# Oxygen flow assisted transcutaneous administration of methotrexate: efficacy, safety and tolerance in patients with pagetoid basal cell carcinoma, extramammary Paget's disease and mycosis fungoides.

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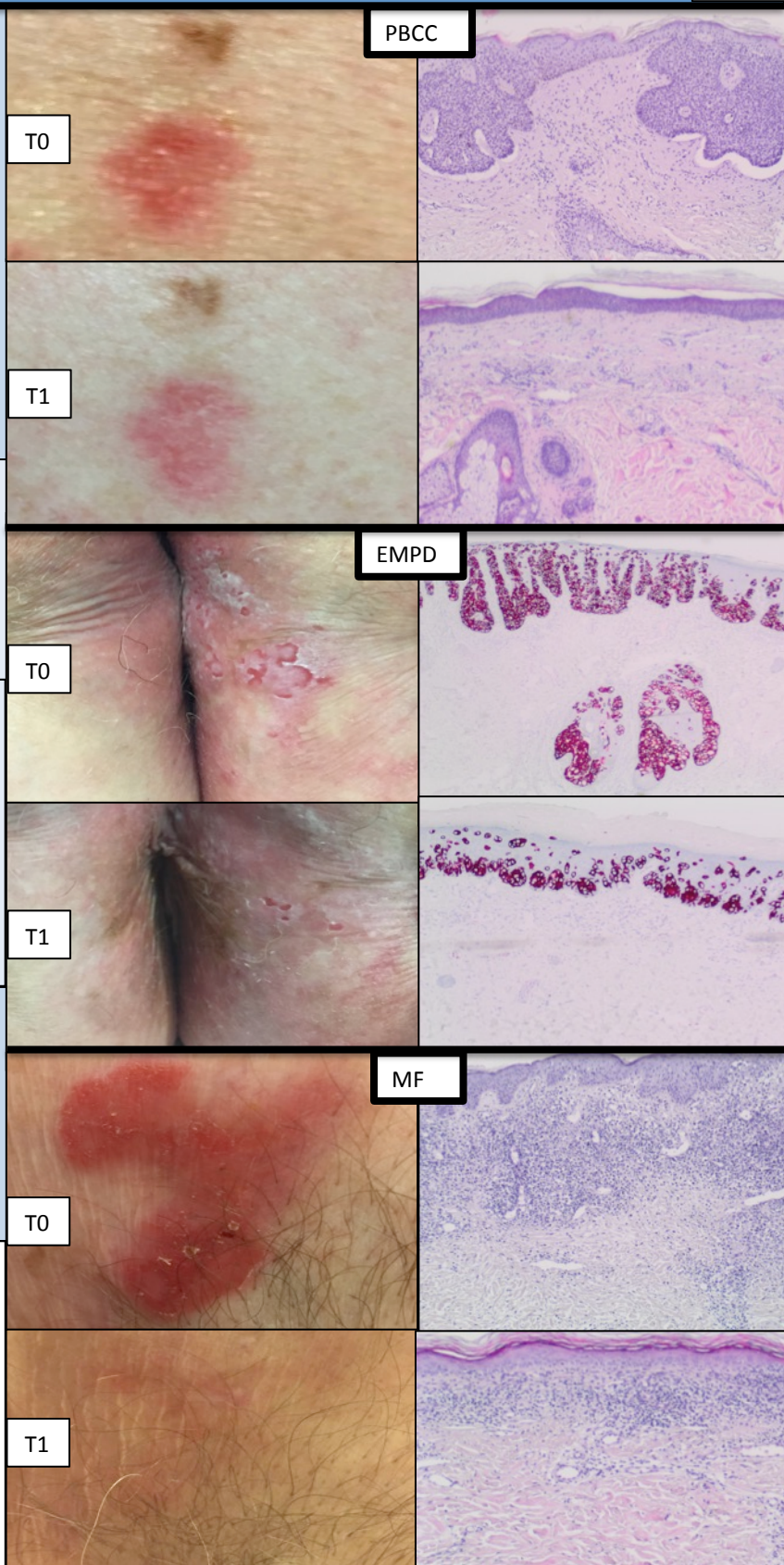
**Introduction** The high molecular weight of methotrexate (MTX) hinders cutaneous penetration. Oxygen flow enhances cutaneous permeation. The aim of this exploratory study is to assess the clinical feasibility, efficacy, safety and tolerance of oxygen flow administred MTX (OFAMTX) for pagetoid basal cell carcinoma (PBCC), extramammary Paget's disease (EMPD) and mycosis fungoides (MF).

**Material and methods** Patients with PBCC (n=5), EMPD (n=4), classic MF (n=8) and folliculotropic MF (n=3) were treated with 4 weekly application of 3% OFAMTX. Photographies and biopsies were performed before (T0) and one month after treatment (T1).

**Results** PBCC, EMPD and MF responded well to OFAMTX with 4/5, 4/4, 7/8 and 1/3 good clinical responses and 4/5, 3/4, 7/8 and 0/3 histological healings, respectively. Tolerance was considered as good and no pain was observed during and after treatment. Pharmacokinetics never revealed detectable MTX levels or liver, renal or haematological alterations at 24, 48 and 72 hours post treatment.

**<u>Conclusion</u> OFAMTX displays a potential therapeutic action on PBCC, EMPD and MF classic type while avoiding systemic MTX related adverse effects. Larger cohort studies should be performed to confirm these pilot data.**




**References**
- Asel M et al. Hematol Oncol Clin 2019;33:73-85.
- Demierre MF et al. Arch Dermatol 2003;139:624-8.
- Lebas E et al. The Op Dermatol J 2017;11:98-107.
- Nguyen HX, et al. Pharmac 2018;10:117.
- Roozeboom MH et al. Br J Dermatol 2012;167:733-56.
- Trautinger F et al. Eur J Cancer 2017;77:57-74.