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PHENYTOIN AND PHENOBARBITONE INDUCED STEVEN JOHNSON SYNDROME – A RARE CASE REPORT OF A CHILD

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Abstract:

Steven Johnson Syndrome (SJS) presents as severe mucosal erosions with widespread erythematous and cutaneous macules all over the body. Majority of the cases are drug induced. NSAIDs, antimicrobials, anti-convulsants causes SJS. Adverse drug reactions are one of the leading causes of hospitalisation. At this point, we present a case of Steven Johnson Syndrome induced by two anti-epileptic drugs i.e. Phenytoin and Phenobarbitone which is rare.

Keywords *: Phenytoin, Phenobarbitone, Steven Johnson Syndrome.*

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INTRODUCTION:

Steven Johnson Syndrome (SJS) as adverse drug reactions are rare, but severe cutaneous eruptions occur in patients, endangering their lives. Infection of the upper respiratory tract or preceding medication, among which non-steroidal anti-inflammatory agents, antibiotics, and anti-convulsants are the most common triggers for onset of SJS. The syndrome is a moderate mucocutaneous and systemic reaction. At the outset, the disease presents with unspecific symptoms, followed by more or less extensive blistering and peeling of the skin Blisters and lesions involve the body surface area with some epidermal detachment causing scars in some cases. With more extensive involvement, clinical findings are like two peas in a pod, as SJS cannot be distinguished from Toxic Epidermal Necrolysis. The skin can become haemorrhagic and joint pains may occur. It can lead to partial or complete blindness.[1] The incidence of SJS is 2.6-7.1 persons per million populations per year in the US. Drugs are the most common causes of 77-95% of cases.[2] SJS has been observed with more than hundred drugs. Mortality is estimated from 5%-18% and the duration of this syndrome is 4 to 6 weeks.[1] The common culprits are antimicrobials, anti-epileptics and non-steroidal anti -inflammatory drugs. Among the anti-epileptics, Carbamazepine, Phenytoin, Phenobarbitone cause SJS.[3] Besides drugs, this syndrome is associated with infections, pregnancy, foods, deep radiographic therapy and neoplasms. Carbamazepine, Phenytoin and Phenobarbitone has been traditionally used in the management of epilepsy. Adverse drug reactions of these drugs ranges from mild to severe reactions which include SJS like immune complex mediated hypersensitivity reactions.

CASE REPORT:

A 15 year old male patient got admitted in a neuropsychiatric government hospital with a history of fall in the bathroom and multiple episodes of seizures who was on antiepileptic therapy (T. Eptoin 100mg 1-0-1). Though the patient was on treatment, seizures were not controlled. On admission to the hospital, the patient received Phenytoin IV 2ml dissolved in 100ml of normal saline intravenous slowly once daily in the dose of 5 ampoules and Phenobarbitone IV 200mg. He was also given Electro convulsive therapy (electric shock for refractory seizure). After 5 days of administration of both Injections, Phenytoin and Phenobarbitone, the patient started developing multiple bullae on the limbs, ears, erythema on the eyelids, multiple erosions in the oral mucosa. He had fever and rashes all over the body. Large lesions were seen on the arms than on the legs which got removed exposing the dermal region of the skin. The case was referred to the nearby Dermatology Department in a multispecialty hospital where it was diagnosed as Stevens Johnson Syndrome induced by Phenytoin and Phenobarbitone. Both drug inducers were stopped which caused such an adverse reaction and Levetiracetam 500mg (1-0-1), Clobazam 10mg (0-0-1) was given orally. The treatment started assertively with intravenous fluids; Dextrose Normal saline followed by Ringers Lactate. Nutrients and proteins were administered through the nasogastric feeding tube ; T. Calcium + Vitamin D_3, and T. Methylcobalamine were given orally for speedy recovery of the patient. Inj.Colistin 1ml (1-1-1), Inj. Rantac 1ml (1-0-1) were also administered. Chlorhexidine mouthrinse was advised for oral lesions to heal quickly. After a week, the eruptions started to heal and the ocular mucosal lesions disappeared gradually in full swing. He was discharged after 5 weeks with the healing of the lesions. A routine check up was advised monthly with continuation of medication for the seizures.

DISCUSSION:

Our case was diagnosed as Steven Johnson Syndrome, secondary to drug therapy instituted for seizures which is used widely. The significancy is that SJS was caused by two drugs i.e (Phenytoin & Phenobarbitone). The 15 year old child was already on Phenytoin 100mg twice a day and when the child was hospitalised due to uncontrolled seizures Phenytoin and Phenobarbitone was given intravenously for 5days which led to this serious syndrome. Here, as clinical pharmacists, we suggest to perform Therapeutic Drug Monitoring for these type of narrow therapeutic index drugs which would help in selecting the right drug and right dose for the patient. A study says that anti-epileptic drugs shows higher chances (81.8%) of causing SJS than NSAIDs (53.84%) and Antimicrobials (34.48%) which is higher when compared with the previous report (70%).[4] Safety of patients is the prime importance while physician treats a patient. Physicians need to be vigile in case of fatal adverse drug reactions of such drugs.

CONCLUSION:

Modern day drug therapy has made great strides in the recent past. However, adverse
drug reactions, though rare, still linger on as a major threat to the patient welfare. Steven Johnson syndrome (SJS) is one of such fatal drug reactions. The most common and widely prescribed drug regimens should be used judiciously and continuously monitored to avert such fatal adverse drug reactions. From this case, we found the necessity of a clinincal pharmacists in identifying adverse drug reactions by checking the rationality

of prescriptions which would help clinicians to monitor drug reactions following a drug use. This would help to put a stop to fatal outcomes from such hypersensitivity reactions.

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