Psoriatic Arthritis and Arthroplasty
A Review of the Literature

Ilya Iofin, M.D., Brett Levine, M.S., M.D., Neil Badlani, M.D., Gregg R. Klein, M.D., and William L. Jaffe, M.D.

Abstract
Psoriatic arthritis is an inflammatory arthropathy associated with the characteristic dermatologic lesions of psoriasis. The diagnosis of psoriatic arthritis is quite difficult, due to the overlap of patients with osteoarthritis (OA) or rheumatoid arthritis (RA) with concomitant non-associated psoriasis. A nonspecific elevation in inflammatory markers (erythrocyte sedimentation rate, ESR; antinuclear antibodies, ANA; or rheumatoid factor, RF) and characteristic radiographic features are often present in these patients. The mainstay of treatment is medical management, using NSAIDs, various immunosuppressants, and anti-TNF agents, for both pain control and possibly as disease modifying agents. Only a minority of patients require surgical intervention, leading to the limited amount of literature concerning total joint arthroplasty and psoriatic arthritis. While past literature has yielded high infection rates post-arthroplasty, newer studies have found more promising results. Alternative surgical options for treating destructive arthritis include open or arthroscopic synovectomy. While early results are promising, recurrence rates and long-term outcomes are not yet available.

Psoriatic arthritis (PsA) is a form of inflammatory arthritis associated with the characteristic dermatologic lesions of psoriasis. The relationship between the skin condition and degenerative arthritis was first made in the 1800s by the French physician, Alibert. Despite this reported clinical association, PsA had been classified as a variant of rheumatoid arthritis (RA) until 1964, when the American Rheumatism Association recognized PsA as a separate entity. Due to this relatively new distinction, there remains a paucity of literature on PsA.

Epidemiology
Psoriasis has a prevalence of 0.1% to 2.8% in the general population, while among people with arthritis, the prevalence of psoriasis is 2.6% to 7%. Conversely, although 2% to 3% of the general population have arthritis, 7% to 42% of patients with psoriasis carry the diagnosis of arthritis. The wide range in reported rates of PsA stems from the difficulty in accurately diagnosing psoriasis as the inciting event leading to degenerative joint disease. The prevalence of psoriatic arthropathy has been estimated to range from 0.4% to 1.5%. Not all patients with psoriasis and degenerative joint disease have true PsA. Because of the high incidence of osteoarthritis (OA) and RA, many patients with suspected PsA actually have psoriasis with one of these concomitant disease processes. The latest survey of the National Psoriasis Foundation has identified a prevalence of 0.5%.

The suggested diagnosis of PsA consists of a patient with psoriatic skin lesions, an inflammatory type arthritis, and a serum RF test that is negative. PsA, along with Reiter’s syndrome, ankylosing spondylitis, and enteropathic arthropathies, is one of the seronegative spondyloarthropathies associated with HLA-B27. Patients with psoriasis who carry the HLA-B7, HLA-B27, HLA-DR7, and HLA-Cw*0602 alleles are more likely to develop a destructive arthritic condition. As 10% to 15% of the normal population is
RF positive, it is possible to have PsA and be RF positive. Therefore, additional clinical and radiologic features have been identified to aid in diagnosing PsA.

**Clinical Presentation**

PsA typically follows a waxing and waning pattern with great variability in the presentation and severity of the disease. Some patients suffer minor symptoms, while others may develop severe deformities, such as arthritis mutilans, a destructive arthritis of the interphalangeal joints that presents with swollen shortened fingers (called “sausage digits” due to their appearance). It is not uncommon for arthritis to be present prior to developing dermatologic lesions. Approximately 15% of the time, an inflammatory arthritis actually precedes the skin lesions (Table 1). The classical physical exam feature of PsA is finger nail pitting, which is found in 90% of patients with PsA and only in 40% of patients with psoriasis and no symptoms of arthritis. Psoriatic skin lesions are scaly, round or oval red plaques that coalesce from smaller papules, often found on the extensor surfaces of joints (Fig. 1). Scales are often silver-colored, adherent, and leave pinpoint bleeding when removed. These plaques have a predilection for intertriginous folds, especially the intergluteal fold, where the plaques may take on a macerated appearance.

