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BRIEF COMMUNICATION

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The Treatment of Psoriasis With Intramuscular Triamcinolone

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INTRODUCTION

Although intramuscular triamcinolone acetonide (IMT) for the treatment of numerous dermatologic conditions has been available for more than 60 years, many dermatologists continue to use it routinely while many others use it rarely or not at all, either because they are unaware of its therapeutic benefits or are concerned about its side effects. A recent survey conducted by the University of Utah Department of Dermatology (personal communication) found that of the 844 out of 2000 dermatologists who completed the survey, only 55% felt comfortable using IMT for steroid-responsive dermatoses, while 90% felt more comfortable using oral corticosteroids. If both were indicated, then 59% preferred oral corticosteroids over IMT.

In 2009, one of the co-authors (DNR) published an article describing the positive response of IMT to many chronic steroid-responsive conditions while also using a technique that minimized any significant side effects, especially when compared with a course of oral corticosteroids. We will review these findings and then discuss IMT's value in the treatment of psoriasis.[1]

Clearly, in the past two decades, there has been a huge paradigm shift with the introduction of many new systemic agents that can effectively and safely treat moderate to severe psoriasis patients. This begs the question of what IMT can do to bring therapeutic value to our patients. Psoriasis is of course a highly variable disease, and in some cases, IMT can serve as an adjunctive agent if there are significant symptomatic issues, such as pruritus and pain, not completely controlled by one of the systemic medications. In other cases, especially when the disease is localized, IMT can treat psoriasis effectively and safely without having to use one of the systemic drugs. This is important for several reasons. First, patients may have comorbidities or personal preferences which preclude the use of one of these systemic medications. Second, the cost differential between the use of one of these newer drugs and IMT is enormous. Whether insurance companies, pharmaceutical assistance programs, or out-of-pocket costs paid by patients, physicians have an ethical obligation to at least consider cost in choosing between two therapeutic options that have similar effectiveness and safety features.

MATERIALS AND METHODS

IMT is indicated in adults with chronic recalcitrant steroid-responsive dermatologic conditions that are not adequately treated with topical medications alone. Common conditions besides psoriasis include pruritus, lichen planus, atopic dermatitis as well as several types of alopecia.

Typical dosing of IMT is 80 mg at least 7 to 8 weeks apart and gradually tapered off depending on clinical response. The injection is given into the upper outer quadrant of the gluteal muscle with a 3-cc syringe and a 1 ½ inch needle. Leakage of triamcinolone into the subcutaneous tissue must be avoided to prevent localized tissue atrophy or abscess formation.

Clinical Indications for the Treatment of Psoriasis with IMT

1. Localized Psoriasis

Localized psoriasis, especially of the scalp, hands, and feet (hyperkeratotic and pustular types), may only involve a small body surface area but can be extremely symptomatic and disabling and may often be very resistant to topical medications alone. A large percentage of these patients could be adequately treated with 3 or 4 IMT injections over the course of a year which can negate the need for the use of other systemic drugs.

2. Relief of Pruritus and Pain

Pruritus and pain may often accompany moderate to severe psoriasis patients. The pain, which may or may not be due to underlying psoriatic arthritis, as well as the pruritus, will almost always improve significantly with IMT. This can be very important when patients first present or when switching from one systemic agent to another when insurance delays can take weeks or even months to resolve. Even when doing relatively well on a particular systemic medication, pain and pruritus may be present and IMT can be beneficial as adjunctive treatment.

3. Nail Psoriasis

For occasional patients, psoriasis of the nails can be quite disfiguring, and it can be very painful to treat with intralesional steroids and unresponsive to topicals. These patients will usually respond well to IMT.

4. Guttate Psoriasis

This condition usually occurs in younger patients and can be quite symptomatic but will usually respond to IMT.

IMT Side Effects

While IMT has a relatively good safety profile, there are some side effects to be aware of. Some adverse reactions seen with IMT therapy include localized lipoatrophy, petechiae and purpura, mild hyperglycemia, menstrual irregularities, and very rarely, hirsutism and sterile abscesses.

Localized lipoatrophy may occur if the full dose of steroid is not injected completely into the muscle. This side effect is typically asymptomatic and gradually resolves within a few months of injection. Petechiae and purpura may also be seen and are more common in older persons with severe sun damage. For three to five days after injection, patients may experience mild elevations (5 to 10 dL/mg) in serum glucose levels, which usually decrease within a week of treatment. This side effect does not limit the use of this treatment for patients with diabetes mellitus.

With the use of IMT, women may experience menstrual irregularities, which premenopausal women should be aware of before beginning treatment. This therapy should not be administered to females who intend to become pregnant.

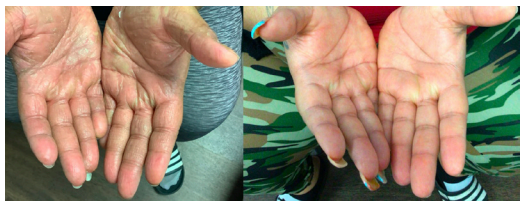
Oral corticosteroids present numerous side effects that are not seen in IMT if administered every 7 to 8 weeks. Adverse reactions to oral steroids include psychiatric symptoms, muscle weakness, weight gain, increased appetite, fluid retention, bloating, moon face, insomnia, hyperactivity, increased centripetal fat distribution, and GI issues, such as nausea and bloating. Long-term use of oral corticosteroids can lead to significant health concerns, including hypertension and cataracts.

