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Disclosure

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Ask the Authors

**Senior Editor: Heidi Prather, DO
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1. This manuscript presents the response of treatment with bone marrow aspirate concentrate in patients who did not respond to nonsurgical treatments but did not want to undergo a joint replacement for mild hip or knee arthritis. More than 60% had a good response. Is this procedure something you are now routinely recommending, or do you have certain populations or patient characteristics that you find are better suited for this procedure?

With the available evidence, I do not routinely recommend this treatment to every patient. Furthermore, I only indicate this procedure for specific cases. Normally, these are patients who come to my clinic requesting "stem cell" therapy. These patients are usually very active, most have

mild joint osteoarthritis (OA), and they represent a real challenge. Oftentimes they are not good candidates for surgical hip preservation procedures; however, they don't have advanced degenerative joint changes or symptoms that warrant arthroplasty. Therefore, different biologic therapies (bone marrow concentrate [BMC], platelet-rich plasma [PRP], etc.) constitute viable options among the available treatments. Future work will need to establish the definitive safety and efficacy profile of these treatments.

2. What are your thoughts regarding the mechanism of improvement for these patients?

The in vivo mechanism of action has not been definitively established. I believe that there is an anti-inflammatory effect. As an example, BMC has a high



concentration of interleukin-1 receptor antagonist, which reduces inflammation and might justify patient's pain improvement. However, the placebo effect from these injections cannot be ruled out due to patients' high expectations and preconceptions.

3. Two of the patients went on to have total hip arthroplasty. Do you think there is a difference in impairment and function in the patients with mild hip OA that influences their options as compared with patients with mild knee arthritis?

Overall, I believe that OA in any joint has the potential to generate significant disability. Although the recovery and outcomes after total hip replacement are much more predictable than after total knee replacement, differences in impairment and function between knee and hip arthritis depend on multiple patient variables.

4. Do you have specific recommendations for post-procedure activity and therapeutic exercise?

Rehabilitation is a key component of any treatment for hip OA. Our routine protocol indicates to reduce activity

for the first 3 weeks postinjection, then we would return to regular exercise and strengthening programs. In addition, when patients are receiving PRP or BMC, we also would advise them not to take nonsteroidal anti-inflammatory drugs for the first 3 weeks postinjection.

5. Do you have any cautions you would like health care providers to consider when recommending patients for a regenerative type medicine procedure?

Yes. I believe it is important to be informed and to educate patients accordingly. There is definitely a "stem cell" hype, and as providers, we need to instruct our patients about what these therapies really are, what we know and what we don't know, and what to expect. Therefore, I would advise any colleague to make sure that any patient that is treated with a biologic therapy such as PRP or BMC be followed with an objective patient-reported outcome measure and included in a research endeavor. Furthermore, there is a critical need for standardization of treatment protocols, post-injection rehabilitation, and assessment of outcome measures.

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