Pseudallescheria boydii swelling. These features are said to distinguish the ends as well as intercalary septae of hyphae showing bulbous swelling. These features are said to distinguish Pseudallescheria boydii from Aspergillus. But the distinction is very difficult in practice. From a therapeutic point of view, however precision in the mycological diagnosis is required as each fungus has different antifungal drug susceptibility. Besides the diagnosis needs to be available in a suitable time frame. Delays in diagnosis may lead to inappropriate treatment with grave consequences especially in the immunocompromised patient. In this case, presumed Aspergillus was treated with itraconazole and presumed Fusarium was treated with voriconazole. When Mucor could not be ruled out, amphotericin B was started as it is the only effective agent against it, but Pseudallescheria is almost always resistant to it. Combinations with amphotericin B, fluconazole or terbinafine have an indifferent effect against Pseudallescheria, whereas combinations including an azole such as itraconazole, voriconazole, posaconazole or ravuconazole and an echinocandin such as caspofungin, micafungin or anidulafungin exhibit synergy against Pseudallescheria.

While the critical role of surgery in management is undisputed, it has significant morbidity. The need for extensive surgery may have to be reviewed in the light of better antifungal agents which target the fungus and its susceptibility more precisely.

**Discussion**

Pseudallescheria boydii is a saprophyte found in stagnant water and soil and can be acquired by trauma, barrier breaks, aspiration of soil or swamp water or working in sewers. Our patient was immunocompetent, but had an old tuberculous cavity which got infected by the inhalational route. Culture media used by most clinical laboratories do not support formation of the Pseudallescheria state. However, by convention the name of the sexual state Pseudallescheria boydii has priority over the name of the asexual state Scedosporium apiospermum. The hyphae of Pseudallescheria boydii are narrower, have irregular septations and the ends as well as intercalary septae of hyphae show bulbous swelling. These features are said to distinguish Pseudallescheria boydii from Aspergillus. But the distinction is very difficult in practice. From a therapeutic point of view, however precision in the mycological diagnosis is required as each fungus has different antifungal drug susceptibility. Besides the diagnosis needs to be available in a suitable time frame. Delays in diagnosis may lead to inappropriate treatment with grave consequences especially in the immunocompromised patient. In this case, presumed Aspergillus was treated with itraconazole and presumed Fusarium was treated with voriconazole. When Mucor could not be ruled out, amphotericin B was started as it is the only effective agent against it, but Pseudallescheria is almost always resistant to it. Combinations with amphotericin B, fluconazole or terbinafine have an indifferent effect against Pseudallescheria, whereas combinations including an azole such as itraconazole, voriconazole, posaconazole or ravuconazole and an echinocandin such as caspofungin, micafungin or anidulafungin exhibit synergy against Pseudallescheria.

While the critical role of surgery in management is undisputed, it has significant morbidity. The need for extensive surgery may have to be reviewed in the light of better antifungal agents which target the fungus and its susceptibility more precisely.

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**References**


**Carbamazepine Induced DRESS Syndrome**

**Ajay Chauhan**, Swati Anand**, Sindha Thomas***, HCA Subramanya†, Gyanranjan Pradhan‡

**Abstract**

We present here an 18yr old male who presented with intermittent fever of moderate grade and of 15 days duration, followed by maculopapular erythematous rashes over upper and lower extremities, face, and trunk developing over 10-12 days. He was febrile on admission. Generalized lymphadenopathy with discreet, non-matted, firm and tender inguinal lymph nodes. Patch test with 1% and 5% solution of carbamazepine was strongly positive.

**Introduction**

DRESS syndrome is a drug hypersensitivity syndrome which begins around 2-6 weeks after exposure to a drug. It is rare but a severe type of drug reaction, most commonly with aromatic anticonvulsants, some antibiotics, antiviral, and immunotherapeutic agents etc. It usually presents with fever, maculopapular rash, generalized lymphadenopathy, hypereosinophilia and hypogammaglobulinemia (in early phase of reaction). Detailed medical history of systemic medications plays a central role. Before making the diagnosis, other eosinophilic disorders like rhinitis, asthma, allergic hypersensitivity reactions, hypereosinophilic syndrome, eczema, Well syndrome, eosinophilic fasciitis, pulmonary diseases (Churg-Strauss, eosinophilic pneumonia), eosinophilic gastroenteritis, malignancies (Hodgkins lymphoma, myeloproliferative disorders), and parasitic infestations should be ruled out. Here we present a rare case of DRESS syndrome due to carbamazepine.