One of the concerns with the use of long-term corticosteroids is aseptic necrosis of the femur or other bones, but there is only one reported case of IMT causing that condition in the literature.[2] In addition, bone fragility and fracture are other concerns with chronic corticosteroid use, but a review of the literature as well as one of the author's experiences in treating thousands of patients over more than 40 years, that side effect is extremely rare.

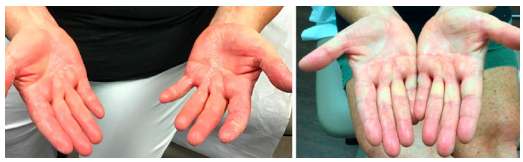
Reddy et al explored the extent of adrenal suppression of IMT in 14 patients with steroid-responsive dermatological diseases. Researchers injected 30 mg IMT to patients with BMI <30 and 60 mg to patients with BMI >30. Patients received one or two doses with six weeks between doses. Morning cortisol and ACTH were measured before treatment, as well as 6- and 12-weeks post-treatment. Results showed decreased mean total cortisol levels in patients at 6- and 12-weeks post-injection but ACTH levels were not impacted. However, no secondary adrenal suppression

FIGURE 1A, 1B, 1C. These three patients have severe, symptomatic localized psoriasis (pustular and hyperkeratotic psoriasis of the palms, and psoriasis of the scalp.) These three patients had failed to respond adequately to topical medications alone but did very well receiving 3-4 IMT injections over the course of a year.

(A)



(B)



(C)

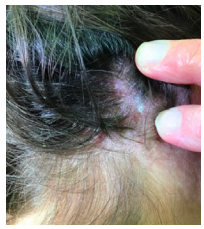


FIGURE 2A AND 2B. This patient's major concern was nail psoriasis, and he responded to a total of 4 IMT injections over the course of a year.

(A) (B)

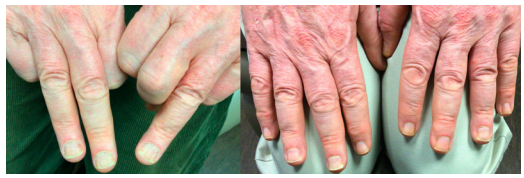


FIGURE 3A AND 3B. This 17-year-old patient presented with generalized pruritic plaque psoriasis, because insurance issues delayed his receiving systemic medications. After receiving an IMT injection on his initial visit, when he returned 2 ½ weeks later his lesions had flattened and his pruritus was gone.

(A) (B)

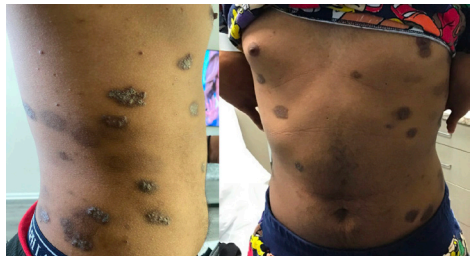
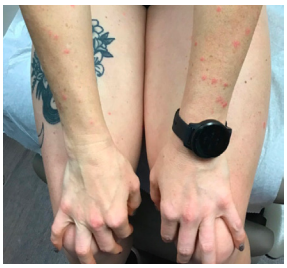


FIGURE 4. This patient developed generalized guttate psoriasis following a streptococcal infection. Within 10 days after receiving an IMT injection, her psoriasis had cleared and never recurred.



or Cushing's syndrome was noted in any patient. Researchers did not note any significant side effects of the treatment and suggested that IMT is a safe and effective way to treat multiple dermatologic conditions.[3]

One of the most important studies in the literature that helps explain the metabolism as well as the overall safety of IMT is by Kusama et al who treated 5 patients with radioactively tagged triamcinolone acetonide and measured the plasma levels and urinary excretion. They found that the peak plasma levels of triamcinolone acetonide occurred in the first one or two days, and then fell rapidly over the next 6 to 7 days to about one-third of its peak level. It was felt that this period represented an equilibrium between the slow continued release from the muscle deposit and the slow excretion because of triamcinolone's low renal clearance rate. During the next week, the plasma level decreased steadily and was gone by the end of the third week with a subsequent four to five-week break before another injection. The fact that the anti-inflammatory effects of IMT continue to be effective long after the medication has been metabolized by the body helps explain the safety of IMT if used as described in this paper.[4]

CONCLUSION

A recent editorial in the Journal of the American Academy of Dermatology[5] discussed the future of psoriasis treatment and the role of systemic agents in the treatment of limited disease, which nevertheless can have a profound impact on patients' quality of life. Since all of the systemic agents are indicated for moderate to severe psoriasis, it has become increasingly difficult to obtain insurance coverage for limited disease. As described in this paper, IMT has been very effective in treating many of these patients without the need to use other systemic agents. In addition, IMT has been very helpful as an adjunctive agent with those patients with more generalized psoriasis who require one of the systemic medications.

DISCLOSURES

The authors have no conflicts of interest to declare.

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