INGENOL MEBUTATE

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Ingenol mebutate (brand name: Picato) is a prescription topical gel that was FDA approved in 2012 for the treatment of actinic keratosis. It was prescribed as a 0.015% formulation applied on the face or scalp once daily for three days total and 0.05% applied on the body or extremities once daily for two days. As of October 2020, the manufacturer Leo Pharma has discontinued production of Picato due to studies showing increased risk of non-melanoma skin cancer.

**Mechanism:** Ingenol mebutate is the active agent derived from the extract of the plant Euphorbia peplus. The mechanism of action is not precisely understood however it works as a cytotoxic drug by inducing cell death. Studies have shown that it causes rapid cell necrosis and induces neutrophil-mediated, antibody-dependent cellular cytotoxicity of dysplastic epidermal cells.

**Uses:** This drug was approved as a second-line treatment for actinic keratosis. There have also been case reports and clinical trials of its success in treating basal cell carcinoma, squamous cell carcinoma in situ (also called Bowen disease) and anogenital warts. It was recommended for adults aged 18 years or older as there were no trials on the safety and efficacy in the pediatric population and actinic keratoses are not common in children.

**Side Effects:** The most common side effects include redness, crusting, pain, itching or irritation at the application site. Less common side effects include eye irritation and swelling, runny nose, allergic reaction, chemical conjunctivitis and herpes zoster. Currently, Picato is withdrawn from the market due to its link to increased risk of skin cancer.