Use of Platelet-Rich Plasma for the Treatment of Acetabular Labral Tear of the Hip

A Pilot Study

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Objective: This study aims to assess whether ultrasound-guided injection of platelet-rich plasma can safely and effectively treat symptoms associated with acetabular hip labral tears.

Design: Institutional review board approval was gained for a prospective study of eight patients ($N = 8$), who have previously failed conservative management, to receive ultrasound-guided injection of platelet-rich plasma at the site of hip labrum tear. We assessed pain reduction and functional ability at baseline and then 2, 6, and 8 wks after injection, using the visual analog scale and Harris Hip Score, respectively.

Results: Statistically significant differences in Harris Hip Score were seen 2 wks (86.5 ± 10.8, $P < 0.01$), 6 wks (88.0 ± 10.7) $P < 0.01$), and 8 wks (92.1 ± 11.6, $P < 0.01$) after injection as compared with baseline (76.0 ± 13.4). Corresponding improvements were seen in visual analog scale 2 wks (1.0, $P < 0.01$ at rest, 2.5, $P < 0.01$ with activity), 6 (0.9, $P < 0.01$ at rest, 2.3, $P < 0.01$ with activity), and 8 wks (0.5, $P < 0.01$ at rest, 1.3, $P < 0.01$ with activity) compared with baseline (3.8 at rest, 5.4 with activity).

Conclusions: Ultrasound-guided injection of platelet-rich plasma holds promise as an emerging, minimally invasive technique toward symptom relief, reducing pain, and improving function in patients with hip labral tears.

Key Words: Hip Labral Tear, Platelet-Rich Plasma, Hip Pain, Ultrasound

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Labral tears are an increasingly common source of hip pain, potentially leading to longer-term consequences, such as progression of osteoarthritis and difficulty ambulating. Particularly in a younger person, premature arthritis can significantly affect the quality of life. Therefore, treating symptomatic labral pathology carries increased importance toward preservation and restoration of hip function, as well as alleviation of painful symptoms.[1–4]

Biomechanically, the fibrocartilaginous labrum plays a stabilizing, load-bearing role, and protects the articular cartilage of the hip. The labrum is needed to withstand undue pressure between the articular cartilage of the femoral head and the bony surface of the hip socket. In this manner, the hip labrum effectively functions as a shock absorber between the femur and the pelvis.[5,6]

Excessive loading of the hip labrum can also occur via femoroacetabular impingement and in turn lead to fraying and tearing of the labral surface.[6] Up to 73% of such patients with labral injury develop more advanced chondral pathology capable of causing more severe pain states and functional deficits.[6]

The hip labrum is understood to be mostly avascular, with blood supply penetrating only the outer one third, complicating its ability to heal on its own.[1] Current treatment for hip labral tears include both nonoperative and operative strategies. Both approaches can be effective, yet both strategies also pose their own limitations. More traditional nonoperative treatments for hip labral tears include rest, nonsteroidal anti-inflammatory drugs (NSAIDs), physical therapy, and injections but may not be able to address the labral pathology enough to provide for symptom relief and/or functional improvement. For those patients who fail conservative measures, surgical options include open or arthroscopic surgical repair of the labrum. Injuries to the acetabular labrum have been visually identified in as many as 90% of hip arthroscopies.[7–10] Normally, when surgically repairing a torn hip labrum, a bioabsorbable suture anchor is used to stabilize the labrum back to the acetabular rim.[1,7–10] Such surgery, however, poses inherent risks, including infection, deep venous thrombosis, nerve injury, instrument failure,

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Gordon AH, Karam C, Blatz D, Gustin Z, De Luigi AJ. Improved Hip Function and Pain Alleviation after Single Administration of Platelet Rich Plasma for Hip Labral Tears: A Prospective Cohort Study. Oral Poster Presentation, Annual Meeting of the American Medical Society for Sports Medicine. 2015.

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articular injury, local swelling, and the risks of anesthesia.[7–10] Optimally, a surgical procedure would be avoided in favor of a less invasive option to reduce healing time, disruptions in normal hip anatomy, and the risk of bleeding and infection.

