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Letter to the editor

Necrotizing Fasciitis in a Lupus Nephritis Patient Following Treatment with Cyclophosphamide

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Necrotizing fasciitis is a life threatening infection involving superficial fascia and subcutaneous tissue [1]. It has been described in Lupus Nephritis (LN) patients treated with immune suppressants [1]. Here we report the case of a patient with lupus nephritis who developed necrotizing fasciitis following use of cyclophosphamide. A 36 year old female was admitted with history of fever, pain and swelling of right lower extremity of 5 days duration. Her past medical history was significant for systemic lupus erythematosus, LN, hypertension, deep vein thrombosis, pulmonary embolism and anti-phospholipid antibody syndrome. She was diagnosed with class III LN, 2 weeks back based on a renal biopsy for which intravenous (IV) cyclophosphamide (1 gm) and high dose steroids (intravenous methyl prednisone followed by oral prednisone) were used for induction treatment. Her home medications in addition to oral prednisone included warfarin and hydroxychloroquin. Physical examination showed temperature 102^0 F, heart rate 120/minute and blood pressure 90/70 mmHg. There was erythematous discoloration and petechiae in the lateral aspect of right leg. Additional findings included absent peripheral pulses and 2+ pitting edema in right lower extremity. Pertinent laboratory tests revealed white cell count 1.2 x 109/L (36% neutrophils), platelet count 78x109/L, BUN 14.99 mmol/L and creatinine 159.12 µmol/L. Urine analysis showed protein 300+ and 14 Red Blood Cells (RBC)/high power filed (more than 50% dysmorphic RBCs).Initial treatment consisted of IV fluids, vasopressors, broad spectrum antibiotics and stress dose steroids for septic shock. Necrotizing fasciitis with compartment syndrome was suspected and an emergency surgical intervention was performed which included fasciotomy and debridement. Despite the intervention there was extension of the infection proximally which necessitated above knee amputation of the right lower extremity. Meanwhile blood culture showed growth of *Pseudomonas aeruginosa* and antibiotics were narrowed down to IV meropenem and ciprofloxacin. Subsequently blood cultures became negative and she achieved hemodynamic stability. One month after completing treatment with antibiotics, Mycophenolatemofetil (MMF) at low dose (500 mg twice daily) was started for induction treatment of lupus nephritis(along with oral prednisone). Consequently dose was increased to 1 gm twice daily. Four months after initiation of treatment with MMF, patient attained remission (urine analysis showed proteinuria less than 500 mg/gm creatinine, less than 3 RBCs /high power field and normalization of creatinine). There was normalization of the complements, ANA titer and Anti-dsDNA titer. MMF was used for maintenance treatment as well. Two years after initiation of treatment with MMF, patient continues to be in remission. There were no major infections reported during this period. The appropriate timing of re-initiation of immune suppression after an episode of life threatening infection is not known at this point. On one hand withholding immune suppression in these patients might result in progressive deterioration in renal function [2]. On the other hand these are patients who can develop recurrent infections with ongoing use of immune suppressants. This case demonstrates that immune suppressants can be safely introduced after complete treatment of the infection and MMF induction as well as maintenance therapy might be associated with fewer infections compared with induction therapy with cyclophosphamide [3].

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