Any peripheral joint may be involved in PsA, and present typically with pain and swelling. Erythema may be present and there is usually less tenderness than in joints affected by rheumatoid disease. Though joint involvement is often asymmetric, 53% of patients with polyarticular disease may show symmetrical involvement. Dactylitis, seen in 30% of patients, is an arthritic condition of the small joints of the hand along with swelling of the entire digit. Magnetic resonance imaging (MRI) and ultrasound findings may reveal effusions in both the joints and tendon sheaths in patients with dactylitis. An analogous picture can be observed in the toes. Heel pain, which at times may be severe, can be a presenting manifestation of enthesitis associated with PsA.

Spine involvement occurs in 20% to 40% of patients with PsA; however, in 2% to 4% of these cases symptoms are isolated to the spine. Spine symptoms typically present later in the course of the disease, often affecting older patients and males. PsA of the spine may be a purely radiographic finding or can manifest clinically as sacroiliitis. This inflammatory condition is often asymmetric, presenting as pain and stiffness similar to that found in ankylosing spondylitis. Radiographic evidence of spine involvement may be seen in as many as 70% of patients with PsA.

Other extra-articular lesions include iritis or conjunctivitis, seen in 7% to 33% of patients. Aortic incompetence is seen in less than 4% of patients and typically is found late in the disease process, yet remains a concern for patients that might require operative treatment. A thorough preoperative medical evaluation is necessary to rule out these associated features.

![Figure 1](https://example.com/figure1.png) Classical skin lesions in a preoperative THA patient.

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<tbody>
<tr>
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<td>100</td>
<td>62</td>
<td>220</td>
<td>50</td>
<td>180</td>
<td>100</td>
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<td>58</td>
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<tr>
<td>Male/Female</td>
<td>67/101</td>
<td>47/53</td>
<td>29/33</td>
<td>104/116</td>
<td>32/18</td>
<td>99/81</td>
<td>59/41</td>
<td>43/57</td>
<td>35/33</td>
<td>37/36</td>
<td>169/51</td>
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<td>Age of Onset (yr)</td>
<td>36-45</td>
<td>33-45</td>
<td>40-60</td>
<td>37</td>
<td>39</td>
<td>39</td>
<td>34</td>
<td>37.6</td>
<td>42</td>
<td>42</td>
<td>37</td>
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<td>Oligoarthritids (%)</td>
<td>53</td>
<td>54</td>
<td>14</td>
<td>37</td>
<td>43</td>
<td>26</td>
<td>50</td>
<td>7</td>
<td>N/A</td>
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<td>Polyarthritids (%)</td>
<td>54</td>
<td>25</td>
<td>39</td>
<td>40</td>
<td>78</td>
<td>35</td>
<td>33</td>
<td>63</td>
<td>40</td>
<td>88</td>
<td>N/A</td>
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<td>7.5</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>16</td>
<td>1</td>
<td>N/A</td>
<td>4</td>
<td>N/A</td>
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<td>Back (%)</td>
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<td>21</td>
<td>21</td>
<td>2</td>
<td>6</td>
<td>7</td>
<td>4</td>
<td>6</td>
<td>N/A</td>
<td>1</td>
<td>N/A</td>
</tr>
<tr>
<td>Mutilans (%)</td>
<td>5</td>
<td>N/A</td>
<td>2.3</td>
<td>16</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>N/A</td>
<td>14</td>
<td>N/A</td>
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<td>Sacroilitis (%)</td>
<td>N/A</td>
<td>N/A</td>
<td>2.3</td>
<td>16</td>
<td>2</td>
<td>4</td>
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<td>N/A</td>
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<td>Joints before Skin (%)</td>
<td>16</td>
<td>30</td>
<td>N/A</td>
<td>17</td>
<td>N/A</td>
<td>15</td>
<td>N/A</td>
<td>18</td>
<td>N/A</td>
<td>N/A</td>
<td>13.7</td>
</tr>
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</table>

conditions in patients with PsA.