Recent studies evaluating nonoperative applications of platelet-rich plasma (PRP) demonstrate promising and reasonable treatment approaches in multiple musculoskeletal conditions, with PRP becoming a favorable alternative to surgical intervention.[11–25] Particularly with regard to hip pathology, use of PRP as a nonoperative treatment for hip osteoarthritis and avascular necrosis seems to hold promise, as per previous studies.[21,22] However, PRP as a nonoperative treatment for hip labral tear has not been thoroughly studied. There were case reports on single patients who have shown improvement in pain and morphologic appearance of a hip capsular injury and/or torn labrum after a combination PRP and bone marrow aspirate concentrate injection and PRP alone, respectively, but larger studies are needed to examine its efficacy and safety.[23,24] In addition, a case report demonstrates that PRP injection reduces pain and improves function in a knee injury resulting in a tear of the fibrocartilaginous meniscus, whose tissue is similar in nature to the fibrocartilaginous labrum.[25]

We hypothesize ultrasound-guided PRP injection for a hip labral tear can improve symptoms and be a viable, minimally invasive treatment option, leading to a reduction in pain as well as functional improvement. Current standards of care regarding hip pain related to labral tears using conservative and surgical approaches have limitations. This alternate strategy can offer a safe and feasible approach for nonoperative treatment of hip labral tears that is minimally invasive, potentially low risk, and effective at improving pain symptoms and function.

METHODS

As per our Safety Review Board and institutional review board–approved protocol, we were granted the opportunity to recruit eight patients for treatment of hip labral tears with a single injection of PRP. The authors understood the potential limitations of studying this small number of patients when assessing efficacy. However, again, our goal was to assess safety and feasibility, as opposed to efficacy, with a longitudinal goal to seek external funding for a larger, randomized controlled study with control group, presuming that this pilot study yielded promising results.[26]

These patients with hip pain were referred to our clinic after unsuccessful conservative management and declining surgical management in search of alternative, nonoperative treatment options. All study patients previously failed a minimum of 8 wks of conservative management with community- or hospital-based outpatient physical therapy, corticosteroid injections, and various medications. In addition, one patient previously failed an arthroscopic labral repair on the contralateral side. These patients were recruited through referrals from orthopedic surgeons, physical therapists, primary care sports medicine physicians, and through self-referral. The patients did not achieve the adequate clinical and functional improvement the patients were seeking during conservative methods and wanted to pursue other nonsurgical options. Unfortunately, the authors were unable to control what previous treatment(s) and protocol(s) were used by various physical therapists, orthopedic surgeons, and primary care sports medicine physicians before the patients were ever referred to our clinic for possible enrollment. All treatment options were discussed with potential study patients, as well as the risks, benefits, and evidence-based success of the various treatments. After obtaining informed consent, a patient would then be enrolled into the study.

Study patients proceeded through the institutional review board–approved design at our academic rehabilitation hospital from preinjection to 8 wks of follow-up postinjection with PRP (Fig. 1). Inclusion criteria for participants in this study were as follows: (*a*) hip pain, (*b*) positive anterior hip impingement test (flexion, adduction, internal rotation), (*c*) magnetic resonance imaging (MRI)/magnetic resonance arthrogram (MRA) with evidence of acetabular labral tear, and (*d*) failure to respond to one or more conservative therapeutic approaches (ie, oral anti-inflammatory agents, physical therapy). Exclusion criteria for this study were as follows: (*a*) patients without a hip labrum tear, (*b*) patients with absence of a hip labrum, (*c*) patients with avascular necrosis of the hip, and (*d*) patients with severe osteoarthritis of the hip, as defined radiographically with x-ray and/or MRI imaging (Fig. 1). Patients who met inclusion criteria then accepted or declined participation in the study after reviewing the treatment protocol and plan. A total of 12 patients were screened, of which 4 failed to enroll. Of these four patients, one had more severe osteoarthritis, another opted to pursue surgery, and the other two patients opted to continue conservative management without PRP injection. A total of 8 patients ($n = 8$; 5 male and 3 female; 6 right hip labral tears, 2 left hip labral tears) with hip pain found to have a hip labral tear, as visualized on MRI/MRA, subsequently enrolled for PRP treatment.

