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/cm2 or 0.1 ml/cm2 of intralesional TAC (40 mg/ml) at 3-week intervals. Group B patients received 10 mg/cm2 or 0.2 ml/cm2 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 [1].

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.