

A RARE CASE OF DRESS SYNDROME WITH ATAXIA SECONDARY TO PHENYTOINJyothi A.*¹, Bhanuchand P.²¹MBBS.(MD PAEDIATRICS)²MBBS, MD PAEDIATRICS

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ABSTRACT

Drug reaction with eosinophilia and systemic symptoms (DRESS) syndrome is a rare but characterized by life-threatening reaction to drugs, it is characterized by skin rashes, fever, haematological disturbances, lymphadenopathy and organ failure, most probably hepatic dysfunction^[1] The onset of symptoms is often delayed, occurring 2–6 weeks after drug initiation. DRESS syndrome shares many characteristics in common with anticonvulsant hypersensitivity syndrome (AHS), also referred to as drug-induced hypersensitivity syndrome (DIHS) and appears to represent a variation in presentation rather than a distinctly different syndrome. The incidence of DRESS has been estimated to be between 1 in 1,000 and 1 in 10,000 drug exposures. It carries a mortality rate of 10–20%, with most fatalities the result of liver failure. Treatment consists of supportive therapy, corticosteroids and antihistamines.^[2-4] Here we report a case of this syndrome presenting with fever, generalised pruritus, macular rash cholestatic hepatitis and ataxia following treatment with Phenytoin. **Conclusion:** DRESS even though life threatening can be treated with prompt withdrawal of the offending drug and corticosteroids.

KEYWORDS: Rash, Fever, Liver, Phenytoin, DRESS.**Case presentation**

An 17-year-old female presented with a ten-day history of pruritic, maculopapular rash with associated periorbital swelling and fever. She had a history of seizures that had occurred 35 days prior to this admission treated with Phenytoin 100mg daily for a period of 8 days. After through past history was noted that patient was a known case of epilepsy at age of 3 years and was treated Carbazepine for period of 2 years and was advised to stop. She was seizure free till the episode 35 days back. She was with normal development and school going with average scholastic performance, with no significant birth history. The patient had no other significant past medical history or drug allergies. Review of systems was positive fever, chest pain, abdominal pain and difficulty in walking, nausea, vomiting and recent altered mental status associated with irritability and decreased food intake.

On examination, the patient was febrile (103°F) with a heart rate of 100 beats/minute, respiratory rate of 18 and blood pressure of 90/66mmHg. The patient was well nourished, well developed, alert and not oriented and appeared uncomfortable but not in distress. We found extensive exanthematous rash was noted on the face, upper and lower extremities in sun-exposed areas without involvement of the oral mucosa, palms, or soles. There was profound periorbital edema that prevented

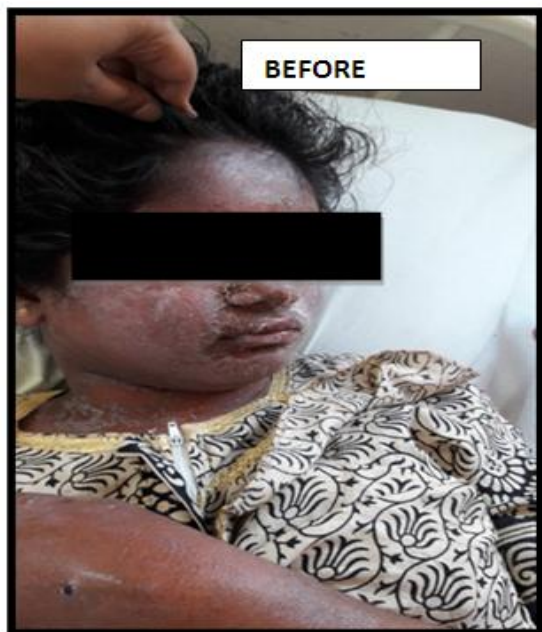
eye-opening (figure 1, 2 & 3). Her abdomen was soft and non-distended with no tenderness, guarding, or hepatosplenomegaly. On neurological examination She had slurred speech. Cognition was normal. Fundoscopic evaluation was normal. Both the lower limbs had rigidity. Power was normal in both lower limbs as well as upper limbs but coordination was impaired. Finger nose finger and Heel knee shin test were impaired indicating Ataxia. Romberg's test revealed increased swaying on closing eyes. Her gait was ataxic. Vibration sense and Joint position sense were impaired in the lower limbs. Bilateral knee and ankle reflexes were absent while other reflexes were normal.