Patients meeting inclusion/exclusion criteria were screened by study personnel, who provided patient education about the study as well as Informed Consent and HIPAA documentation approved by our institutional institutional review board. Written informed consent on the institutional review board–approved consent form was obtained from each patient before their participation. This study conforms to all STROBE guidelines and reports the required information accordingly (see Supplemental Checklist, Supplemental Digital Content 1, http://links.lww.com/PHM/A807). Those meeting inclusion criteria underwent diagnostic ultrasound examination of the hip labral tear to confirm and classify the MRI/MRA confirmed hip labral tear. This study was done using a linear 2.5- to 8.0-MHz ultrasound probe and a Terason ultrasound. Sonographic evaluation of each patient was performed to visualize the acetabular labrum (Fig. 2A). Diagnostic ultrasound was performed before procedure, not only to identify the musculoskeletal landmarks before injection but also to target the labral tear on ultrasound.[27]

After primary inclusion criteria were met, patients underwent secondary screening by obtaining demographic information (age, mechanism of injury, sex, race, educational status, employment status, marital status, socioeconomic status), as well as baseline visual analog scale (VAS)[28] and Harris Hip Scores (HHS)[29] (Table 1).

After enrollment, study patients had to have ceased taking NSAIDs for 2 wks before undergoing a single ultrasound-guided injection of PRP at the site of the hip labral tear. Risks and benefits of the injection were discussed with the patient. There have not been any reported significant complications

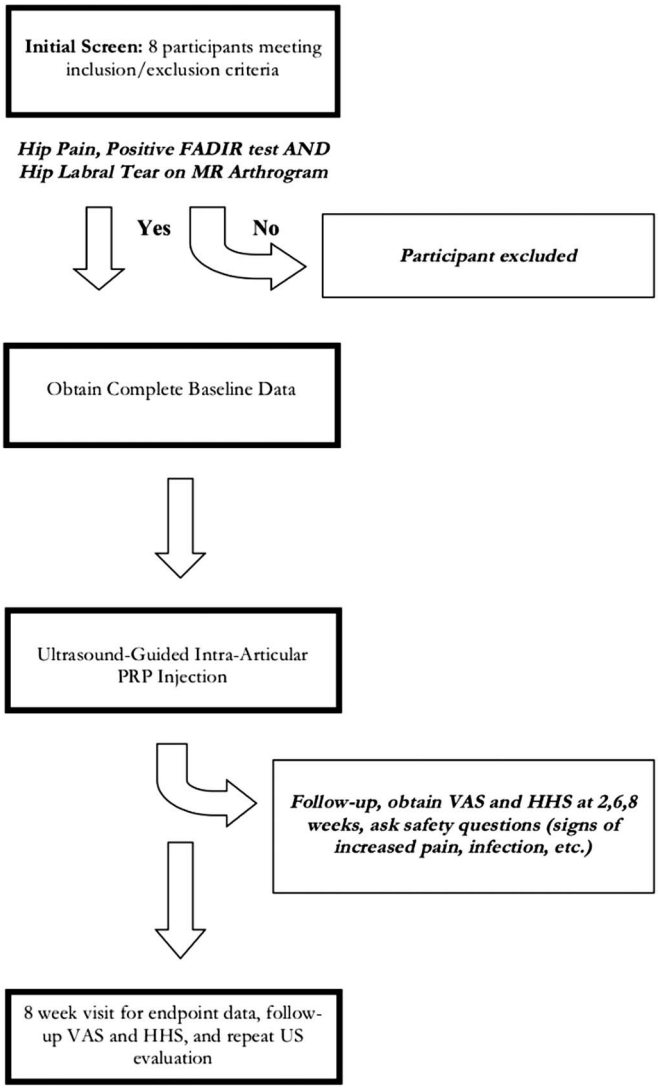

FIGURE 1. Study design schematic flow diagram.

