclusion: In this small retrospective series, hybrid SIJ fusion combining a lateral compressive implant with a posterior implant provided substantial pain relief and functional improvement in patients with BMI greater than 35, a population often excluded from SIJ fusion studies. Larger prospective studies with longer follow up periods are warranted.



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