At this point we considered differential diagnosis included drug-induced hypersensitivity, erythema multiforme, toxic epidermal necrolysis, vasculitis, an exanthem. Laboratory results revealed a white blood cell count of 15.57 thousand/mm³ (normal from 4.0 to 11.0 thousand/ mm³), with 65% neutrophils, 8.0% lymphocytes, 4.0% eosinophils (absolute 270 thousand/mm), monocytes 15% and 8% basophils. Hepatic function panel revealed an aspartate aminotransferase of 145U/L (normal from 5 to 37) and alanine aminotransferase (ALT) of 200U/L (normal from 5 to 40). A workup was performed including electrocardiogram and chest radiograph which were negative for abnormalities. The patient was admitted to

our hospital with a presumptive diagnosis of drug induced hypersensitivity secondary to Phenytoin. All medications were discontinued and started on Hydrocortisone for period of five days and stopped the patient was monitored for signs of clinical recovery. During hospital stay she clinically improved in terms of rash Periorbital swelling and ataxia symptoms subsided over a period of ten days. And on day nine had convulsion for which she was started upon Levirecetam. Follow-up after three months for monitoring for any hepatic squeal advised and patient discharged.



figure 1 , 2 & 3



DISCUSSION

Drug-induced hypersensitivity syndrome was first described in 1936 during treatment with anticonvulsant drugs.^[5] The syndrome is characterised by rash, fever, lymphadenopathy and internal organ involvement (single or multiple). The pathogenesis is not fully understood. It has been suggested that certain drugs may cause a hypersensitivity reaction as a result of abnormalities in the production and detoxification of its active metabolites in patients with genetic or acquired variations in drug metabolism pathways. Its incidence ranges between 1 in 1,000 and 1 in 10,000 exposures. The aromatic anticonvulsants (phenytoin, phenobarbital, carbamazepine) and sulphonamides are the most common drugs described in this syndrome. The first symptoms are usually fever and rash. The skin involvement is characterised by a morbilliform macular rash that appears first in the face, abdomen and upper limbs, becoming purpuric later on, especially in lower limbs. An exfoliative dermatitis appears when the lesions tend to vanish. The liver is the most common affected organ in DRESS syndrome. The findings may range from a transitory increase in liver enzymes to liver necrosis with fulminant hepatic failure, that is thought to be mediated by infiltration of eosinophils, resulting in death or liver transplantation.^[6-8] Kardaunet et al. of the Severe Cutaneous Adverse Reactions (RegiSCAR) study group published a scoring system in 2007 which has also been widely used to evaluate potential cases of DRESS syndrome. The criteria for this system include: first, fever greater than 38.5°C; second, enlarged lymph nodes; third, eosinophilia; fourth, leucocytosis/lymphocytosis; fifth, skin involvement; sixth, organ involvement; seventh, resolution greater than 15 days; and eighth, evaluation of other causes. Using this scoring system, a final score of less than two indicates no case, a final score of between two and three indicates a possible case, a final score of between four and five indicates a probable case and a final score of greater than five indicates a definite case. The patient in this case report had a score of six points (one each for fever, eosinophilia, leucocytosis, skin rash and liver involvement suggestive of DRESS), indicating a 'definite case' of DRESS per the RegiSCAR scoring guidelines.^[9] The most common differential diagnoses include Stevens–Johnson syndrome (SJS), toxic

epidermal necrolysis (TEN), hypereosinophilic syndrome and Kawasaki disease.^[10]

CONCLUSION

DRESS syndrome is an idiosyncratic drug reaction characterised by rash, fever, lymphadenopathy and internal organ involvement. Prompt withdrawal of the offending drug is the only undisputed way to treat drug hypersensitivity reactions. Systemic corticosteroids can reduce symptoms of delayed hypersensitivity reactions. As in our case Ataxia can also be associated as one of the symptoms.

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