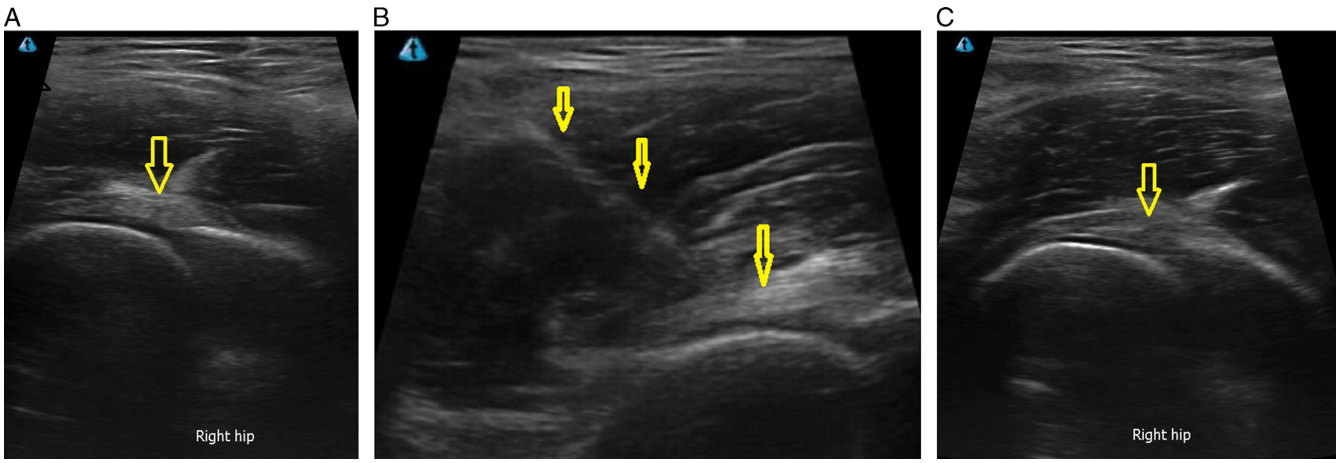

FIGURE 2. A, Musculoskeletal ultrasound of the hip-labral tear (open arrow). B, Ultrasound-guided needle guidance for PRP needle (open arrow). C, Musculoskeletal ultrasound of the hip status post-PRP resolution of tear (open arrow).

TABLE 1. Harris Hip Scale[23]

<70 Poor	70–79 Fair	80–89 Good		90–100 Excellent	
Pain (0–44)	**Limp (0–11)**	**Support (0–11)**	**Distance Walked (0–11)**	**Sitting (0–5)**	**Entering Public Transportation (0–1)**
+44 None or ignores it	+11 None	+11 None	+11 Unlimited	+5 Comfortably in ordinary chair for 1 hr	+1 Yes
+40 Slight, occasional, no compromise in activities	+8 Slight	+7 Cane for long walks	+8 Six blocks	+3 On a high chair for 30 mins	+0 No
+30 Mild pain, no effect on average activities, rarely moderate pain with unusual activity; may take aspirin	+5 Moderate	+5 Cane most of time	+5 Two or three blocks	+0 Unable to sit comfortably in any chair	
+20 Moderate pain, tolerable but makes concession to pain. Some limitation of ordinary activity or work. May require occasional pain medication stronger than aspirin.	+0 Severe	+3 One crutch	+2 Indoors only		
+10 Marked pain, serious limitation of activities		+2 Two canes	+0 Bed and chair only		
+0 Totally disabled, crippled, pain in bed, bedridden		+0 Two crutches or not able to walk			
Stairs (0–4)	Put on shoes and socks (0–4)	Absence of deformity (all yes-4, less than 4 = 0)		Range of motion (* indicates normal)	Range of motion scale (0–5)
+4 Normally without using a railing stairs	+4 With ease	Less than 30 degrees fixed flexion contracture? (Y/N)		Flexion (*140 degrees)	+5 211–300 degrees (total)
+2 Normally using a railing	+2 With difficulty	Less than 10 degrees fixed abduction? (Y/N)		Abduction (*40 degrees)	+4 161–210 degrees
+1 In any manner	+0 Unable	Less than 10 degrees fixed internal rotation in extension? (Y/N)		Adduction (*40 degrees)	+3 101–160 degrees
+0 Unable to do		Limb length discrepancy less than 3.2 cm? (Y/N)		External rotation (*40 degrees)	+2 61–100 degrees
				Internal rotation (*40 degrees)	+1 31–60 degrees
					+0 0–30 degrees