**Case Report**

An 18yr old male engineering student, resident of Chikmagalur, presented with intermittent fever of moderate grade and of 15 days duration. This was followed by maculopapular erythematous rashes over upper and lower extremities, face, and trunk developing over 10-12 days. There were bullous eruptions on soft palate also, since one week. Patient gave history of suffering from recurrent seizures since...
last 3 months for which he was started on carbamazepine 200mg twice daily for the past 6 weeks. There was no history of chronic cough, burning micturition, skin allergies, altered bowel habits or joints pain. Patient was a non vegetarian. There was no history of substance abuse and no history of sexual contact. There was no significant family history. On general physical examination, pulse was 102/min regular and BP was 130/70mm Hg. He was febrile on admission. Generalized lymphadenopathy (left posterior auricular, right cervical, right axillary, and bilateral inguinal) was present. All lymph nodes were discreet, non-matted, firm in consistency with tender inguinal lymph nodes. Erythematous maculopapular; pruritic rashes were present over both upper and lower extremities, trunk and face. There was erythema of palate and tongue with a few bullous eruptions over soft palate. Systemic examination (Cardiovascular, Respiratory, Abdominal and Nervous) was all normal.

Investigations

On admission his total leucocyte counts were 25,400 with 41% eosinophils with absolute eosinophil count- 5460/cmm. After stopping carbamazepine and treatment with steroids for 10 days total leucocyte count dropped to a normal value of 8300 with 2% eosinophils. Peripheral smear (on admission) showed normocytic, normochromic RBCs, leucocytosis, atypical lymphocytosis and eosinophilia. Repeat peripheral smear on 31/12/09 (post treatment) was normal.

Hb -13.8g%, ESR: 10mm (at the end of first hour by Westergren’s) and Platelets – 2.37lakhs/cmm. Liver function tests showed raised serum transaminase levels (AST 153 and ALT 178) on admission, which again became normal after 10 days of treatment. Kidney function tests were all normal. Urine Routine showed 1-2 pus cells per HPF with no RBCs seen. Stool examination: No ova and cysts. Serum protein electrophoresis: - Total protein – 6.8g/dl (6.4-8.3), Albumin: 3.8(3.9 -5.1)g/dl, Globulin- 3.00 g/dl.(2.0 -3.0g/dl), Sr. Carbamazepine level- 5.10mcg/ml (4 - 8mcg/ml)

Globulin- 3.00 g/dl.(2.0 -3.0g/dl). Sr. carbamazepine level-- Total protein – 6.8g/dl (6.4-8.3), Albumin: 3.8(3.9 -5.1)g/dl, Globulin- 3.00 g/dl.(2.0 -3.0g/dl), Sr. Carbamazepine level- 5.10mcg/ml (4 - 8mcg/ml)

Bone Marrow: Eosinophilic precursors were markedly increased (24%); lymphoid cells were also increased (12%).

Treatment

We treated our patient by first discontinuing anti convulsant-carbamazepine. To control the seizure we started patient on topiramate 50mg b.d. and clobazam 10mg b.d. following which patient did not have any seizures. Since it is reported that if a patient is sensitive to one aromatic anticonvulsant similar reaction can be seen with another aromatic anticonvulsants (namely phenytoin and phenobarbitone, we used topiramate and clobazam). Patient was also started on i.v. betamethasone and hydroxyzine for his generalized severely pruritic skin eruptions. Skin rashes, mucosal bullous eruptions and other haematological investigations including total counts, eosinophil counts, and liver function tests improved remarkably in 10 days. There was a reduction in the number of palpable lymph nodes following treatment. Overall clinical condition improved and patient was discharged after tapering and stopping steroids. Topiramate and Clobazam were continued.

Patch Test: Patient was called for follow up visit 2 months after he was discharged and a patch test with 1% and 5% solution of carbamazepine (Figs. 1, 2) was strongly positive (2+ according to ICDRG grading).

