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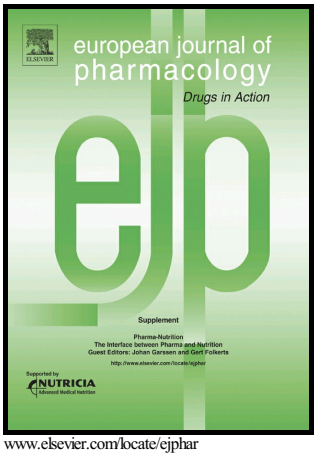

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Low systemic exposure and calcemic effect of calcipotriol/betamethasone ointment in rats with imiquimod-induced psoriasis-like dermatitis

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0. Abstract

Vitamin D_3 (VD_3) analogues-containing ointments are known to occasionally cause hypercalcemia in psoriasis patients, and the frequency of hypercalcemia is suggested to vary based on the VD_3 analogue used. In this study, to address the differences in calcemic effects of VD_3-containing ointments, the calcemic effects of marketed VD_3-containing ointments, including calcipotriol (Cal), maxacalcitol (Max), tacalcitol (Tac), calcipotriol/betamethasone dipropionate (Cal/BDP) and maxacalcitol/betamethasone butyrate propionate (Max/BBP) ointments, were evaluated in a rat model of imiquimod-induced dermatitis. The topical application of Tac, Max and Max/BBP ointments, but not Cal and Cal/BDP ointments, to the imiquimod-induced skin lesions significantly induced an increase in the serum calcium level compared with the vaseline-treated group. Calcemic effect of VD_3 analogues in rats treated with VD_3-containing ointments was analyzed by evaluating the expression of vitamin D receptor target genes, such as Cyp24a1, Trpv5 and CalbindinD28k, in the intestine and kidney.