specific to the use of PRP. All injections were performed by a Registered in Musculoskeletal Ultrasound, subspecialty board-certified physician, with more than 10 yrs' experience of ultrasound-guided injections and who teaches ultrasound-guided injections at numerous national multispecialty conferences. Our process of PRP acquisition followed the manufacturer's protocol. Each participant underwent a 40-mL blood draw by a staff nurse in our outpatient clinic. We then extracted PRP from the blood sample using the Biomet GPS III system, designed to produce a leukocyte-rich PRP preparation with 90% recovery of platelets, approximately 9.3 times concentration of platelets over baseline, and 5 times concentration of white blood cells over baseline (Biomet Orthopedics, Inc, Warsaw, IN). The Biomet GPS III System also has been independently studied and confirmed to produce leukocyte-rich PRP with higher proportions of red and white blood cells, along with higher platelet and growth factor concentrations and doses compared with other commercial systems.[30] Using the Biomet GPS III system, blood was centrifuged for 20 mins, after which time 4–5 mL (standard variation while harvesting) of PRP was isolated for immediate injection. The patient was then placed in supine position, with the hip in neutral position. The skin over the anterior aspect of the hip joint was then cleaned and prepared with chlorhexidine in a sterile fashion. Using ultrasound, the hip labrum, acetabulum, femoral head, and femoral neck were identified with the hip in a neutral position. A local anesthetic (5 mL of 1% lidocaine in a sodium bicarbonate buffer solution) was injected subcutaneously at the sterile skin entry site as well as the deeper soft tissue in the plane of the needle trajectory, just before entry into the hip capsule, and the site of pathology at the acetabular labrum, using a 22-gauge 3.5-in needle. Upon the successful needle advancement to the site of the acetabular labral pathology and into the labral tear, the syringe containing the anesthetic was removed and replaced with a syringe containing the PRP. Then, the PRP was subsequently injected at the site of labral pathology under ultrasound guidance (Fig. 2B). After injection, patients were instructed to avoid using NSAIDs for the proceeding 8 wks until follow-up, because NSAIDs may counteract the initial proinflammatory nature of the therapeutic actions of PRP. Study patients were counseled to take acetaminophen or a heating pad to help alleviate postprocedural pain or discomfort, not given any gait aids or crutches, and advised to proceed with relative rest and activity modification for the first 2 wks. Participants were also instructed to continue with normal activities, excluding formal physical therapy, which was initiated after the week 2 follow-up.

Each participant then returned at 2, 6, and 8 wks after intervention for in-person follow-up. The goal of the interval assessments was to determine how soon a response may occur after treatment and assess for any adverse effect. Assessments included adverse reaction documentation, repeat ultrasound imaging to reassess hip labral pathology and morphology, as well as follow-up VAS and HHS assessments.[25,27,28] Statistical analysis was conducted on preinjection and postinjection data for VAS, HHS, and also the ten subratings that compose the HHS.[26,27] Data points and error bars represent mean ±standard error. *P* values were calculated using paired sample (Student's) *t* test (significance with $P < 0.05$). At the end of the 8-wk follow-up, the patient underwent a repeat MRI to assess for healing of the labral compared with the baseline MRI/MRA. We anticipate that VAS would decrease and HHS would increase with PRP administration. Statistical significance would indicate a clinically meaningful outcome.

RESULTS

A total of eight patients (five male and three female) were included in this prospective study. Each patient completed the pilot study without missing any follow-up time points. After treatment with PRP, study, patients achieved improved function, as characterized by HHS, and reduced pain, as per VAS. All eight study patients completed follow-up, with HHS and VAS data collected at baseline (before PRP injection) and at 2, 6, and 8 wks after PRP injection. Criteria for successful and meaningful outcomes in this study were based on the subjective patient reporting of symptoms as well as the quantifiable HHS and VAS scales.

Outcome Measure of Pain: VAS

Treatment of hip labral tears with a PRP injection resulted in statistically significant improvements ($n = 8$) in VAS were achieved with both rest and activity and as early as 2 wks after injection (Fig. 2). As compared with baseline, initial decreases in VAS were observed at 2 wks (1.0, $P < 0.01$ at rest, 2.5, $P < 0.01$ with activity), 6 wks (0.9, $P < 0.01$ at rest, 2.3, $P < 0.01$ with activity), and 8 wks (0.5, $P < 0.01$ at rest, 1.3, $P < 0.01$ with activity) after the PRP injection (Fig. 3).

