

# 5-fluorouracil

Over the past decade, researchers have found that [neural stem cells](#) (NSCs) migrate toward inflammatory sites, including tumors. This insight has inspired research into the genetic engineering of human NSCs to express enzymes such as [cytosine deaminase](#) (CD) and [thymidine kinase](#) (TK). These enzymes enable these cells to convert the nontoxic prodrugs 5-fluorocytosine (5FC) and [ganciclovir](#) (GCV) into oncolytic 5-fluorouracil and GCV-triphosphate, respectively.

Intralesional [triamcinolone acetonide](#) (TAC; a synthetic [corticosteroid](#)) and 5-fluorouracil (5-FU; a cytotoxic chemotherapy drug) are the [medications](#) most commonly used to treat [keloid scars](#). Kaur et al. investigated the [clinical efficacy](#) of TAC compared with 5-FU. They included 40 patients in the study and divided them into two equal groups (n = 20 Group A; n = 20 Group B). Group A patients received 4 mg/cm<sup>2</sup> or 0.1 ml/cm<sup>2</sup> of intralesional TAC (40 mg/ml) at 3-week intervals. Group B patients received 10 mg/cm<sup>2</sup> or 0.2 ml/cm<sup>2</sup> of intralesional 5-FU (50 mg/ml) at 3-week intervals. They assessed the [scar](#) using the [Vancouver Scar Scale](#) (VSS), [visual analog scale](#) (VAS), and patient [satisfaction](#) score (PSS). They found that Group A patients had a lower VAS than Group B patients (2.09 vs. 3.18). They saw a reduction in the VSS in both treatment arms; however, they found that Group B patients had a more marked reduction in the VSS compared with Group A patients (2.57 vs. 2.68). The PSS was higher in Group A than in Group B (1.97 vs. 1.78). They concluded that intralesional 5-FU elicits a better response than intralesional TAC. Although 5-FU is less well tolerated and has more side effects than TAC, we found that 5-FU was more effective in resolving keloid scars. Notably, the PSS was higher in the TAC group, but the VSS and VAS were better in Group B <sup>1)</sup>.

1)

Kaur A, Garg R, Mittal RK, Shah S, Patial T, Addiwal R. Comparative Efficacy of Intralesional Triamcinolone Acetonide and 5-Fluorouracil for Keloid Scars. *Plast Aesthet Nurs* (Phila). 2022 Oct-Dec 01;42(4):184-189. doi: 10.1097/PSN.0000000000000465. PMID: 36469388.

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