

Adalimumb Induced Systemic Vasculitis Following Treatment of Hidradenitis Suppurativa

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ABSTRACT

A 52-year-old man, with diabetes mellitus and obesity, had received Adalimumb for extensive Hidradenitis suppurativa. The latter was difficult to control with local antiseptics, antibiotics and surgery. Two weeks later, he developed fever, palpable maculopapular rash and progressive renal failure. His skin biopsy showed leucocytoclastic vasculitis with negative immune deposits and his kidney biopsy showed crescentic glomerulonephritis. Adalimumb was discontinued and the patient was treated with Prednisone 1 mg/kg/day. His kidney failure improved. However, his skin lesions progressed to necrotizing fasciitis despite aggressive surgical care. Ultimately, he died from disseminated sepsis 2 months later.

Keywords: Adalimumb, Hidradenitis Suppurativa, Prednisone, Renal Failure, Vasculitis.

INTRODUCTION

Tumor necrosis factor- α (TNF α) inhibitor has a significant role in treatment of many rheumatologic disorders, inflammatory bowel disease, psoriasis and pediatric uveitis.¹ Cutaneous complications of this class of medications has been reported yet were considered mild and rarely warranted treatment withdrawal. Moreover, skin and peripheral nerve vasculitis has been reported months following its use.^{2,3}

Contrary to those previous reports, our patient had developed severe and systemic vasculitis shortly after its use which incriminates the culprit drug. Moreover, it had required high-dose corticosteroid-treatment to halt the disease but could not prevent his demise from necrotizing fasciitis.

CASE PRESENTATION

A 52-year-old man presented with a 1-year history of multiple deep seated abscesses and fistulae in the axillary and groin areas. The disease had progressed to contractures despite aggressive local care, antibiotic therapy, laser hair removal and limited surgery.

The patient had type II diabetes mellitus for 10 years. Initial physical examination did show abnormality except for morbid obesity with BMI at 40. Laboratory investigations were normal

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except for high serum creatinine at 150 μ mol/L, low serum albumin at 26 g/L and proteinuria at 5 g/day. The patient had received IV Meropenem for 7 days with local skin care and drainage of the abscesses. One month after stabilization of his skin infections; he was treated with Adalimumb to slow the progression of his disease.

Adalimumb was given, subcutaneously, as an initial dose of 160 mg given divided over 2 days followed by 80 mg on day 15 then 40 mg every other week. One month later, he started to have decrease urine output with maculopapular rash over his abdomen and lower limbs (Fig.1). Serum creatinine had increased to 400 μ mol/L. Biopsy of those skin lesions revealed skin vasculitis without immune deposits on Immunofluorescent stains (Fig. 2).

Kidney biopsy showed crescentic glomerulonephritis. Adalimumb was held and the patient was treated with IV Solumedrol 1 g for 3 days followed by Prednisone 1 mg/kg/day. Within the next 2 weeks, his rash and urine output had improved and serum creatinine decreased to 230 μ mol/L. Unfortunately, his skin lesions were deep and had required multiple debridements due to necrotizing fasciitis. Despite aggressive local care, antibiotics and pressers his lesions progressed and ultimately had died from disseminated sepsis.



Figure 1: Showing maculopapular skin rash over the lower abdomen (A) and the purpuric rash over lower limb (B)

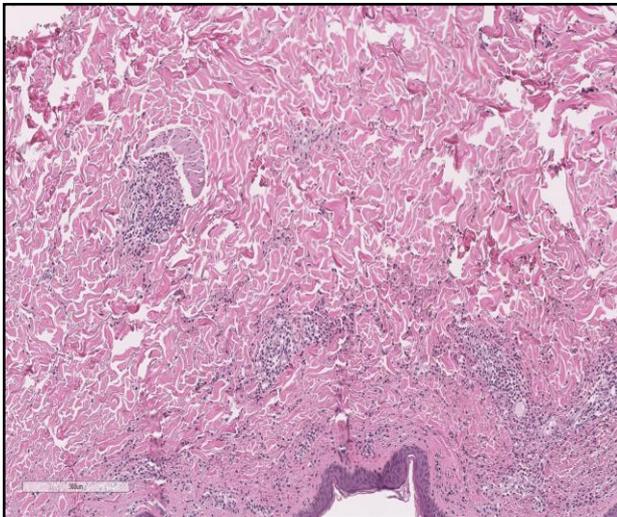


Figure 2: Skin showing subepidermal capillaries surrounded by neutrophils, lymphocytes and eosinophils indicating leukocytoclastic vasculitis (H&EX160)

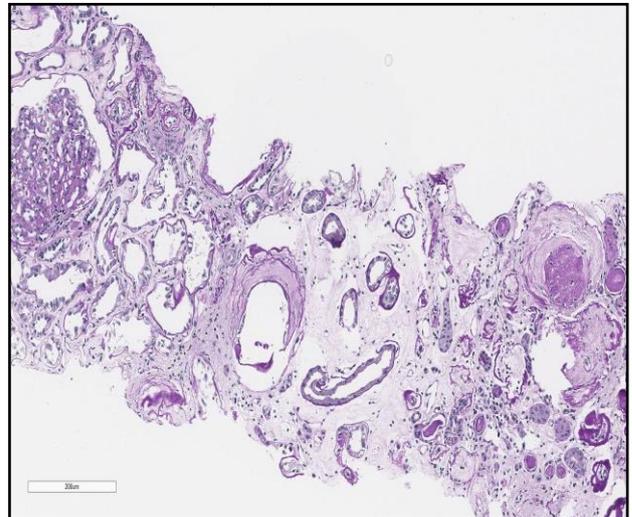


Figure 4: Normal renal tissue alternating with focal area of fibrosis with globally sclerosed glomeruli and fibrous crescents (stripped fibrosis) (PASX160)

