We hereby report this case to highlight that topical retinoids in microsphere formulation is a better choice for treating verruca plana on the face and other sensitive areas as this technology decreases the irritant potential and thereby increases the sphere of compliance.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest
There are no conflicts of interest.

Levetiracetam-induced Maculopapular Rash: A Rare Side Effect

Sir,
Levetiracetam (LEV) is a novel second-generation antiepileptic drug considered relatively safe compared with other antiepileptics with regard to skin eruptions. We report a case of a cutaneous reaction in a young male which was diagnosed and treated early with a good outcome. This case is reported for awareness in dermatologist and neurophysician about this relatively new drug and its side effects and management.

To date, there are only few cases reported involving skin reactions from LEV. Two of the cases were classified as Stevens–Johnson Syndrome: One as toxic epidermal necrolysis and one as erythema multiforme. Our case was classified as a morbilliform rash (maculopapular rash), which was promptly diagnosed and successfully treated in an Intensive Coronary Care Unit setup.

A 20-year-old male student came with complaints of pruritic generalized reddish skin lesions of 2 days duration with severe itching and high degree fever. Initially, lesions were reddish macules and patches covered with scales over the face and extremities which progress to involve full body in 3–4 days. The patient was an old case of epilepsy was taking phenytoin sodium since last 7 years, and neurophysician added LEV 500 mg/day few days back. The patient started getting severe itching, fever, and rashes within few days after taking this new drug.

On cutaneous examination, he had generalized diffuse erythematous rash with in between skin was normal, suggestive of maculopapular rash (morbilliform rash). Rash was erythematous, edematous with scaling and tiny pustules over the face and trunk [Figure 1a and Figure 2a].

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However, oral mucosa and palms-soles were normal. Hairs and nails were normal. There were no signs of systemic involvement. Blood examination, total leucocyte count was 22,900 with polymorphs 74% and eosinophil 02%, and platelets count was 3.4 lakhs/cu.mm. Liver function test, erythrocyte sedimentation rate, serum proteins, and kidney function test were in normal limits.

The patient slowly responded after withdrawal of suspected drug to intravenous dexamethasone (4 mg 12 hourly for 5 days in tapering fashion), antihistamines and was discharged in 5 days after showing signs of healing [Figure 1b and Figure 2b]. However, rash disappeared completely totally at the end of 2 weeks [Figure 2a and b]. We continued with phenytoin sodium with no recurrence of rash in the next 6 months.

LEV is a novel second-generation antiepileptic drug. It is chemically unrelated to other antiepileptic drugs and is the α-ethyl analog of the nootropic agent piracetam. It is postulated to act by binding to synaptic vesicle protein 2A and thereby modulation of one or more of its actions, ultimately affecting neural excitability. It has been found to be well tolerated and has a favorable pharmacokinetic profile that includes minimal protein binding, lack of hepatic metabolism, and twice a day dosing. LEV has a wide safety margin without any requirement for serum drug monitoring. The reported central nervous system adverse drug reactions (ADRs) of LEV are somnolence, asthenia, coordination difficulties, and behavioral abnormalities. Psychosis has been reported infrequently with LEV with a reported frequency of <1%. LEV is a relatively newer antiepileptic drug with novel mechanism of action. It was introduced to the market in the year 2000. Premarking clinical trials of the drug reported good tolerability with a wide safety margin.

LEV does not influence the plasma concentration of existing automatic external defibrillators (AEDs) (phenytoin, carbamazepine, valproic acid, phenobarbital, lamotrigine, gabapentin, and primidone), and these AEDs do not influence the pharmacokinetics of LEV.

Cutaneous side effects are rare, but drug rash with eosinophilia and systemic symptoms, reticulate drug rash, psoriasiform drug eruptions, urticarial vasculitis, angioedema, acute generalized exanthematous pustulosis, toxic epidermal necrolysis, and erythema multiforme have been reported. Our patient had maculopapular rash without systemic involvement, and he responded to systemic steroids and showed complete healing by 2 weeks after drug discontinuation.

Second-generation antiepileptic such as LEV has less potential for developing cutaneous side effects. Therefore, it is commonly prescribed as substitute antiepileptic in many cases of antiepileptic-related cutaneous ADR. Dermatologists should be aware of this rare cutaneous side effect of LEV for the prompt and early diagnosis.

**Declaration of patient consent**

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![Figure 1](image1.png) **Figure 1**: (a) Maculopapular rash over the face. (b) Healing of the rash over the face.

![Figure 2](image2.png) **Figure 2**: (a) Acute rash over the chest at time of admission. (b) Healing of rash over the chest at time of discharge from Intensive Coronary Care Unit.
Levamisole-induced Drug Fever

Sir,
A 42-year-old female patient with stable vitiligo lesions on feet and flanks for the past 5 years was prescribed 150 mg tablet of levamisole to be taken on 2 consecutive days in a week. The patient developed moderate-grade, continuous fever associated with mild headache and chills, 8 h following intake of levamisole tablet. The fever was unassociated with skin rash, rhinorrhea, lacrimation, arthralgia, myalgia, sore throat, or burning micturition. She took symptomatic treatment with paracetamol and the fever subsided in 3 days. Four days later, the fever recurred in an identical pattern, 6 h after taking levamisole tablet. The patient got admitted in the medical ward and was thoroughly evaluated for the cause of fever. She was otherwise in apparently good health and not on any other medication. Patient denied of history of reaction to any drug including levamisole in the past. Physical examination revealed temperature of 102.4°F. There was no icterus, hepatosplenomegaly, or lymphadenopathy. Systemic examination was normal. All investigations including complete blood counts, routine urine and culture, liver function and renal function tests were normal. Peripheral blood smear did not reveal the presence of malarial parasite. There was no peripheral eosinophilia. Typhidot® for IgG and IgM was negative. Serology for dengue and chikungunya was negative. Skiagram of the chest was normal. She was symptomatically treated with paracetamol. The fever subsided in 4 days. The patient denied for provocation. She was advised not to take levamisole in the future.

Drug fever is defined as fever coinciding with the administration of a drug and disappearing after discontinuation of the drug when no other cause for the fever can be ascertained after a careful physical examination and appropriate laboratory study. Drug fever is frequently a diagnosis of exclusion made in febrile patients whose fever abates within 48–72 h of discontinuing a suspected pyrogenic agent. Fever as the only manifestation of a drug reaction, though infrequent, has been reported.

There have been reports of levamisole-induced fever alone as well as fever with skin rash. Repeated