**Diagnosis**

No diagnostic laboratory tests exist specifically for PsA. Elevated ESR is seen in 40% to 60% of patients, especially those with polyarticular involvement. RF is weakly positive in 5% to 16% of patients, despite earlier beliefs that all PsA patients are RF negative. Antinuclear antibodies (ANA) may be detected in 2% to 16% of patients. All of these tests are relatively nonspecific for the diagnosis of PsA and must be closely correlated with clinical and radiographic findings to make the diagnosis.

There have been multiple HLA loci associated with PsA, such as: B13, B17, B38, B39, B27, Cw*0602, DR4, and DR7. HLA B27 is the most common loci associated with PsA and is found in up to 40% of patients. HLA B7 and B27 correlate with the development of arthritis, while HLA B27, Cw2, and DRw52 are specifically associated with spine involvement. The presence of HLA antigens B27 and DR7 concomitantly, and HLA DQw3 in the absence of DR7, has been noted to be predictive of disease progression; while, HLA-B39 in itself is associated with early progression of the disease.

**Radiographs**

The most distinguishing radiographic feature of PsA is new bone formation. The presence of bony erosions combined with new bone proliferation is suggestive of PsA, and, unlike with RA, there is little associated osteopenia. Other radiographic features of PsA include asymmetric arthritic changes, spondylitis, and sacroiliitis. Bony ankylosis and involvement of the distal interphalangeal (DIP) joints may be seen, as well as asymmetric involvement of DIP and proximal interphalangeal (PIP) joints of multiple rays in the hand. A “pencil-in-cup” deformity is seen in peripheral joints, with lysis of the distal end of one phalanx and remodeling of the proximal end of the more distal phalanx. Sternoclavicular, temporomandibular, and manubriosternal joints may also show evidence of arthritis. Enthesopathy is manifested as the presence of bone spurs and periosteal reaction. Marginal syndesmophytes can be seen in the spine, and, at times, may be difficult to distinguish from those patients with diffuse idiopathic skeletal hyperostosis (DISH). PsA of the hip and knees may be difficult to distinguish from arthritic changes associated with OA and other inflammatory arthritides. Protrusio acetabuli, although not specific to PsA, is often found in patients with true PsA (Fig. 2).

**Classification**

In 1973, Moll and Wright developed a classification system for PsA, based on the unpredictable nature of its presentation. Five basic patterns were identified (Table 2), with overlap of the groupings possible. Some investigators have questioned this classification system, as patients often have features of more than one classification grouping. It is not uncommon for a patient to present initially with one type, and later progress to resemble a completely different stage within the Moll and Wright classification. The presence of arthritic features is variable across multiple studies (Table 1). Marsal and colleagues have proposed dividing PsA patients into two groups. The first group consists of those with peripheral joint involvement only, which comprised 71% of their case series. The second group is composed of the remaining 29% of patients who have axial skeleton involvement with or without peripheral joint disease. Though this is a clinical classification, HLA-B27 was found in 43% of patients with axial skeleton disease but just in 11% of patients with only peripheral skeletal disease (p < 0.01).

**Treatment**

**Medical Management**

Medical therapy is the mainstay of treatment for PsA. There are a vast number of drugs for both skin lesions and arthritic symptoms. Initial therapy for arthritic pain involves the use of nonsteroidal anti-inflammatory drugs (NSAIDs). If one

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**Table 2** Moll and Wright Classification for Psoriatic Arthritis

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Classic PsA confined to DIP</td>
</tr>
<tr>
<td>II</td>
<td>Symmetric polyarthritis similar to RA</td>
</tr>
<tr>
<td>III</td>
<td>Asymmetric oligoarthritis with dactylitis</td>
</tr>
<tr>
<td>IV</td>
<td>Ankylosing spondylitis with or without peripheral joint involvement</td>
</tr>
<tr>
<td>V</td>
<td>Arthritis mutilans</td>
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</table>