Outcome Measure of Function: HHS

We characterized patient function using the HHS (Fig. 3). Statistically significant improvements ($n = 8$) in HHS were reported 2 (86.5, $P < 0.01$), 6 (88.0, $P < 0.01$), and 8 wks (92.1, $P < 0.01$) after PRP treatment with respect to baseline HHS before PRP injection (Fig. 4). Statistically significant improvements ($n = 8$) in HHS subratings were also seen with pain, sitting, and total HHS after injection of PRP for hip labral tears versus baseline (Table 2). Patients experienced improved ability to walk longer distances, enter public transportation, don shoes/socks, and climb stairs, which hold clinical relevance, yet those improvements did not achieve statistical significance (Table 2).

At each follow-up, we also inquired about potential adverse reactions (ie, increased pain, fever, chills, bleeding, bruising, erythema, numbness, paresthesias, impaired ambulation, and/or inability to perform activities of daily living). Throughout the entirety of the study, no patients endorsed any kind of adverse reaction or complication after the PRP injection into their hip.

DISCUSSION

The use of PRP and other autologous blood products has gradually been on the rise for treatment of various soft tissue injuries. Although PRP is being used more commonly for tendon pathology, its potential use for other types of tissues is promising.[11–25] This study was conducted to determine whether PRP is a safe and feasible treatment toward treating hip labrum pathology nonoperatively, with a primary focus on pain and function. The authors know of no other prospective study in the literature that explores using PRP as a nonoperative

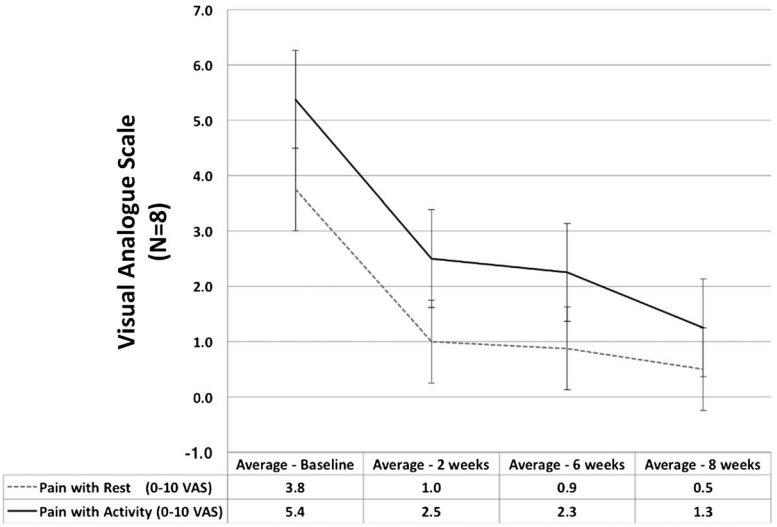

FIGURE 3. Visual analog scale–vertical axis–VAS score; horizontal axis time intervals.

treatment for hip labral injury but are aware of two retrospective case reports on single individuals treated with PRP for hip pain that included labral pathology.[23,24] These case reports help support relative safety and feasibility toward using PRP in hip labral/capsular injury, but only in single patients. Moreover, one of the studies did multiple PRP injections along with bone marrow aspirate concentrate injections on their study subject, whereas the other one relied only on a single PRP injection to produce a positive outcome.[23,24] Here, we expand the assessment beyond a single patient case report and prospectively evaluate a series of patients treated with the same structured injection protocol, rest period, and rehabilitation.

In this pilot study, we aimed to assess the feasibility of PRP treatment for patients with hip labrum pathology toward reducing pain as rated by the VAS and improving hip functional activities as rated by the HHS. Our results show statistically significant improvement of average VAS at 2, 6, and 8 wks, with a biphasic pattern. The greatest improvement occurred between time zero and 2 wks after treatment, along with an additional more modest improvement between 6 and 8 wks after treatment. We have a few hypotheses regarding this biphasic response. We think that the decrease in pain and improvement in HHS in the first 2 wks could be related to an analgesic phase of the treatment, as well as contribution of the period of relative rest. The second decrease in pain and improvement in function seen in weeks 6 to 8 would unlikely be from analgesic effect, but rather from healing of the labral tissue and/or restoration of joint homeostasis.

