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CASE REPORT

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Anidulafungin induced reversible thrombocytopenia in a patient: A case report

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Abstract

Anidulafungin is a semisynthetic antifungal agent which is an echinocandin. Here, we presented elderly patient developed reversible severe thrombocytopenia due to anidulafungin. A 75-year-old man was admitted to the ICU with signs of hypovolemic shock and acute anemia. Amikacin therapy 15 mg/kg/day was started with the diagnosis of pneumonia due to the growth Acinetobacter baumannii. Amikacin therapy was discontinued in the treatment day 3 and began to colistin 2 mg/kg every 8 hours and imipenem 7 mg/kg every 6 hours. On hospital day 17, fluconazole 200mg/day was added to treatment due to candida albicans growth in blood culture and colistin-imipenem treatment was discontinued in the treatment. Candida albicans produced in control blood culture on floconazole therapy day 5 and the treatment was continued. Because of the increasing procalcitonin and CRP levels, liver enzyme elevation and fever 38.5 Co on fluconazole therapy day 6, anidulafungin therapy 200 mg was switched on fluconazole promptly. The dosage of anidulafungin was continued to 100 mg/day. Platelet counts was found to be six thousands anidulafungin therapy day 4. So treatment was terminated and liposomal amphotericin B treatment was started. Five days after the cessation of treatment with anidulafungin, platelets value was found to be over 100 thousand. Antifungal therapy was discontinued on liposomal amphotericin B therapy day 14, due not to the growth of microorganism in control blood culture. The patient who continue to be treated in intensive care, died due to multiorgan failure at 66 days. In conclusion; clinicians may consider monitoring platelets periodically, particularly in patients with hematologic disorders who use antibiotics and / or antifungal agents.

Keywords: Anidulafungin, echinocandins, antifungal, thrombocytopenia

Introduction

Anidulafungin is a semisynthetic antifungal agent which is a echinocandin class and uses to treatment invasive candidiasis and refractory aspergillosis. The echinocandins affect the fungal cell wall with inhibition of the synthesis of 1,3D-glucan [1]. Echinocandins are usually well tolerated, was shown few drug–drug interactions [1,2]. Given the limited clinical practise with this drug, it is important to report the serious side effects associated with anidulafungin. A PubMed search using the MESH terms "anidulafungin" and "thrombocytopenia" yielded no relevant articles. Here we presented elderly patient developed reversible severe thrombocytopenia due to anidulafungin.

Case Report

A 75-year-old man was admitted to the hospital for abdominal pain which had persisted suddenly and reported to the emergency. Abdominal distension for the past 5 days. On admission he was pale, sweaty, with signs of hypovolemic shock (BP of 40/0 mmHg, tachycardia of 105 bpm) and acute anemia (hemoglobin of 6.7 g/dL). Blood clots were detected on rectal examination. An emergency exploratory laparotomy was performed. The old male patient with stomach bleeding was submitted to total gastrectomy in our general surgery clinic. The patient was transferred to the general surgery intensive care unit on postoperative first day. A sputum culture is being taken because of the fire has been monitored in the intensive care unit. Amikacin therapy 15 mg/kg/day was started begins with the diagnosis of pneumonia was due to the growth Acinetobacter baumannii in sputum culture. amikacin therapy was discontinued in the treatment day 3. and began to colistin 2 mg/kg every 8 hours and imipenem 7 mg/kg every 6 hours was added to the regimen. The patient developed respiratory failure requiring intubation while receiving empiric antibacterial therapy and the patient was transferred to the intensive care unit and was intubated due to the increase of respiratory distress on day 16. Blood stream, urine and respiratory cultures were taken. On hospital day 17, fluconazole 200mg/day was added to treatment due to candida albicans produced in blood culture and colistin-imipenem treatment was discontinued in the treatment. Candida albicans produced in control blood culture on floconazole therapy day 5 and the treatment was continued. Because of the increasing procalcitonin and CRP levels, liver enzyme elevation and fever

