

## The Bulletin from the Clinical Pharmacist



### Pharma Today

A female patient of 29 years of age developed left eye redness, and burning micturition, and was treated with Ciprofloxacin eye drops and also Ibuprofen at the previous hospital.

She developed maculopapular rash all over the body starting from abdomen to face involving oral mucosa, also had fever with chills.

She had a past history of hypothyroidism, and was on regular medication. She had a history of dust - mite allergy

#### **Clinical findings:**



Laboratory parameters were abnormal. She had leucopenia, thrombocytopenia and hyperprolactinemia.

Diagnosis was made as Drug induced Stevens Johnson Syndrome: Toxic Epidermal Necrolysis.

Ciprofloxacin, a quinolone antibiotic which is used to treat various bacterial infections, is known to cause this reaction.

#### **Discussion:**

- Ciprofloxacin and its metabolites induce an abnormal immune response leading to inflammation, damage to the mucous membrane and immune mediated hypersensitivity reaction.
- The underlying mechanism may be the failure to clear reactive metabolites; the drug causes cytotoxic T cells and natural killer cells to release substances that damage cells in the skin and mucous membranes. The death of these cells causes the blistering and peeling of skin, which is a characteristic feature of SJS.<sup>1</sup>
- Patient's past regimen contained medicaments like NSAIDs (Ibuprofen). The interaction mechanism of Ibuprofen - ciprofloxacin involves the inhibition of metabolizing enzymes such as CYP450, which may have resulted in a higher concentration of ciprofloxacin, and thereby would have triggered TEN.