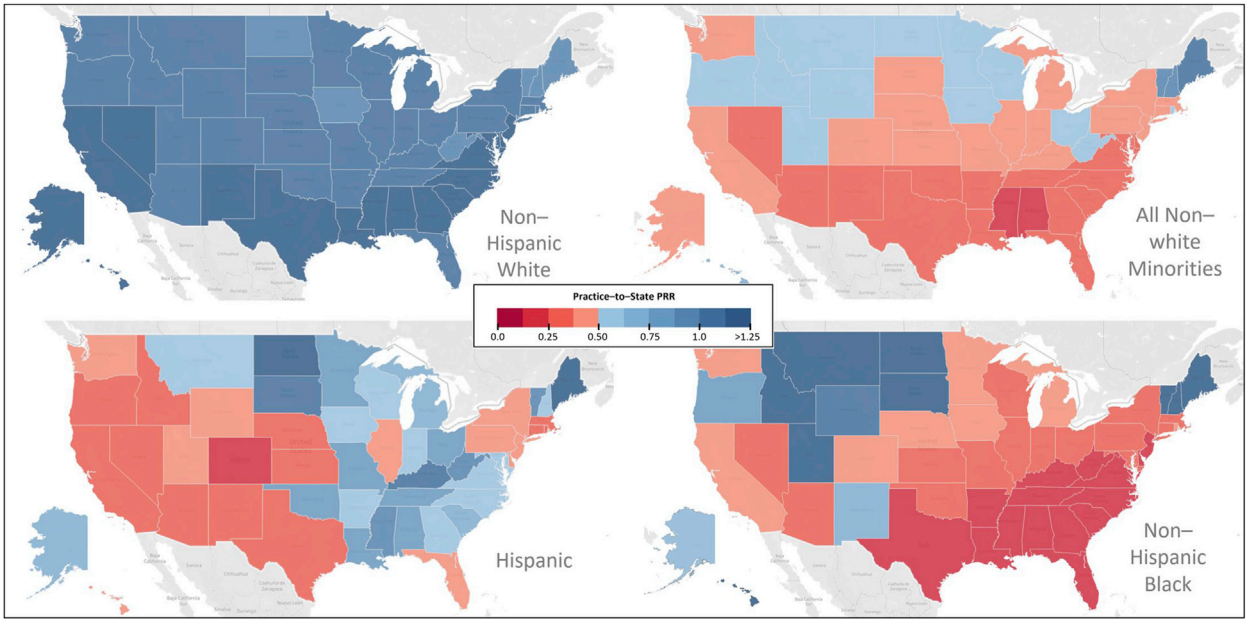


**Fig 1.** Geographic nationwide variation in white and minority Medicare beneficiary representation in dermatologic clinics by United States states in 2017. The representation of major racial/ethnic groups in dermatologic clinics is in the form of a prevalence rate ratio (*PRR*), which describes the proportion of clinic patients of a particular race/ethnicity relative to the proportion of state Medicare beneficiaries of that race/ethnicity. It includes non-Hispanic white and nonwhite minority data from 10,222 dermatologists, non-Hispanic black data from 9478 dermatologists, and Hispanic data from 9658 dermatologists across 50 states.

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## Treatment of nail psoriasis with intramatrical methotrexate: An uncontrolled prospective study of 20 patients

*To the Editor:* Psoriasis affects nails in approximately 15% to 50% of patients, whereas isolated involvement is observed in 5% to 10% of patients.[1,2] Management of isolated nail psoriasis is challenging. Many treatment options are available, but none of them are uniformly effective. The use of intralesional methotrexate has been recently reported.[3,4] We conducted a study to evaluate the clinical response

of isolated nail psoriasis to an intramatrical methotrexate injection.

There were 20 patients with biopsy specimen-confirmed isolated nail psoriasis not on any topical or systemic psoriasis treatments in the last 3 months enrolled between March 2016 and March 2017. Patients with comorbidities, pregnant women, and children aged younger than 10 years were excluded. The Sardar Patel Medical College Ethical Committee approved the protocol.

After written consent, a ring block with 0.5 mL plain lignocaine (2%) was administered in the web spaces on either side of the digit, followed by a 2.5-mg intramatrical methotrexate injection into each side of the nail at a point 2.5 mm proximal and lateral to the junction of proximal and lateral nail folds[1] (Fig 1). Loss of resistance was felt, and immediate yellowish blanching of the lunula was noted due to the yellow color of methotrexate. Weekly methotrexate injections were given for 6 weeks.

Baseline complete blood counts and liver function tests were performed for all of the patients and repeated at each subsequent visit. The Nail Psoriasis Severity Index[1] score was recorded at 0 weeks (baseline), 6 weeks, and 12 weeks. Monthly follow-up was done for the next year.

Of the 20 patients, 15 were men and 5 were women, and 2 were lost to follow-up. The duration of psoriasis varied from 1 year to 15 years. The thumb and index fingers were most commonly affected. There were 89 nails affected in 20 patients. The mean Nail Psoriasis Severity Index score reduced significantly from 3.70 (preintervention) to 0.67 at 12 weeks (Supplemental Fig 1, A and B, available via Mendeley at https://doi.org/10.17632/p8fgbx83s8.2). The *P* value was <.001 by analysis of variance test. The average total dose of methotrexate per patient was 135 mg (range 60-300 mg; Table I). Pain at injection site was noted in 2 patients and acute paronychia in 1. Other than these, there were no major adverse effects. There was no recurrence at 1 year.

