Sertraline-induced agranulocytosis

Sir,
We report the case of a 73-year-old depressed woman on sertraline who developed septic shock, secondary to sertraline-induced agranulocytosis, which responded to antibiotic and granulocyte colony stimulating factor treatment.

The patient presented with suicidal ideas due to underlying depressive illness (Geriatric Depression Scale 22/30). Sertraline 50 mg daily was initiated with a good clinical response after two weeks. She was already on atenolol 100 mg daily and bendrofluazide 2.5 mg daily, for hypertension, for more than two years and chloridizine 75 mg daily, for anxiety, for one month.

Four weeks after starting sertraline she was admitted with a transient right hemiplegia. Four days later she complained of general malaise, myalgia, low mood and sore throat. She was pyrexial (38°C) and hypotensive (80/50 mmHg). She had a total white cell count of 0.7 x 10^9/L, haemoglobin 12.2 g/dL and platelets 352 x 10^9/L. Diagnosis of agranulocytosis was confirmed on bone marrow biopsy. Pseudomonas aeruginosa and Streptococcus viridans were cultured from the blood. All her medication was stopped and she was treated with gentamycin, imipenem and acyclovir plus intravenous fluids. There was no haematological or clinical improvement after 24 h. Therefore she was treated with granulocyte colony stimulating factor with a subcutaneous daily for seven days which produced a gradual increase of circulating neutrophils without a marked proliferation of blast cells. On the seventh day her total white cell count had risen to 26.3 x 10^9/L (neutrophils 22.8 x 10^9/L). She had made a full recovery by the tenth day.

Sertraline is a selective serotonin re-uptake inhibitor (SSRI) used for the treatment of depression. SSRIs are preferred to other antidepressants because of their rapid action, less sedative and antimuscarinic effect, and low cardiotoxicity.1,2 The Committee on Safety of Medicines (CSM) has received two other reports of neutropenia and one of leucopenia with sertraline, but no previous report of agranulocytosis. There have also been three other reports of agranulocytosis, 20 of leucopenia and 32 of neutropenia with the other SSRIs (fluoxetine, paroxetine and fluvoxamine, CSM reports up to May 1995). These cases highlight a serious and life-threatening complication of these increasingly used drugs. Doctors should inform their patients to report any symptoms of infection after being started on SSRIs; close haematological monitoring may be needed in the first few weeks of treatment.

Granulocyte colony stimulating factor is licensed to lessen the severity and duration of neutropenia induced by intensive cytotoxic chemotherapy.3 It has been shown to protect patients against infections, shorten hospital stay and the number of days on intravenous antibiotics, and thus prevent postponement of later courses of chemotherapy or rescue bone marrow transplants.4 It is also the most promising treatment for severe congenital neutropenia.5 It has also been recently reported to produce a significant clinical and haematological improvement in a pregnant woman with acute myeloid leukaemia, allowing time for the fetus to mature sufficiently to be delivered safely.6 Pseudomonas septicaemia has a significant mortality in immunocompromised patients, despite antibiotic treatment.

Our patient benefited from the administration of granulocyte colony stimulating factor in combination with intravenous broad-spectrum antibiotics which accelerated neutrophil count recovery. Although this was an isolated case, granulocyte colony stimulating factor could have a role in the treatment of life-threatening drug-induced neutropenia.

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