Fulminant hyperpyrexia induced by bleomycin

Wing-Hung Leung, Johnson Y.N. Lau, Tai-Kwong Chan and Cyrus R. Kumana

Department of Medicine, University of Hong Kong, Queen Mary Hospital, Pokfulam Road, Hong Kong.

Summary: Mild and self-limiting fever following bleomycin use is common, and a fatal hyperpyrexial response occurs rarely. In previously reported cases, such hyperpyrexia occurred either after the initial administration of the drug or during subsequent therapy following an initial pyrexial response. We describe a fatal hyperpyrexial reaction after bleomycin in a patient with T-cell lymphoma who had had no febrile response when she received her initial injection 3 weeks earlier. Since the occurrence of this hyperpyrexial response is unpredictable, health care workers as well as patients and relatives should always be alert to this potentially lethal complication and prompt measures should be taken in any patient who develops fever after bleomycin use.

Introduction

Bleomycin, the generic name for an antibiotic isolated from Streptomyces verticillus, is now used frequently as an anti-cancer drug against a wide variety of tumours including lymphoma, testicular tumours and squamous cell carcinoma. Although fever following bleomycin therapy occurs commonly, it is usually mild and self-limiting. Rarely, bleomycin can induce a fulminant hyperpyrexia associated with a high mortality. In previously reported fatal cases, such hyperpyrexia either follows the initial administration of the drug or during subsequent therapy following an initial mild and self-limiting febrile response. We report a unique case of fatal bleomycin-induced hyperpyrexia in a T-cell lymphoma patient, who had received a prior initial injection of bleomycin 3 weeks earlier without a febrile response.

Case report

A 42 year old Chinese female teacher presented with marked constitutional symptoms consisting of malaise, night sweats, anorexia, profound weight loss and hepatosplenomegaly for 3 weeks. Investigations showed pancytopenia and bone marrow examination revealed reactive changes with small epithelioid granuloma and reactive haemophagocytosis. The patient subsequently underwent a laparotomy which revealed enlarged para-aortic, mesenteric and iliac lymph nodes in addition to the hepatosplenomegaly. Splenectomy, wedged liver biopsy and multiple lymph nodes sampling were performed. Isoflurane and nitrous oxide were used as inhalational anaesthetic agents. Vecuronium was used as the muscle relaxant.

Histology showed peripheral T-cell lymphoma of the pleomorphic type. Postoperatively whilst still an inpatient, she was treated with a chemotherapeutic combination at half the conventional dosage, which initially consisted of bleomycin, 3 mg i.v.; doxorubicin, 30 mg i.v.; cyclophosphamide, 400 mg i.v.; vincristine, 1 mg i.v.; dexamethasone, 4 mg orally for 5 days; and methotrexate, 140 mg i.v. on day 8 and day 15 followed by oral folinic acid rescue (m-BACOD). There was no reaction to the first course of chemotherapy and her presenting constitutional symptoms subsided after the treatment.

Three weeks later, a second course of chemotherapy with increased dosage was given (bleomycin 6 mg; doxorubicin 45 mg; cyclophosphamide 600 mg; vincristine 2 mg) in the outpatient clinic. Three hours after the injection, she developed severe rigors and profuse sweating. One hour later, she was admitted to hospital, whereupon she spiked a temperature in excess of 42°C rectally (i.e. beyond the upper range of the scale). She was delirious and unresponsive to commands with generalized muscle rigidity. Her blood pressure was 70/40 mmHg with a pulse rate 160/min. Arterial blood gases revealed a metabolic acidosis with pH 7.25 and bicarbonate 12 mmol/l. She was treated with intravenous fluid, sodium bicarbonate, chlorpromazine, methylprednisolone 1 g, indomethacin suppressory and as well as externally applied ice packs and cold water sponging. She developed one episode of generalized tonic-clonic seizure which was controlled with intravenous diazepam. She lapsed rapidly to respiratory arrest which necessitated intubation and mechanical ventilation. About 2 hours after admission, her temperature had dropped to 34.7°C. There was also clinical and laboratory evidence of disseminated intravascular coagulation. Fresh frozen plasma and platelet concentrates were administered.
References


Fulminant hyperpyrexia induced by bleomycin.


doi: 10.1136/pgmj.65.764.417

Updated information and services can be found at:
http://pmj.bmj.com/content/65/764/417

These include:

Email alerting service
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/