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Figure 2 Preoperative radiographs showing psoriatic arthritis (Note: It can be quite difficult to distinguish these radiographic findings from classic OA or RA).
NSAID is not effective, at times a different NSAID will better control the symptoms of arthritis.¹ Disease modifying agents, gold salts, azathioprine, d-penicillamine, and antimalarials are the next step up the treatment ladder. Methotrexate, retinoic acid derivatives, and psoralen plus ultraviolet light (PUVA) can also be used to control both skin and joint symptoms.²⁴

Espinoza and colleagues demonstrated good to excellent results in 36 of 38 patients using methotrexate, a folic acid antagonist, to treat PsA. They found an average of 38 mm/hour reduction in ESR, over a 34-month course. However, there were several complications, including stomatitis and leukopenia in two patients, which required the treatment course to be discontinued. Seven patients required liver biopsies due to liver function test (LFT) abnormalities, with one patient showing evidence of cirrhosis. The patient with cirrhosis continued with the methotrexate therapy and did not show subsequent liver function deterioration.²⁵

Many studies on the efficacy of newer pharmaceutical agents use the PsARC—PsA response criteria (measures the burden of disease by counting the number of swollen and painful joints and assesses overall subjective patient mobility) to evaluate outcomes. The American College of Rheumatology (ACR) responder criteria is a similar measure that also utilizes the swollen and tender joint count in combination with: 1. a pain score; 2. global function scores, as assessed by the physician; 3. a patient-reported function score; 4. a health assessment questionnaire; and 5. C-reactive protein (CRP) or ESR values. The response is evaluated and graded as: ACR20, ACR50, and ACR70, which represent, minimally a 20%, 50%, or 70% improvement, respectively, in the tender or swollen joint count and in at least three of the five additional scores.²⁶ Another measure of outcome used in PsA studies is a self-administered psoriasis area and severity index (PASI) questionnaire. This instrument measures multiple skin-related complaints, joint pain, fatigue, and average daily amount of time spent on psoriasis care.²⁷

Recently, leflunomide, a pyrimidine synthesis inhibitor that stops proliferation of lymphocytes, has also been shown to be effective in the treatment of both skin and joint lesions in a double-blind randomized placebo-controlled study of 188 patients. PsARC response was achieved by 59% of leflunomide-treated patients versus 29% of patients treated with placebo (p < 0.0001). The ACR20 response was seen in 36.3% of the leflunomide-treated patients and 20% of the placebo-treated patients (p = 0.014). The PASI score was reduced by 24% in the leflunomide-treated group and did not change at all in the placebo-treated group (p = 0.003).²⁸

Etanercept and infliximab,²⁹ ³⁰ both anti-tumor necrosis factor (TNF) agents, have also shown effectiveness against skin and joint lesions in controlled studies. Mease and coworkers performed a phase two randomized trial of 30 patients treated with etanercept and 30 patients treated with placebo. Half of the patients in each group were already on concomitant methotrexate therapy. At 3 months, 87% of the etanercept-treated patients and 23% of the control group achieved the PsARC response, while 73% of patients in the etanercept group and 13% in the placebo group achieved the ACR20 response. The PASI score was reduced in 46% of patients in the etanercept-treated group and by 9% in the placebo-treated group.²⁹

The same group conducted a phase three, randomized, placebo-controlled trial of etanercept in 205 patients with PsA. The results showed a 72% PsARC response at 3 months and a 70% response at 6 months, with the corresponding placebo responses of 31% and 24%, respectively (p < 0.001). The ACR20 response was 59% at 3 months and 50% at 6 months, with corresponding placebo responses of 15% and 13%, respectively (p < 0.001). The PASI scores were decreased by 46% in the etanercept group and did not change in the placebo group (p < 0.001). Similar responses were noted among those patients both on and off concomitant methotrexate therapy.³⁰

