PSORIASIS

A PLACEBO-CONTROLLED, RANDOMIZED TRIAL TO ASSESS, USING PET SCAN, SYSTEMIC AND VASCULAR INFLAMMATION, AND RESPONSE TO THERAPY, IN PATIENTS WITH PSORIASIS

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Background: There is increased risk of cardiovascular disease in patients with psoriasis as it is a systemic inflammatory disorder.

Objectives: (i) Assessment of vascular and systemic inflammation using [[18]F]-fluorodeoxyglucose positron emission tomography/computed tomography (18FDG-PET/CT) (ii) Evaluation of usefulness of 18FDG-PET/CT in identifying in inflammation response to treatment.

Materials and Methods: In this pilot, double-blind, placebo-controlled, factorial design trial, sixteen patients with moderate-to-severe psoriasis were randomized to receive methotrexate or placebo. Methotrexate and placebo groups were further subdivided into two subgroups, with each receiving either pioglitazone 30 mg/day or placebo. Baseline standardized uptake value score (SUVmax) was estimated by18FDG-PET/CT and was repeated at 12 weeks after treatment. Correlation between Psoriasis Activity and Severity Index and SUVmax was assessed. SUVmax in psoriasis patients was also compared with historical controls, who underwent PET/CT for suspected malignancy but were found to have no pathology. The study was conducted after obtaining approval from the Ethics Committee of our institute and registered int Clinical Trial Registry of India.

Results. When SUVmax was compared between psoriasis patients and historical controls, we found a significant increase in SUVmax score (2.03 ± 0.53 vs 1.51 ± 0.36, $P < 0.03$). However, there was no difference between groups after 12 weeks even though we did observe improvement in PASI score in the methotrexate arm. No correlation was found between mean SUVmax and PASI scores in various aortic segments ($r = 0.3–0.7$). A total of 6 adverse events were observed, all mild and did not require treatment discontinuation.

Conclusion: 18F-fluorodeoxyglucose positron emission tomography imaging showed higher vascular inflammation in ascending aorta of psoriasis patients as compared to historical controls. Systemic treatment with methotrexate and pioglitazone did not influence the vascular inflammation most likely due to the short duration of treatment.