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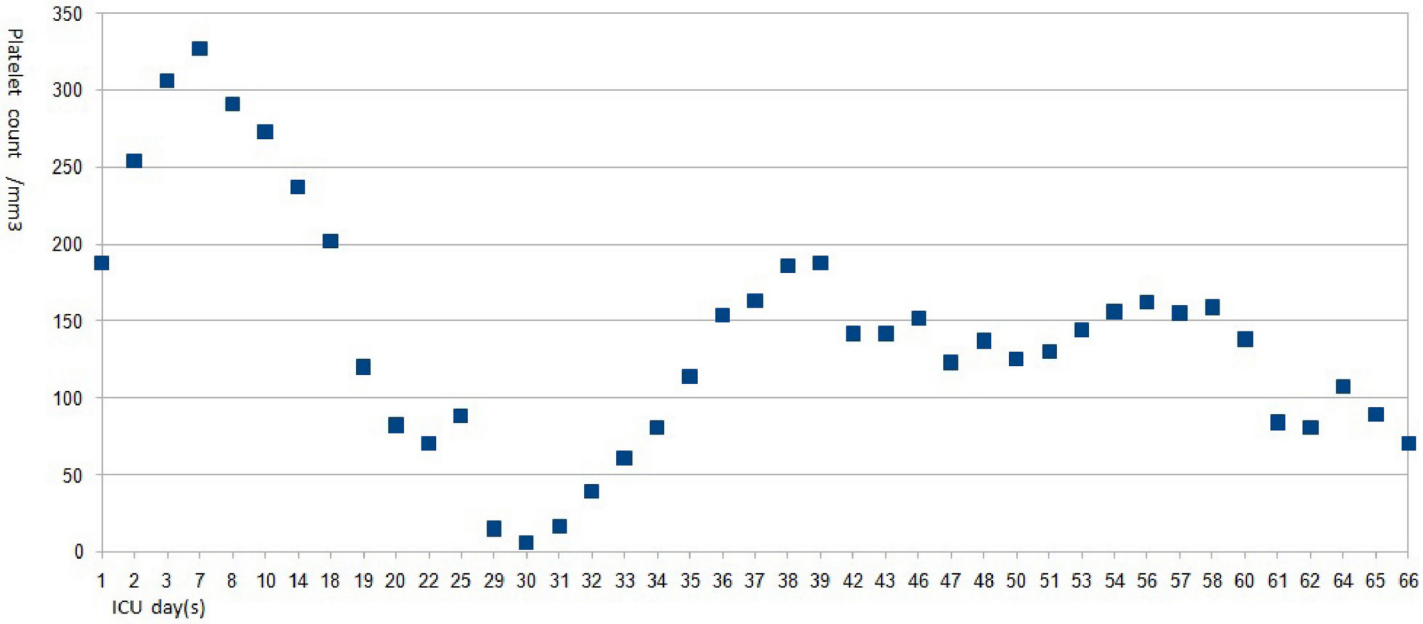

Figure 1. Daily platelet counts

Discussion

Drug-induced adverse effects can occur in intensive care unit patients during to the treatments. Thrombocytopenia is one of these effects. Some drugs that we use in our patient might have been associated with thrombocytopenia. Fluconazole induced thrombocytopenia has been shown in some cases [3,4]. Pasikhova and colleagues described a 66 year old female who developed agranulocytosis and thrombocytopenia after fourty-eight hours fluconazole initiation the patient's for a suspected fungal superinfection. To these case, the exact cause of thrombocytopenia has not been determined. But platelet counts have been shown to recovered to the normal levels after forty-eight hours the cessation of treatment with fluconazole [3].

Otherwise, thrombocytopenia associated with amphotericin B has been described rarely in case reports of adults [5,6]. The cause of thrombocytopenia in the patient who has hepatic candidiasis, is bone marrow suppression due to amphotericin, was introduced by Chan and colleagues [5]. The exact mechanism of amphotericin's effects on platelets generally remain unknown. In a study, it is stated that this effect is dose dependent in adult patients [6]. Another study found that amphotericin B affect to the platelet membrane glycoprotein (GP1b) and so develop to thrombocytopenia [7].

Information on anidulafungin induced thrombocytopenia is limited. Anidulafungin has relatively safety profile in echinocandins. According to manufacturer, anidulafungin might have been associated with thrombocytopenia in less than 2% of patients [8]. However, the manufacturer don't provide information of the thrombocytopenia associated with anidulafungin [8]. Although there are rare cases that was reported other echinocandins induced thrombocytopenia, anidulafungin is not the case.

In our patient, platelet counts began to decline after fluconazole was added to therapy (Figure 1). We're not sure that this decrease is fluconazole-induced thrombocytopenia. However, platelet reduction deepened further when it starts to anidulafungin along with the end of fluconazole. After fourty-eight hours the cessation of treatment with anidulafungin, platelet count began to increase. These findings support the possible contribution of anidulafungin to thrombocytopenia in our patient.

Conclusion

In conclusion clinicians may consider monitoring platelets periodically, particularly in patients with hematologic disorders especially in patients who use antibiotics and / or antifungal agents.

Competing interests
The authors declare that they have no competing interest.

Financial Disclosure
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