Co-Tri-moxazole-Induced DRESS Syndrome: A Case Report

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Drug Rash with Eosinophilia and Systemic Symptoms (DRESS syndrome) is a severe adverse drug reaction. The drugs, which most commonly induce this condition, are anti-convulsants and sulfonamides. A 15-year-old Thai woman with no known underlying disease was prescribed co-trimoxazole, and two months after initiation, DRESS was diagnosed by RegiSCAR’s score. Her clinical symptoms were fever, laboratory abnormalities and maculopapular rash on her face, trunk and extremities. She was treated with antipyretics, antihistamines and steroid therapy, and her clinical and laboratory findings were restored to normal by the 10th day of treatment. Early diagnosis, discontinuation of the culprit drug, and management with steroids therapy can reduce the severity of DRESS syndrome.

Keywords: Co-trimoxazole, DRESS syndrome, Hypersensitivity syndrome

Case Report

A 15-year-old Thai woman with no known underlying disease visited the hospital on February 15, 2014, presenting with a rash on her face, trunk and extremities. One day earlier, she had facial and eyelid swelling and took 1 chlorpheniramine (CPM) tablet. Three days previously, she had fever and rash with an itch that started on her face, trunk and extremities. Patient interview and history revealed that she had been taking 2 co-trimoxazole® tablets once per day for 2 months together with 1 Roacutane® tablet daily. She had no history of medication or food allergies. The following laboratory investigations were performed on 15th February: complete blood count, which revealed white blood count (WBC) 13,600 cells/μL, eosinophil 19.4%, and absolute eosinophil 2,640 cells/μL; liver function test which found aspartate aminotransferase...
Fig. 1 Maculopapular rash affecting the trunk.

Fig. 2 Timeline for reporting this case of DRESS from Co-trimoxazole®.

Discussion

On February 15, 2014, the patient presented with fever and laboratory abnormalities, and she had a maculopapular rash on her face, trunk and extremities. The drugs associated with DRESS were evaluated by RegiSCAR’s score(6,8,9), and in this case a score of 4 was arrived at from eosinophilia (2,640 cell/UL), skin involvement (>50% BSA), and liver involvement, and it was, therefore, classified as probable DRESS syndrome. Her medical history showed that she had been taking Co-trimoxazole® and Roacutane® (isotretinoin) as acne treatment. Co-trimoxazole® was suspected to be the probable offending drug, as she had been taking this medication for 2 months, and this is known to inhibit adequate activation of the immune system. Co-trimoxazole® contains sulfamethoxazole and trimethoprim(10), and sulfamethoxazole is associated with a high incidence of drug-induced DRESS. Naranjo adverse drug reaction probability scale was assessed and a score of 7 indicated probable DRESS (Fig. 2).

The exact incidence of DRESS syndrome is unknown, but it is estimated to be between 1 in 1,000 and 1 in 10,000 drug exposures(11), and clinical presentation can be expressed in many organ systems. The drugs most frequently associated with DRESS syndrome are antibiotics (41%), mainly penicillin and sulfonamides derivatives, and in some cases, minocycline; anti-inflammatories (11%); and anticonvulsants (10%). It has also been reported to be associated with other drugs such as allopurinol, gold salts, and dapsone(11). A previous case report found a patient presenting with facial edema, fever, generalized erythematous morbilliform rash, drug-induced liver injury, and severe elevation of liver enzyme with RegiSCAR’s score 6, indicating definite DRESS
syndrome. Past medical history showed that he had been treated with sulfamethoxazole/trimethoprim (Co-trimoxazole\textsuperscript{®}) for acne vulgaris. His symptoms persisted for 6 months after he was diagnosed with DRESS syndrome, and his treatment was managed with pulsed intravenous methylprednisolone followed by intravenous hydrocortisone and oral prednisolone\textsuperscript{12}. In this case, the patient had fever and rash with liver enzyme elevation similar to the previous case, but she had a shorter persistence of symptoms duration and higher RegiSCAR’s score.

Clinical presentation, physician’s diagnosis and medical history suggested that sulfamethoxazole was the cause of DRESS, which can produce complications and life threatening adverse reactions\textsuperscript{13}. Healthcare providers should be aware of the importance of monitoring adverse drug reactions, and pharmacists have an important role to play in patient interview and medical reconciliation. Early diagnosis, discontinuation of the culprit drug, and management with steroid therapy can be life-saving in severe forms of DRESS. Moreover, patient education\textsuperscript{14} in the form of information such as known adverse drug reactions can help to prevent adverse drug reactions, and drug allergy identity cards should be issued when appropriate.

What this study adds?

Drug rash with eosinophilia and systemic symptoms (DRESS syndrome) is a rare, acute and severe life-threatening systemic disease, which occurs in 12.5% of patients affected by adverse drug reaction. Anti-convulsants are the most implicated drugs in reported cases of DRESS due to Co-trimoxazole\textsuperscript{®} so Co-trimoxazole\textsuperscript{®}-induced DRESS was reported in this study.

Potential conflicts of interest

None.

References

รายงานผู้ป่วยกลุ่มอาการ DRESS syndrome ที่เกิดจากยาไอก‐เตรนอลซอลซิด

ไพรส์ สินบริพัฒน์

กลุ่มอาการ DRESS เป็นผู้ป่วยโรคมะเร็งที่มีอาการรุนแรง โดยมีอาการร่วมกัน เช่น กลุ่มอาการกล้า และกลุ่มอาการไข้หวัดหวั่น ผู้ป่วยผู้หญิงอายุ 15 ปี ในระบุโรคประจำตัว ได้รับยาไอก‐เตรนอลซอลซิด หลังจากได้รับยา 2 เดือน ผู้ป่วยถูกวินิจฉัยภาวะ DRESS โดยใช้การประเมิน RegiSCAR’s ผู้ป่วยผู้สูงอายุ อาการ ผู้ป่วยพบการปฏิกิริยาได้ปกติและมีผิวชุ่มตัว maculopapular rash บริเวณ หน้า ลำตัว แขน และขา อาการของผู้ป่วยรักษาโดยใช้ยาบริเวณอาการเจ็บ กล่าวคือต้นนิ้ว และมือ อาการการใช้ยาได้สิ้นสุดไป และต่อมาอาการของผู้ป่วยกลับมาเป็นปกติส่งผลต่อการรักษา 10 วัน อาการนั้นๆได้หายอยู่ในเวลา ร่วมกับการรักษาด้วยเตรนอลซอลซิดความรุนแรงของกลุ่มอาการ DRESS ให้