Eperisone hydrochloride-induced maculopapular rash

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Abstract:
Here, we report a case of a 30-year-old male who was prescribed eperisone hydrochloride for body pain and loose stools after which he developed severe maculopapular rash. Eperisone hydrochloride is an analgesic and antispastic drug used for spastic diseases such as spastic paralysis in cerebrovascular diseases, cervical spondylitis, and periarthritis. The drug is marketed in most of the Asian countries including India, but it is not licensed. Studies show the history of hypersensitivity in other countries, but this is the first reported case in India.

Key words:
Antispasmodic, eperisone hydrochloride, maculopapular rash

Eperisone hydrochloride with IUPAC name (2RS)-1-(4-ethylphenyl)-2-methyl-3-(1-piperidyl)propan-1-one is an antispasmodic and analgesic drug, prescribed for spastic diseases such as spastic paralysis in cerebrovascular diseases, cervical spondylitis, cerebral palsy, periarthritis, and sequelae to trauma. Eperisone blocks prejunctional alpha 2 adrenoceptors and postjunctional alpha 1- and alpha 2-adrenergic, muscarinic, and serotonergic receptors. Furthermore, by an unknown mechanism other than cyclooxygenase enzyme inhibition, it reduces PGI2 synthesis. It acts by inhibiting the vicious cycle of myotonia, decreases pain, ischemia, and hypertonia in skeletal muscles, alleviates stiffness and spasticity, and improves muscle movement. It also facilitates voluntary movements of extremities without reducing muscle power. Potential advantage is it has relatively low incidence of sedation when compared to other antispasmodic drugs. The drug is administered as tablets, 50–150 mg in divided doses after meals. Here, we report a case of 30-year-old male, who developed severe maculopapular rash to eperisone hydrochloride.

Case Report
A 30-year-old male suffering from body ache and loose stools since 1 day was prescribed eperisone hydrochloride 50 mg twice daily by a local physician. The patient developed maculopapular rash within 2 days initially over right forearm [Figure 1], later spreading to involve abdomen [Figure 2] and whole body with involvement of lips and oral cavity [Figure 3]. The patient was unable to open the mouth. Itching and scaling were not present. The patient did not have any past or family history of allergy or dermatological disease or other concomitant drug history. On examination, maculopapular lesions were seen all over the body with crusting and erosions over lips and oral mucosa, respectively [Figure 3]. There was involvement of conjunctiva and genitalia; however, palms and soles were spared. When patient consulted the dermatologist, eperisone was stopped immediately and he was treated intensively with topical and systemic steroids dexamethasone 4 mg intravenous (i.v) bolus on day 1, and then 3 mg slow i.v on 2nd and 3rd day BD, 1 mg slow iv BD on 4th and 5th day, topically triamcinolone acetonide 0.1% applied on oral cavity thrice daily, topical calamine lotion, and fusidic acid 2% w/w applied to other parts of the body. The treatment showed improvement as the maculopapular rash gradually disappeared, and the patient recovered in 8 days and was discharged without any adverse sequelae.

Discussion
Eperisone hydrochloride is an antispasmodic drug marked in India, Pakistan, Bangladesh, China, Japan, Indonesia, etc.; however, it has not been licensed. Fujioka and Kuriyama, showed the effects of eperisone, an antispasmodic, on the electrical and mechanical properties of...
smooth muscle cells of the guinea-pig basilar artery. Eperisone inhibited the contractions evoked by high concentrations of K, 5-hydroxytryptamine or direct muscle stimulation in the presence of tetraethylammonium. Eperisone inhibited this contraction to the same extent as that observed in the presence of Ca. These results indicate that eperisone possesses the property of a Ca antagonist on smooth muscle tissues of the guinea-pig basilar artery, in addition to the action of antispastic agent. Eperisone has no effect at the nerve terminals, but inhibits the action of Ca in cells through inhibition of the contractile protein.\textsuperscript{[4]} Eperisone hydrochloride is the most popular drug in Japan used for musculoskeletal pain. Ueno and Kawana have reported a case of drug induced eruption leading to erythema and angioedema. The patient was hospital and treated with i.v corticosteroids.\textsuperscript{[5]} We report a similar case of eperisone induced acute hypersensitivity reactions of maculopapular rash, this allergic reaction may be due to IgE mediated reactions or for its vasodilatory effect.\textsuperscript{[6]} The drug is contraindicated in patients with history of hypersensitivity to eperisone.

In the present case, a systemic approach was used to determine whether the suspected adverse reaction was due to the drug or a result of any other factor. To determine the causal relationship between maculopapular rash and treatment with eperisone, Naranjo adverse drug reaction probability scale was used. Adverse reaction developed within 2 days of starting treatment and improved within 2 days of discontinuation of drug. The patient was treated with topical and i.v steroids and the patient recovered completely in a period of 1 week. Rechallenge of the drug was not done due to ethical issues. No differential diagnosis could be made for this condition. Hence, it was considered that rash was probably caused by eperisone (Naranjo scale +6).\textsuperscript{[6]} The World Health Organization-Uppsala Monitoring Centre causality assessment criteria also indicated a probable relation. Modified Hartwig and Siegel scale\textsuperscript{[7]} scored a severity of level 5, since the patient suffered severe reaction which required hospitalization of 8 days including intensive medical care.

This case highlights the severity of hypersensitivity reaction caused by eperisone hydrochloride. The drug not licensed is being prescribed in many countries. It has to be used though cautiously, and prescription should be limited to specific indications.

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Conflicts of Interest
There are no conflicts of interest.

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