Delivering drug directly to the psoriatic activity site is an attractive option because oral/parenteral methotrexate drug availability at the lesional site is questionable and associated with systemic adverse effects. Saricaoglu et al[3] reported successful treatment of psoriatic nail dystrophy with low dose intralesional methotrexate in single nail of a patient. Grover et al[2] reported successful treatment of nail psoriasis with intralesional injections of methotrexate into the nail bed; in contrast, the target tissue in our study was the nail matrix. Mittal et al[4] observed equivalent improvement with intramatrical instillation of 3 different compounds: methotrexate, triamcinolone, and cyclosporine, but found methotrexate was superior because of the lowest frequency of adverse effects.

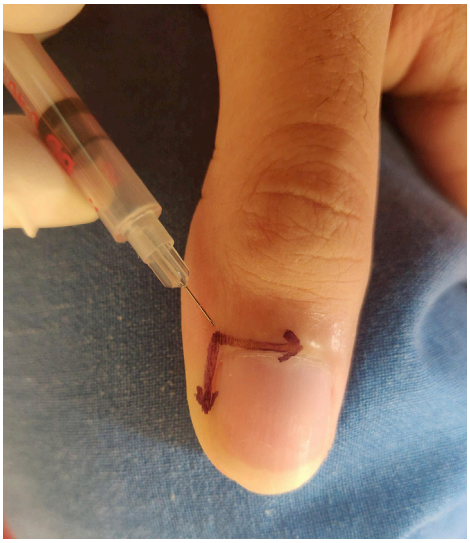

**Fig 1.** The injection is given at a point 2.5 mm proximal and lateral to the junction of proximal and lateral nail folds.

After the intervention, we observed a statistically significant decrease in the Nail Psoriasis Severity Index score with minimal adverse effects and no recurrence noted during the 1-year follow-up period.

Intramatrical methotrexate seems to be a logical modality for isolated nail psoriasis because it is a tissue-directed therapy with minimal adverse effects; however, this was an open study, without a control group, which clearly limits the evaluation of efficacy and safety. Large controlled studies with longer follow-up are needed.

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**Table I.** Patient demographics

| Variable | Result (N = 20) |
|---|---|
| Age, average (range), y | 31.11 (21-40) |
| Sex, No. | |
| Male | 15 |
| Female | 5 |
| Nails involved, No. | 89 |
| Thumb, % (No.) | 40.45 (36) |
| Index finger, % (No.) | 37.08 (33) |
| Middle finger, % (No.) | 17.98 (16) |
| Ring finger, % (No.) | 2.24 (2) |
| Little finger, % (No.) | 2.24 (2) |
| Nails treated per patient, No. | 4.45 |
| NAPSI score, mean (range)* | |
| 0 weeks (baseline) | 3.70 (10-30) |
| 6 weeks | 1.83 (4-20) |
| 12 weeks ( post-treatment) | 0.67 (0-20) |
| Dose of methotrexate per patient, average (range) mg | 135 (60-300) |
| Duration of psoriasis before treatment, range | 1-15 years |
| Previous treatment tried | Topical corticosteroids, calcipotriol, tacrolimus, tazarotene |
| Concomitant treatment | Oral ibuprofen for pain, to be taken on an as-needed basis |

*NAPSI*, Nail Psoriasis Severity Index.
*Follow up mean NAPSI scores were based on intention-to-treat analysis, using the baseline scores of the patients who were lost to follow-up.

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## Chemoprevention of keratinocyte carcinoma and actinic keratosis in solid-organ transplant recipients: Systematic review and meta-analyses

*To the Editor:* Skin cancers account for 40% of malignancies in solid-organ transplant recipients (SOTRs), who have an 80-fold increased risk of squamous cell carcinoma (SCC) and a 16-fold increased risk of basal cell carcinoma (BCC). Systemic chemoprevention is one method to mitigate this amplified risk. Acitretin, for instance, has been used to prevent keratinocyte carcinomas (KC) and actinic keratoses (AK) in SOTRs since 1995,[1] but its adverse effects include mucositis, liver and lipid abnormalities, and teratogenicity.[2] Nicotinamide, an amide form of vitamin $B_3$, is a newer chemoprophylaxis with fewer adverse effects.[3] Here we report results of a pairwise and network meta-analyses to summarize the current evidence regarding chemoprevention.

We selected studies that analyzed the efficacy of systemic chemoprevention to prevent KC/AK in patients who are SOTRs or have a history of 2 or more KCs, or both. We limited our search to placebo-controlled, randomized control trials (RCTs) that reported the number of new KC/AK in both arms. Two authors (L.Y.T., S.Y.C.T.) independently conducted the literature search, screened titles and abstracts for eligibility, and extracted data. Statistical synthesis was performed with RevMan 5.3 software (The Nordic Cochrane Centre, The Cochrane Collaboration, Copenhagen, Denmark).

After the literature search, 6 RCTs with 734 patients were included in the quantitative synthesis (Appendix A, available via Mendeley at https://doi.org/10.17632/m6z2fzkkxn.2). Of the 6 RCTs, 3 studies with 580 patients (range, 17-192 patients) compared nicotinamide to placebo, and 3 studies with 154 patients (range, 19-35 patients) compared acitretin to placebo. Pairwise meta-analysis of all 6 RCTs using a random-effects model demonstrated a significant risk reduction with chemoprevention (Fig 1). The overall mean difference was 0.855 (95% confidence interval, 0.365-1.345; $P < .001$). In addition, acitretin and nicotinamide were both efficacious, with a combined mean difference of