Infliximab has also showed effectiveness in a randomized, placebo-controlled study involving 100 patients with PsA. PsARC response at 16 weeks was 76.5% in infliximab-treated patients and 18% in placebo-treated patients (p < 0.0001). The ACR20 response was 69% in infliximab patients and 8% in the placebo group (p < 0.0001). The PASI score was reduced in 81% of the infliximab group, compared to an increase of 35% in the placebo group (p < 0.001).³¹

Clegg and associates have shown sulfasalazine to be effective in the treatment of PsA as well.³² In a randomized placebo controlled study of 221 patients with PsA, response rates were measured by joint tenderness, swelling score, and physician and patient global assessment at 36-week follow-up. A significant difference (p = 0.05) was seen between the two groups, with a 57.8% and 44.6% response seen in those with sulfasalazine versus placebo treatment, respectively. Adverse reaction rates were minor in this study.³² However, Rahman and colleagues showed that up to 44% of patients cannot tolerate the side effects of sulfasalazine, primarily due to gastrointestinal complaints.³³

In a study of only six patients, cyclosporine A treatment has resulted in improvement of joint symptoms in all patients after 2 to 4 weeks of treatment; however, symptoms gradually worsened 4 weeks after the treatment was discontinued.³⁴ The side effects of cyclosporine A, particularly nephrotoxicity and hypertension, forced 9.4% of patients to discontinue the drug prior to treatment completion.³⁴ In another study of eight patients with PsA who were treated with cyclosorpirine A, seven showed improvement in skin lesions and joint symptoms over a 6-month course of treatment. One patient withdrew due to tremors, malaise, and lack of improvement. Three required a dose reduction, due to a greater than 50% increase in creatinine, and another three had a rise in blood pressure that responded to treatment.³⁵

Other medicines that have been used to treat PsA include: vitamin D₃, bromocriptine, peptide T, and fish oils; however, their efficacy remains to be proven.³⁶
Surgical Management
In patients with severe joint destruction, refractory to nonoperative treatment, surgical options should be explored to assist in pain relief and return of function. In discussing these choices with patients, there are several special considerations that must be covered in those with PsA. The stress of surgery can cause an eruption or exacerbation of psoriatic skin lesions. This is known as the Koebner phenomenon and remains a concern, as these skin lesions may compromise the surgical site and increase the risk for infection, especially in sick or elderly patients. It is also important to discuss preoperatively with these patients the overall outcomes and infection rates reported in the current literature.

Degenerative joint disease requiring surgical intervention in patients with PsA is quite rare overall. Zangger and coworkers reviewed the records of 444 patients with known PsA from 1978 to 1998. They found that only 31 (6.98%) patients had undergone musculoskeletal procedures, typically occurring, on average, 13.9 years after the initial diagnosis of PsA. A comparison of patients who had undergone surgery to those who had not revealed that operative patients had a greater number of inflamed joints on initial presentation as well as more significant radiological damage. Joint replacement is not commonly performed in patients with PsA. In a study of 504 patients with PsA, only 32 patients developed hip arthropathy. Of the 17 patients who were followed up, nine required hip arthroplasty. Overall, surgical options are reserved for cases in which nonoperative treatment has failed and medical treatment of the psoriasis has been maximized (Fig. 3).

Technical Considerations
Because of the few procedures performed, there is a paucity of literature related to arthroplasty in patients with PsA. Orthopaedic procedures in patients with PsA can be complicated by clinical features of the disease itself. Zangger and associates reported on 71 musculoskeletal procedures performed in 43 patients between 1986 and 1996. The patients were divided into three groups: 1. those with polyarticular involvement (greater than five joints involved), approximately 65% of patients; 2. those with oligoarticular involvement (less than five joints involved), which comprised 25% of the study; and, finally, 3. patients with only distal PsA (DIP joints, only of hand or foot), which made up 10%. The majority of procedures performed were DIP joint arthrodeses, while hip and knee arthroplasty were quite rare.