Although two single retrospective case reports ($n = 1$ for each) were found, whereas these studies suggested positive results without significant adverse effect, such singular reports do not fully assess the potential for adverse reactions.[23,24] As

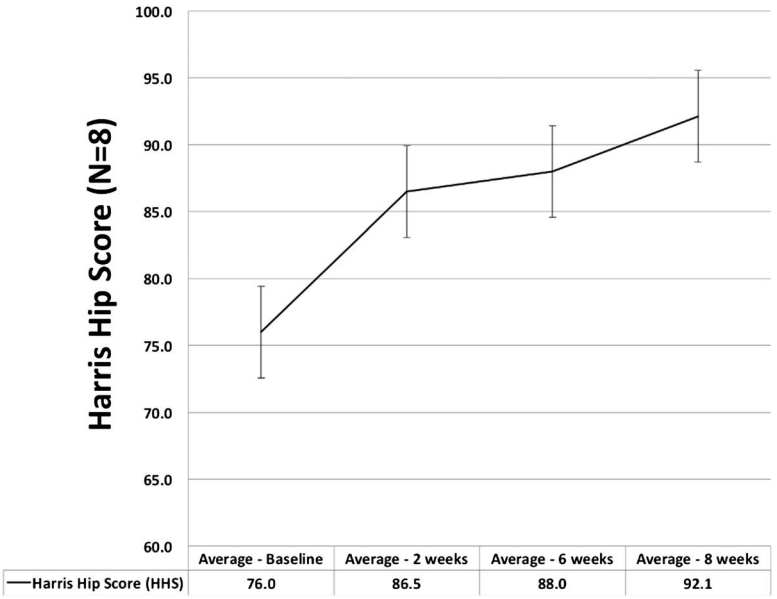

FIGURE 4. Harris Hip Score–vertical axis–HHS score; horizontal axis-time intervals.

TABLE 2. Harris Hip Score subratings

Characteristic	Baseline	2 wks After Injection	6 wks After Injection	8 wks After Injection
Pain	26.3	**33.0**[a]	**34.3**[a]	**37.8**[a]
Limp	9.1	10.3	10.3	10.3
Support	11.0	11.0	11.0	11.0
Distance walked	9.9	10.3	10.3	10.6
Sitting	3.1	**4.5**[b]	**4.8**[b]	**4.8**[b]
Entering public transport	0.8	1.0	1.0	1.0
Navigating stairs	3.8	3.8	4.0	4.0
Donning shoes/socks	3.3	3.8	3.5	3.8
Absence of deformity	4.0	4.0	4.0	4.0
Range of motion score	4.9	5.0	5.0	5.0
Total HHS	76.0	**86.5**[c]	**88.0**[c]	**92.1**[c]

Bold items are statistically significant.

Versus baseline scores: data represented by mean score/subrating ($N = 8$). Harris Hip Score characteristics after single PRP injection of hip labral tear. Statistically significant improvements ($N = 8$) in HHS characteristics were seen with regard to pain, sitting, and total HHS after injection of PRP for hip labral tears versus baseline. P values were calculated using Student's t test (significance with $P < 0.05$). All P values versus baseline. Patients also experienced improved ability to walk longer distances, enter public transportation, don shoes/socks, and climb stairs.

[a]Harris Hip Scores pain subrating – 2 wks: $P < 0.002$, 6 wks: $P < 0.006$, 8 wks: $P < 0.0006$.

[b]Harris Hip Scores sitting subrating – 2 wks: $P < 0.03$, 6 wks: $P < 0.01$, 8 wks: $P < 0.01$.

