In each family the deficiency cosegregates with the mutation (Table 1), indicating that the defect is the likely cause of PC deficiency in these patients. Our results corroborate that recurrent mutations are very frequent in PC deficiency, since three of our identified mutations were previously described in other countries and two of them involved the hypermutable region of CPG dinucleotides.

Our results corroborate that recurrent mutations are very frequent in PC deficiency, since three of our identified mutations were previously described in other countries and two of them involved the hypermutable region of CPG dinucleotides.

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Key words
Protein C, mutation, thrombosis.

References

treatment and at the same time for OAT is not an unusual occurrence considering the association between cancer and some immunologic diseases with thromboembolic complications. In order to treat such patients properly, it is therefore important to be aware of these pharmacologic interactions that seem to differ with respect to the oral anticoagulant prescribed.

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Key words
Cylosporin A, oral anticoagulants.

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References

Fatal visceral varicella-zoster infection following rituximab and chemotherapy treatment in a patient with follicular lymphoma

Infections during rituximab therapy are mostly bacterial, minor and usually affect the respiratory tract. Viral infections are less common and serious complications are rare. We report the first case of visceral varicella-zoster infection in a patient with follicular lymphoma after rituximab and chemotherapy treatment.

Sir,
Rituximab is a human immunoglobulin (Ig) with variable regions isolated from a murine anti-CD20 monoclonal antibody. It specifically reacts with CD20 antigen on B-cells mediating complement-dependent lysis, antibody-dependent cytotoxicity and apoptosis. As monotherapy in relapsed or refractory low-grade NHL, an overall 50% response rate has been reported. Most adverse events are mild and related to infusion. Viral infections during treatment have been seldom reported. We report the first case, to our knowledge, of fatal visceral varicella-zoster virus (VZV) infection in a patient after administration of rituximab and chemotherapy.

A 53-year old female with follicular NHL (stage IV B) was treated with five courses of CHOP achieving partial response. She then received intensive chemotherapy with PBSC support obtaining a complete response. One year later, relapse was observed in peripheral blood, bone marrow and spleen. Fludarabine treatment was started but she received only two cycles because of bad tolerance. Finally, she received 4 doses of rituximab with 6 courses of CVP chemotherapy combination achieving partial response. One week later, the patient was admitted to our hospital with abdominal pain and vomiting. Physical examination revealed a tender abdomen. Blood count only showed thrombocytopenia (40×10⁹/L). Amylase, renal and liver function tests, chest and abdominal radiography were normal. An abdominal sonography showed splenomegaly of 15 cm. Omeprozol and analgesia were started but the patient worsened and developed paralytic ileus. Gastrodouodenoscopy, abdominal CT scan and finally laparotomy were performed, but did not reveal any pathology. One day after surgery, the patient developed decreased consciousness with tonic movements and D&F treatment was started. No metabolic causes were found. Neurologic examination and brain CT scan were normal. An electroencephalogram revealed focal temporal lobe activity and cerebrospinal fluid (CSF) had only high protein levels (1.01 g/L). CSF cultures were negative.

On the 7th hospital day, she developed a generalized papulo-vesicular rash and acyclovir (10 mg/kg/8h) was initiated. VZV direct fluorescence assay and culture were positive in vesicular fluid. Twelve hours later, she had fever, jaundice, dyspnea and oliguria. Laboratory findings revealed bilirubin 63.2 μmol/L, ALT 2,055 U/L, AST 1,780 U/L, prothrombin time 45 sec and creatinine 354 μmol/L. A CT scan showed pneumonitis with pleural effusion, necrotic hepatomegaly, splenomegaly, ascites, and pancreatic and renal edema. Cytopathic changes suggestive of herpetic virus infection were observed in pleural mesothelial cells (Figure 1). Multiorgan failure caused by VZV infection was diagnosed. Despite intensive treatment the patient died. An autopsy was not performed.

VZV infection is an important cause of morbidity in hematologic patients. It generally presents as dermatomal reactivation of latent virus. Nevertheless, visceral dissemination can occur in highly immunosuppressed populations. with near 50% mortality. It is often preceded by cutaneous manifestations so the diagnosis is easy suspected. However, it can precede typical rash by as much as 3 weeks or even be present in the absence of skin lesion. Visceral VZV infection often presents as poorly localized abdominal pain and evolving pancreatitis, hepatitis, paralytic ileus or even aseptic meningoencephalitis. Pneumonitis and hepatic failure are the most important causes of mortality. However, visceral VZV dissemination is a rare complication during chemotherapy courses or even more than one year following transplantation. Our patient showed VZV IgM in pretransplantation studies and it is probable that VZV reactivation was mainly related to cellular immunity impairment by lymphoma, fludarabine and corticosteroid treatment. Nevertheless, it has been reported that most rituximab patients have normal Ig levels.