

INFECTION AND MASSIVE BONE MARROW NECROSIS IN THE TREATMENT OF THROMBOTIC THROMBOCYTOPENIA PURPURA (TTP)

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Bone marrow necrosis (BMN) is a rare entity and until recently has been a post-mortem phenomenon. Most ante-mortem cases are associated with underlying malignancy, primarily leukemias and lymphomas. Rarely, it is the result of other etiologies. BMN is characterized by sheets of poorly defined necrotic cells over an eosinophilic amorphous background with preserved cortical bone. The pathophysiology of BMN is not fully understood.

This case report is of an adult female who presented initially with thrombotic thrombocytopenia purpura (TTP), was treated with plasma exchange, rituximab, vincristine, and subsequently developed marked pancytopenia. The bone marrow biopsy revealed profound bone marrow necrosis and mixed bacterial infection. Shortly after the patient was treated with antibiotics her peripheral blood cell count recovered. The patient has survived to date with no underlying malignancy identified.

The etiology of this patient's bone marrow necrosis is unknown, however four scenarios are possible. The most likely of these, is that the patient, immunosuppressed from her TTP therapy, became infected, the infection starved the marrow and then the marrow subsequently died. The source of infection was undiscovered. Other possible causes include undetected malignancy and TTP, which can plug the microcirculation of the bone marrow and cause necrosis. A single case reporting a patient having an acute reaction to rituximab therapy with bone marrow necrosis appearing 2 weeks later. There are no reports in the literature of bone marrow infection and necrosis associated with the treatment of TTP, without a concurrent diagnosis of cancer.