Zangger and colleagues, however, did note a few technical challenges in surgical management of patients with PsA treated with hip or knee arthroplasty. In six procedures, soft tissue contractures were a concern, requiring surgical release. Bone loss was also found to be a challenge, despite radiographic findings of osteopenia being relatively common in this patient population. In their series, six procedures were complicated by such compromised bone stock (an intraoperative femur fracture during a total hip arthroplasty was attributed to poor bone quality). It is important to keep these intraoperative findings in mind during preoperative planning and in choosing the appropriate implants for a total joint replacement in these patients.

Infection
Due to the systemic inflammatory nature of the disease, patients with psoriasis have been thought to be at an increased risk of developing postoperative infection. The skin on psoriatic plaques has higher bacterial counts than adjacent normal skin, and patients with psoriasis have higher bacterial counts than that of individuals not affected by the disease. While the skin of psoriatic plaques does not harbor pathogenic bacteria, the rate of occurrence in nasal carriers of Staphylococcus aureus among patients with psoriasis is higher than the standard population. Several studies have attempted to address this issue of a higher postoperative infection rate. The resultant data have been inconclusive and, currently, there is no consensus of opinions.

Because OA and RA are diagnosed more commonly, most

Figure 3 A. Postoperative radiograph after THA. B. Clinical photography of healed wound at 6-month follow-up.
of the available total joint arthroplasty literature pertains to patients with psoriasis and OA, rather than true PsA. In one of the earliest studies by Menon and Wroblewski, 40 55 Charnley low-friction THAs were performed in 38 patients with psoriasis. The investigators found a postoperative superficial infection rate of 9.1% and a 5.5% deep infection rate, which are significantly higher than those published for primary arthroplasty patients (~1%) with predominantly OA. 41-43 The most common organisms cultured from the infected prostheses were Staphylococcus aureus, Staphylococcus epidermis, and Proteus. Perioperative antibiotics were not used for any of the procedures, and the investigators concluded that perioperative antibiotic prophylaxis would be beneficial for patients with PsA. 43 A significant weakness of this study was the lack of distinction between patients with true PsA and those with OA and psoriatic skin lesions.

A later study in which perioperative antibiotics were utilized showed a similarly high rate of infection. Stern and coworkers 44 performed total knee arthroplasties (TKAs) in 18 patients with psoriasis. Of these, only seven had PsA, while three had RA, and eight had OA. Even worse results were found at 4-year follow-up, with 17% and 21% deep infection and revision rates, respectively. The most commonly cultured organisms were: Staphylococcus aureus and beta-hemolytic streptococci. They concluded that maximum precautions during the perioperative period, including meticulous skin care along with long-term follow-up care, should be provided to avoid joint sepsis in this population. 44

The most recent long-term study on arthroplasty in patients with psoriasis has reported drastically improved results. Beyer and associates 45 performed 50 TKAs in 34 patients with psoriasis and arthritis, with an average of 4.5 years follow-up (minimum of 2 years). The investigators found only one deep infection, which was cultured as Staphylococcus aureus. They concluded that there is no increased risk of infection when performing arthroplasty in patients with psoriasis. 45 Despite these conflicting results, it is recommended that meticulous skin care of preoperative and postoperative psoriatic skin lesions be maintained and that incisions directed through active areas of psoriasis should be avoided (Fig. 3). Following these precautions with standard perioperative antibiotics will greatly reduce the chance of postoperative infections.

**Outcomes**

It is difficult to draw conclusions specifically about outcomes in arthroplasty in this population due the limited amount of data, difficulty in diagnosing true PsA, and the lack of long-term follow-up studies. Nevertheless, the available literature reports disappointing results that are likely due to the unique challenges these patients present (skin lesions, pathogenic skin flora, and compromised bone and soft tissues). Stern and colleagues 44 reported only 67% excellent results and 29% poor results at 4-year follow-up. They experienced a 21% rate of revision during this relatively short-term follow-up. Zanger and coworkers 46 also reported lower postoperative functional scores than would be expected. They attributed these poor results to the burden of polyarticular involvement in many of these patients. Rehabilitation was felt to be compromised due to the limitation in adjacent and contralateral joints. Despite the limited number of studies, there appears to be a trend toward worse outcomes in patients with PsA versus standard populations of RA and OA.