[c]Total HHS − 2 wks: $P < 0.001$, 6 wks: $P < 0.002$, 8 wks: $P < 0.0003$.

a small prospective study, our featured aims were to assess the safety and feasibility of using PRP treatment for hip labral pathology. Therefore, we structured our study to sequentially assess for adverse events on each follow-up visit. During the entirety of our study, no adverse events were reported, neither from the PRP in and of itself nor from the ultrasound-guided hip injection. This is consistent with previously published studies of PRP for a variety of soft tissue pathologies. Adverse events related to PRP treatments are uncommon and typically are no different than other needle-based treatments, except it eliminates a reaction to injectable medications (ie, corticosteroids).[12,16,19] Our pilot study of eight patients, constructed to sequentially assess for adverse events, further suggests that PRP may be used as a safe treatment for hip labral tears.

The authors are aware of the natural limitations of this pilot study, and therefore, a full determination of treatment efficacy needs to be examined on a larger scale, as well as by adding a control group, and randomization. As a pilot study, we have a small sample size demonstrating promising results, with decreases in pain and improvements in function after PRP treatment for hip labral injury. With the small sample size, there was the risk that one patient's results either positive or negative had the potential to drastically alter the average VAS and HHS scores; however, no major outliers in our group were noted. In addition, as noted previously, this pilot study did not include a control group for outcome comparison, which we would recommend for any subsequent randomized control study. Using a control group will provide a comparative analysis of the variance in results of those receiving the treatment vs. control intervention. We also followed our subjects for 8 wks, whereas future studies can and should improve upon this with longer follow-up at 12 wks, 6 mos, a year, or perhaps even longer. Longer follow-up could help identify further improvements, or lack thereof, in pain and function and possibly healing on imaging, as well as questions regarding adverse events that might not be answered with just an 8-wk follow-up period. Lastly, use of HHS as a measure of function has limitations despite being a validated functional scale because it addresses activities and function skewed toward the lower end of the functional scale in patients with hip pathologies. Unfortunately, no validated functional scale exists specifically for persons with hip labral tears, and the HHS seemed to be the best correlative scale available.

There were other limitations identified in the poststudy period. Although patients were instructed not to use NSAIDs or ice, they were permitted to use acetaminophen and heat for analgesia. Unfortunately, as in most published studies, the authors did not track the exact volume or frequency that acetaminophen or heat was used by the various patients. In addition, as an intra-articular diagnostic injection would alleviate any intra-articular pathology due to osteoarthritis, avascular necrosis, or labral tear, no criterion standard exists to diagnose whether a patient's hip joint pain is solely to due to a hip labral tear versus other pathology. This scenario creates a clinical dilemma for all providers who offer any surgical or nonsurgical treatment. Unfortunately, numerous patients throughout the population undergo surgery without ever having confirmed with absolute diagnostic certainty that the labrum pathology is the cause of the pain and dysfunction.

Despite the limitations mentioned, we feel that this was a successfully performed and devised pilot study for the aims reported. Overall, we have found a biphasic improvement in pain, as rated by VAS, and hip function, as rated by the HHS. For the 8-wk follow-up period, improvements occurred both in the initial period and in late stages of the study, with statistically significant improvement in pain and function from baseline. We strongly encourage more extensive studies with a larger study population with comparative control group and randomization, as well as use of a reliable PRP kit similar to ours that produces leukocyte-rich PRP. Including a more structured approach to tracking hip labrum morphology (ie, with serial

MRI, ultrasound imaging) would also strengthen future studies. The results of this study successfully demonstrate treating hip labral tears with PRP can be done safely, be well tolerated, and improve pain and function in patients with MRI-documented labral tears who have failed standard conservative treatments.

CONCLUSIONS

This pilot study is the first known prospective evaluation of PRP for labral tear, with statistically significant improvement of patient function, as measured by HHS, and pain alleviation, as measured by VAS, beginning as early as 2 wks after single PRP injection for hip labral tears. This study also demonstrates the feasibility of using PRP as a nonsurgical treatment for hip labral tears refractory to more conservative, such as medications and/or physical therapy. In addition, given the absence of adverse events, this suggests that PRP is a potentially safe treatment option in these regards. Overall, a single PRP injection, in conjunction with proper rehabilitation, may help reduce pain and improve function, optimizing quality of life by enabling patients to resume the activities they enjoy. Finally, we consider the results of this pilot study to be a prelude. A larger, randomized controlled study of PRP for hip labral tears is now warranted to further investigate and validate this promising, minimally invasive treatment option.

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