

# When DeQuervain's DePigments: A Case of Iatrogenic Hypopigmentation

Tatiana Bekker, MD

## INTRODUCTION

Localized joint and soft tissue corticosteroid injections are being increasingly utilized to decrease inflammation, improve pain, and recover mobility. Adverse effects from injections are rare, with a 1% incidence of skin depigmentation.<sup>1</sup>

## CASE DESCRIPTION

A 58-year-old African American female initially presented to her outpatient primary care clinic with a chief complaint of left wrist pain. She described the pain as localized over the lateral aspect of the radiocarpal joint, non-radiating, and without overlying erythema or edema. The pain had been present for five months. The patient had already tried NSAIDs as well as splinting with minimal relief.

On physical exam, the patients' wrist, hand, and fingers appeared normal to inspection. On palpation, joint spaces were non-tender; however, her Finkelstein's test was grossly positive. This raised suspicion for pathology in the 1st and 2nd extensor compartments consistent with De Quervain's tenosynovitis. All therapeutic options were explained to the patient and she agreed to receive a steroid injection, as this has been shown to have superior outcomes for De Quervain Tenosynovitis.<sup>1,2</sup> Consent was obtained and 10mg triamcinolone was injected in the region of the first extensor compartment just proximal to the radiocarpal joint.<sup>3</sup>

The patient experienced mild symptomatic relief for approximately four weeks. Four months later, she returned to the clinic with skin depigmentation over her left wrist (Figure 1). On exam, her skin was neither pruritic, inflamed, nor painful to palpation. No other areas of depigmentation were appreciated.

## DIFFERENTIAL DIAGNOSIS

The differential diagnosis of acquired skin hypopigmentation includes vitiligo, pityriasis alba, tinea versicolor, post inflammatory causes, and iatrogenic (i.e. from steroids, both injected and less commonly topical).<sup>4</sup> Pityriasis is typically found on the face, neck, and arms and is most commonly associated with a history of atopic dermatitis.<sup>5</sup> Vitiligo is an autoimmune disorder that classically presents with a diffuse bilateral distribution of skin depigmentation and is not limited to skin alone—as



Figure 1. Skin depigmentation over the patient's left wrist.

hair and mucosal depigmentation may be appreciated as well.<sup>6</sup> Tinea versicolor, a fungal skin infection, presents with multiple diffuse patches as well, most commonly presenting on the trunk.<sup>7</sup> For this specific patient, the localized area of depigmentation and recent steroid injection made iatrogenic cause the most likely etiology.

## OUTCOME AND FOLLOW UP

Available therapies for De Quervain's tenosynovitis include rest, non-steroidal anti-inflammatory medications, wrist splinting, steroid injections and a combination of both wrist splinting and steroid injections. This patient was diagnosed with corticosteroid-induced hypopigmentation secondary to her recent injection. Proper anticipatory guidance was provided and the patient was reassured that her normal pigment should return with discontinuation of steroids. The patient was scheduled to follow up in four months for re-evaluation of her wrist.

## DISCUSSION

Pigmentation of skin is dependent upon the amount and function of melanocytes. Skin hypopigmentation results from either a decreased number of melanocytes or an injury to the melanocytes' ability to properly transport

melanin to the skin surface. It is hypothesized that steroids likely interfere with melanin synthesis within melanocytes, causing an area of hypopigmentation that is reversible with discontinuation of steroids.<sup>8</sup>

Localized corticosteroid injections are a well-established and effective therapeutic intervention for inflammatory, crystalline, and mechanical arthropathies. In a pooled meta-analysis, injection alone was shown to have a higher cure rate than any other therapeutic avenue, with a reported 83% cure rate.<sup>9</sup> Complications can arise from the process of the injection itself, including local trauma and infection, and those due to the effect of a locally injected steroid, such as post injection flare where there is a local inflammatory reaction that appears and resolves within 24-48 hours after injection, and late skin changes such as atrophy and depigmentation.<sup>1</sup> Depigmentation has been shown to be more likely to occur in dark-skinned individuals and arises between 1-4 months after injection. Time to resolution of hypopigmentation is variable, reportedly taking anywhere between 6-30 months to return to baseline.<sup>10,11</sup> This complication is widely described in the literature. However, it is relatively rare, with an incidence of less <1% of all injection.

## KEY POINTS

Hypopigmentation is a well-known complication of steroid injections. Though infrequently encountered and relatively benign, it remains an important complication to explain to patients prior to the procedure.

## REFERENCES

1. Stephens MB, Beutler AI, and O'Connor FG. Musculoskeletal injections: A review of the evidence. *American Family Physician*. 2008;78(8):971-976.
2. Liang J and McElroy K. Hypopigmentation after triamcinolone injection for de Quervain tenosynovitis. *American Journal of Physical Medicine and Rehabilitation*. 2013;92(7):639.
3. Tallia AF and Cardone DA. Diagnostic and therapeutic injection of the wrist and hand region. *American Family Physician*. 2003;67(4): 745-750.
4. Plensdorf S and Martinez J. Common pigmentation disorders. *American Family Physician*. 2009;79(2):109-116.
5. Wells BT, Whyte HJ, and Kierland RR. Pityriasis alba. *Arch Dermatol*. 1960;82:183-189.
6. Ezzedine K, Eleftheriadou V, Whitton M, and Van Geel N. Vitiligo. *The Lancet*. 2015;386(9988):74-84.
7. Sunenshine PJ, Schwartz RA, and Janniger CK. Tinea Versicolor. *International Journal of Dermatology*. 1998;37(9):648-655.
8. Coondoo A, Phiske M, Verma S, and Lahiri K. Side-effects of topical steroids: A long overdue revisit. *Indian Dermatology online journal*. 2014;5(4): 416-425.
9. Richie CA and Briner WW. Corticosteroid injection for treatment of de Quervain's tenosynovitis: A pooled quantitative literature evaluation. *Journal of the American Board of Family Practice*. 2003;16(2):102-106.
10. Friedman SJ, Butler DF, and Pittelkow MR. Perilesional linear atrophy and hypopigmentation after intralesional corticosteroid therapy: Report of two cases and review of the literature. *Journal of the American Academy of Dermatology*, 1988;19(3):537-541.
11. Park SK, Choi YS, and Kim HJ. Hypopigmentation and subcutaneous fat, muscle atrophy after local corticosteroid injection. *Korean journal of anesthesiology*. 2013;65(6):S59-S61.