Discussion

DRESS (drug rash or reaction with eosinophilia and systemic symptoms) syndrome begins 2-6 weeks after exposure to a drug. This term was introduced in 1996 by Bocquet et al.1 It appears acutely in first 2 – 6 weeks after initiation of therapy [Kim C W et al., 2006].3 Although rare, it is seen with lots of commonly used drugs like phenobarbitone, carbamazepine, phenytoin, lamotrigine, minocycline, sulphamamide, allopurinol, dapsone, ethambutol, celecoxib, etc. It is important to recognize this entity early because it can mimic other pathologies; is potentially
serious (with mortality as high as 10% [Ghislain P D et al., 2002]) and withdrawal of the incriminating drug being the only definitive treatment. Exact pathophysiology is not known; although it is postulated that eosinophil derived protein toxicity is involved in development of systemic symptoms [Rauch A. E et al., 1997]. Another hypothesis is genetically determined abnormalities in enzyme systems leading to inability to detoxify toxic metabolites may be involved in the pathogenesis [Romero M N et al., 2002]. This hypothesis also recommends avoiding the same agent in first degree relatives of the patient. Although the exact incidence is not known, it is rare, given the fact that the incidence with aromatic anticonvulsants is 1 in 5000-10,000 [Bocquet H et al., 1996]. Between 1993 and 2006 (Scerri et al., 1993; De Vriese et al., 1995; Okuyama et al., 1996; Galindo et al., 2002; Kim et al., 2006; Matsuda et al., 2006). twenty-four CBZ-induced DRESS cases were reported [Aouam K et al., 2008].

Patient usually present with fever, pharyngitis, lymphadenopathy, eosinophilia leucocytosis, increased liver enzymes, renal failure, pneumonia and diarrhoea. Most of these features except pneumonia and renal failure were present in our patient. Hypogammaglobulinemia has been described only early in the course of reaction [Romero M N et al., 2002]; since our patient came 10 days after all the symptoms started so gamma globulins were normal. Biopsy of lymph nodes and skin shows lymphocytic infiltration with a few eosinophils. Patch test is a useful modality in the diagnosis with data suggest a high rate of positive response to patch tests performed in CBZ-induced DRESS patients [Aouam K et al., 2008]. We did patch test in our patient after 2 months of presentation as it is recommended that at least 2 months should elapse from the time of the skin eruption to the testing date since either false positive reactions due to increased reactivity or false negative reactions due to a refractory state may exist. [Kim C W et al., 2006]. Its result was ++ (strongly positive) according to IcDrG grading system. As this is an ADR, we used Naranjo’s algorithm for causality assessment. On Naranjo’s algorithm our case scored 7 which denotes a probable ADR.

Therapy in most cases includes systemic corticosteroid in combination with rapid withdrawal of drug. Early identification of this syndrome is helpful in reducing the mortality

References


Tilting at Windmills

Yash Lokhandwala1, Mandar Shah2, Gopi Krishna Panicker3

Abstract

A 69-year-old man had numerous episodes of syncope over three years. A head-up tilt test had shown a mixed response and he was labeled as having neurocardiogenic syncope. Lifestyle, dietary and pharmacologic measures were ineffective. At electrophysiology study, an easily inducible, self-terminated AV nodal re-entrant tachycardia was induced. At 1 year follow-up after radiofrequency ablation, he is asymptomatic.

Introduction

The head-up tilt test is a common diagnostic procedure in the investigation and classification of syncope. However, its lack of specificity can be a stumbling block in the effective management of syncope. We present such a case in which the tilt test wrongly classified syncope as neurocardiogenic.

Case Report

In July 2008, we saw a 69-year-old man who had numerous episodes of syncope and near-syncope, since 3 years. The syncope was preceded by abrupt rapid palpitations. Sometimes the palpitations occurred without accompanying syncope, especially while supine. The physical examination was normal. He had no diabetes or hypertension. There was no family history of sudden cardiac death. He had been subjected to many investigations, many of them more than once. The results of cardiac investigations like the standard 12-lead, 24 h-ambulatory electrocardiograms (ECGs), echocardiography and coronary angiography were normal. A tilt-table test, conducted in 2007 had shown a positive “mixed” response after provocative testing using sublingual isosorbide dinitrate, with a drop in his blood pressure (BP) followed by sinus bradycardia and near-syncope.

Based on this, he was diagnosed to have neurocardiogenic syncope and advised lifestyle and dietary modifications, which he meticulously followed. But despite all this, he continued to have frequent episodes of near-syncope or syncope. Further neurological evaluations, including a magnetic resonance imaging-brain evaluation were also normal. Treatment with atenolol also proved ineffective.

We reviewed the history. Since the episodes were preceded by abrupt rapid palpitations just prior to the syncope and were not associated with any nausea, vomiting or sweating, we considered an arrhythmic etiology. We therefore subjected him to an electrophysiology study. This revealed supraventricular tachycardia (SVT), which was inducible repeatedly with atrial extra-stimuli. The SVT started with an atrial-His (AH) jump and revealed simultaneous activation of the atria and the