Oral chloroquine-induced Stevens-Johnson syndrome

Chloroquine is a 4-aminoquinoline anti-malarial and a very potent blood schizonticidal drug. It is very effective against the erythrocytic forms of all four plasmodial species. It is a weak base and it buffers intracellular pH, thereby inhibiting cellular invasion by parasitic organisms. It also inhibits haem polymerase, the enzyme that polymerizes haem to haemoglobin. Intracellular accumulation of haem is toxic to the parasite. Chloroquine is completely absorbed orally, extensively distributed and has a large volume of distribution. It is usually given orally and can also be given by i.m., s.c., or as slow i.v. infusion. It has a half-life of ∼ 50 h. It is the mainstay for the treatment of malaria and chemoprophylaxis of malaria. It is a safe drug in pregnancy. Adverse reactions commonly associated with chloroquine include severe gastritis, difficulty in accommodation, blurring of vision, corneal opacity, toxic psychosis, photosensitive dermatoses and even retinal damage on prolonged use. However, the Stevens-Johnson syndrome and toxic epidermal necrolysis with chloroquine have been rarely noted.

This is a written account about a potentially fatal and rare adverse reaction of chloroquine which is relevant because of its widespread use.

A 32-year-old female of 61 kg was brought to the emergency department with painful skin blisters and erosions accompanied by fever and myalgia. It started on the 3rd day following the completion of a course of oral chloroquine (Tablets Lariago, Chloroquine phosphate 500 mg, Ipca Laboratories, Mumbai; 2 tablets stat, 1 tablet after 6 h, 1 o.d., or oral contraceptive pills were taken. No burning sensation on exposure to sunlight was present. Other blistering skin diseases like pemphigus vulgaris and bullous pemphigoid, mucocutaneous diseases like Behcet’s syndrome and Reiter’s syndrome, vasculitides like systemic lupus erythematosus and polyarteritis nodosa were excluded on clinical grounds.

Thus the above outlined Stevens-Johnson syndrome has a temporal relationship to chloroquine administration. However, rechallenge is not justified due to ethical constraints and fatal consequences. This adverse reaction is not dose-related and can be labeled as Type B class of adverse effect. It can be considered as Probable / Likely adverse drug reaction as per causality assessment of suspected adverse drug reactions. The estimated incidence of the Stevens-Johnson syndrome ranges between 1.2 and 6 per million population per year but the mortality rate is 15%. Patients with HIV infection seem to be at an increased risk of developing the Stevens-Johnson syndrome. There are reports of chloroquine-induced Stevens-Johnson syndrome but it is often overlooked in its adverse effect profile. Thus the idea of this written statement is to create awareness about the rare but potentially fatal drug reaction like Stevens-Johnson syndrome with chloroquine which is commonly used for endemic malaria in India.

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References