

Experimental study suggests bone-marrow grafts show promise for some sufferers of low-back pain

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A new study suggests that the type of bio-cellular grafts increasingly used by surgeons to repair damaged tissue may be useful for treating lowback pain (LBP). However, not all sufferers responded equally to the novel therapy. Results reported today at the 29th Annual Meeting of the American Academy of Pain Medicine ranged from complete pain relief to no improvement.

The procedure involved injecting a concentrated form of bone-marrow cellular aspirate into lumbar discs in patients with clinical and objective evidence of <u>disc degeneration</u>. The results were reported in a poster authored by researchers from the Columbia Interventional <u>Pain</u> Center in Columbia, Mo., and the Bluetail Medical Group in Chesterfield, Mo.

"The results of our case review are encouraging," said Donald J. Meyer, MD, PhD, the study's primary author. "Currently, when <u>conservative</u> <u>treatment</u> measures fail, <u>therapeutic options</u> are limited for individuals with back pain due to disc degeneration. Many resort to disc surgery or <u>spinal fusion</u> with mediocre results. Our goal is to help develop a safe, natural method to boost the body's own capacity to heal discogenic pain."

The practice of using autologous grafts, in which material is transferred from within the same individual's body, has evolved beyond the simple use of platelet-rich plasma to encompass cellular bone-marrow



concentrate and cells drawn from body fat, the study authors explained. Intrigued by the technique's possibilities in treating LBP, the team retrospectively examined data for 22 consecutive patients treated at Columbia Interventional Pain Center in Columbia, Mo., over 18 months. Patients had LBP lasting an average of 4 years along with evidence confirming <u>degenerative disc</u> changes via CT scan or MRI. Some patients also complained of leg pain.

Patients were informed of the study's experimental nature and gave informed consent. During the procedure, investigators harvested 60 cc iliac bone-marrow aspirate and concentrated it in a centrifuge to obtain bone-marrow aspirate cellular concentrate (BMAC). They then injected BMAC into each affected lumbar disc annulus using a 22-gauge Chiba needle under fluoroscopy. This was followed by the injection of an additional small amount of BMAC immediately external to the annulus. A maximum of 2 discs were treated.

At 5-24 months following treatment, patients reported changes in back pain ranging from complete pain relief to no improvement. No patient reported a worsening of pain, and no complications occurred. All subjects who experienced pain relief also reported significant improvement in activity tolerance or a reduction in pain medication use, or both.

A future prospective study is warranted, the authors concluded, to examine whether biologic autograft treatment may provide a safe and effective therapy for lumbar discogenic pain.

Provided by American Academy of Pain Medicine

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