Severe febrile neutropenia in a teenager under isotretinoin treatment

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Introduction

Acne is the commonest skin disorder in adolescents. In serious cases of nodular acne or resistant to regular treatment, isotretinoin has excellent outcome. Nevertheless, its clinical use has been associated with severe adverse effects such as psychosis, rhabdomyolysis, seizures and disorders in blood cells.

Neutropenia is defined as an absolute neutrophil count of 1500 cells/ μ L or less. Severe neutropenia occurs when the neutrophil count falls below 500 cells/ μ L. **Febrile neutropenia** is defined as neutropenia with a single temperature of at least 38.3°C or a temperature of at least 38.0°C lasting for 1 h.

Case Presentation

A 15 years old, male, teenager presented with high fever of 39.9°C lasting for 48 hours, along with abdominal and back pain, diarrhea and angina.

Clinical evaluation revealed poor general condition, paleness, body temperature of 38.7°C, HR: 116/min, BP: 98/56 mmHg, RR:20/min, CRT: 2 sec.

He had diffuse abdominal pain, pharyngitis without coating, painful cervical lymphadenopathy, spleen and liver enlargement, severe nodular acne on face, chest and back (Picture 1) and oliguria.

He was on isotretinoin acne treatment for the last 10 days which he was discontinued 4 months ago due to side effects (headache, nose bleeding and dryness).

Picture 1.

Laboratory studies revealed leukopenia (2,700/ μ L) with lymphocytosis, neutropenia (90/ μ L), thrombocytopenia (133,000/ μ L), elevated CRP (316mg/dl) and mildly increased liver enzymes (Chart 1).

Chart 1.

On admission, due to pharyngitis with cervical lymphadenopathy, lymphocytosis and liver enlargement he was treated as infectious mononucleosis but within the next 12 hours he deteriorated rapidly, presenting severe neutropenia, persistent hyperpyrexia, acute kidney failure with elevated serum creatinine, anuria, abdominal pain and difficulty in swallowing.

He was administered broad spectrum intravenous antibiotic treatment (Ceftriaxone and Clindamycin), as for severe febrile neutropenia-toxinemia like reaction. He showed immediate and remarkable improvement of his clinical condition within the next 4 hours and laboratory tests returned to normal within 12 hours (Table 1).

Discussion

Although evidence for neutropenia in relation to isotretinoin is contradictory, we present a case of a healthy otherwise teenager with severe febrile neutropenia with two possible entry sites: pharyngitis and nodular acne and whose bone marrow was impressively suppressed and unable to respond. Therefore we suppose that this could be related to isotretinoin use.

RRare cases of neutropenia have been reported, that can persist for long period of time after isotretinoin medication was discontinued, along with thrombocytopenia or thrombocytosis.

EEven though retinoic medication considered to be the most effective treatment in severe acne, it should be administered under close monitoring and with vigilance. The patient must be informed in details for the possible side effects and the need for prompt medical advice in a case of febrile disease.

Literature

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