



PIGMENTATION

## A COMPARATIVE STUDY OF LOCALIZED INTRADERMAL MICROINJECTION OF TRANEXAMIC ACID AND ORAL TRANEXAMIC ACID FOR THE TREATMENT OF MELASMA.

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**Introduction:** Melasma is an acquired hypermelanosis affecting sun- exposed areas particularly forehead, cheeks, temples and upper lip. Different treatment modalities have been utilised in different studies with varying, not so satisfactory outcomes.

**Objective:** To compare the efficacy of localised intradermal microinjection of tranexamic acid with oral tranexamic acid for the treatment of melasma.

**Materials and Methods:** A hospital based, comparative and interventional study performed after approval from Institutional Ethics Committee. Forty patients were divided into two groups - twenty in each group. Group A patients were given intradermal injections of tranexamic acid (4 mg/ml), once at three week intervals (0, 3, 6, 9, 12 weeks) for 12 weeks. Group B patients were given oral tranexamic acid 250 mg twice daily for 12 weeks. Following parameters were evaluated before and after 12 weeks of treatment: a) digital clinical photographs b) modified Melasma Area Severity Index scoring c) patient global assessment d) dermoscopic photographs. Patients were followed up monthly once for 3 months.

**Results:** In group A patients, mMASI score was  $11.83 \pm 1.72$  at the baseline and it reduced to  $7.62 \pm 1.64$  after 12 weeks. In group B, mMASI score reduced from baseline value of  $10.61 \pm 1.59$  to  $8.30 \pm 1.92$  after 12 weeks. Higher clinical efficacy was observed with intradermal microinjection (35.6%) compare to oral tranexamic acid (21.8%) with  $p$  value  $< 0.05$  (statistically significant). Patient's global assessment showed good improvement in 63.2% of cases in group A, whereas in group B 27.8% of cases showed good improvement. Side effects were minimal. 32 out of 37 patients had sustained clinical improvement of their melasma 3 months after treatment.

**Conclusion:** Tranexamic acid is safe and well tolerated therapeutic modality for the treatment of melasma. Intralesional localized microinjection of tranexamic acid provides effective and rapid lightening in melasma patients.