**Alternatives to Arthroplasty**

Attempts to minimize surgical trauma in patients with PsA have developed because of the high morbidity and complication rates in those undergoing total joint arthroplasty. Based on the success of synovectomy in treating RA, a similar approach has been proposed for early PsA. 46 Due to the inflammatory nature of PsA, it is likely the synovial lining plays a role in the development of degenerative joint disease. Therefore, a thorough synovectomy has been hypothesized to provide pain relief and slow disease progression. Arthroscopic and open synovectomy have been described; to this date, it is a topic of debate as to which provides better results. 46, 47

Fiocco and associates reported prospectively on 17 patients with RA and 18 patients with PsA who underwent arthroscopic knee synovectomy at 36-month follow-up. Signs of joint inflammation (i.e., tenderness, swelling, and “ballottement”) as well as range of motion were used in evaluating patient outcomes. All patients showed improvement in range of motion and a decrease in inflammation. No patients had a worsening of their condition postoperatively. At 36 months, 72.8% of the entire group showed definite improvement. Ultimately, 61.2% had clinical remission, with 86.3% of the PsA knees and 45.7% of the RA knees remaining in remission at latest follow-up. Interestingly, radiographic severity of the disease and cartilage damage seen on arthroscopy were not predictors of poor outcome for synovectomy, and PsA knees with more advanced cartilage damage actually had better long-term outcomes. 48

In a case study by Linshcoten and Krackow, open bilateral knee synovectomies were performed on a 21-year-old with PsA. At 9-year follow-up, they reported continued pain relief in the absence of knee effusion or synovial hypertrophy. Functionally, they reported an increased range of motion from 110° preoperatively to 135° postoperatively in both knees. 47 Long-term results are not available for arthroscopic synovectomy, but the early results are quite encouraging. While arthroplasty remains an end-stage procedure for these patients, synovectomy in conjunction with medical treatment may play a role in early treatment and prevention of disease progression. Long-term outcomes and rates of recurrence have yet to be determined.

**Limitations of Data**

As mentioned, there are a number of limitations when considering the available data and literature about PsA. The most
pressing limitation is simply the paucity of studies that have been performed in patients with true PsA. This difficulty arises because the true diagnosis of PsA is difficult to make due to the lack of a single reliable diagnostic test. In patients who do have known PsA, studies have shown that surgery is the exception and not the rule, as medical treatment is often the mainstay. Finally, much of the literature pertaining to PsA is actually for those patients with psoriasis and concomitant OA or RA, which represents a different disease category.

Conclusions

Despite the limited literature on the subject, some conclusions can be drawn concerning the treatment of PsA and total joint arthroplasty. First, hip and knee arthroplasty in PsA are relatively rare, and distal joint procedures are far more common in this patient population. Second, when arthroplasty is performed on these patients, infection remains a significant concern. Preoperative rheumatology and dermatology consultations should be used to maximize medical control and manage perioperative chemotherapy agents. However, with routine perioperative antibiotics, careful control of skin lesions, and well planned surgical incisions, the rates of infection can be minimized. The danger of infection is greatest when surgical incisions are made through active skin disease and these should be avoided, particularly with elective procedures. Meticulous preoperative planning should address soft tissue contractures, bone loss, and quality of bone stock, as well as direct a postoperative rehabilitation course that reflects the polyarticular nature of the disease. Following these guidelines may enhance the post-arthroplasty outcomes in these patients and provide satisfactory long-term results.

Disclosure Statement

None of the authors have a financial or proprietary interest in the subject matter or materials discussed, including, but not limited to, employment, consultancies, stock ownership, honoraria, and paid expert testimony.

References