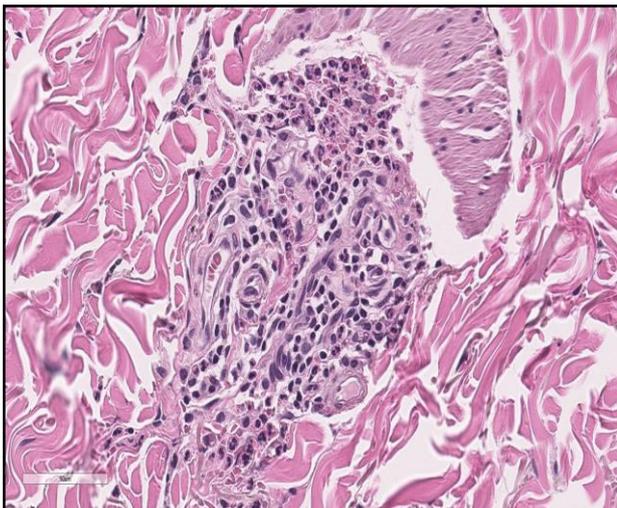


Figure 3: Eosinophilic, lymphocytic and neutrophilic pericapillary infiltrates in subepidermis (PAS X400)

DISCUSSION

HS is a long-standing skin disease characterized by inflamed and swollen apocrine sweat glands in the groin, underarms and under the breasts.⁴ HS is a disease of the follicular epithelium and though referred to as *acne inversa*, it is not a form of acne and lacks the core defining features of acne such as the presence of closed comedones and increased sebum production.⁵ About a third of patients have positive family history indicating a genetic predisposition.⁶ Other risk factors include obesity, smoking, excessive androgen production as well as poor hygiene and use of deodorants. Stage I and II can be managed with local care, antibiotic therapy, laser hair removal and limited surgery.⁷ However, Stage III with diffuse disease complicated by deep infections, sinuses and fistulae formation requires more aggressive treatment since may lead to contractures, lymphedema, systemic infections, tumors and amyloidosis. Previous studies have supported that various TNF inhibitors have

a positive effect on hidradenitis suppurativa lesions.⁸ Furthermore, Adalimumb has recently been approved for treatment of the active moderate to severe HS which fails to respond to conventional drugs.⁹ In general, adverse events in patients receiving the drug include; infections caused by viruses, fungi, and bacteria as well as rare reports of lymphoma and solid tissue cancers. Moreover, anaphylaxis, serious liver injury; CNS demyelination and cardiac failure have been reported. Interestingly, in rheumatoid arthritis, anti-TNF- α agents were the leading culprits in drug-induced vasculitis with over 200 cases worldwide have been reported.¹⁰ Adalimumb was considered responsible for only 10 of those cases despite the long latent-period (34.5 months) prior to the development of vasculitis.^{2,3} Contrary to those reports, the short latent-period, in our patient, confirms the role of Adalimumb in induction of vasculitis. Moreover, it shows that the drug can induce severe and systemic vasculitis. The latter complication is far from being benign and despite early and aggressive immunosuppressive therapy, skin necrosis had progressed and culminated in fatal septicemia. Over all, anti-TNF- α agents may have been useful in certain diseases yet the development of such idiosyncratic vasculitis indicates a need for safer drugs.

REFERENCES

1. Keystone EC, Ware CF. Tumor necrosis factor and anti-tumor necrosis factor therapies. *J Rheumatol Suppl* 2010; 85: 27-39.
2. Ramos-Casals M, Brito-Zeron P, Munoz S. Autoimmune disease induced by TNF-targeted therapies: analysis of 233 cases. *Medicine (Baltimore)* 2007; 86: 242-51.
3. Sokumbi O, Wetter DA, Makol A, Warrington KJ. Vasculitis associated with tumor necrosis factor- α inhibitors. *Mayo Clin Proc* 2012; 87: 739-45.
4. Gregor B.E. Jemec. Clinical Practice: Hidradenitis Suppurativa. *N Engl J Med* 2012; 366: 158-64.
5. Yu C.; Cook M. Hidradenitis suppurativa: a disease of follicular epithelium, rather than apocrine glands. *Br J Dermatology* 1990; 122: 763-69.
6. Der Werth JM, Williams HC, Raeburn JA (2000). The clinical genetics of hidradenitis suppurativa revisited. *Br J Dermatol* 2000; 142: 947-53.
7. Hurley HJ. Axillary hyperhidrosis, apocrine bromhidrosis, hidradenitis suppurativa, and familial benign pemphigus: surgical approach. In: Roenigk RK, Roenigk HH, editors. *Dermatologic surgery*. Marcel Dekker, New York, 1989, pp. 729-39.
8. Haslund P, Lee RA, Jemec GB (November 2009). Treatment of hidradenitis suppurativa with tumour necrosis factor-alpha inhibitors. *Acta Derm Venereol* 2009; 89: 595-600.
9. Kimball AB, Kerdel F, Adams D et al. Adalimumab for the treatment of moderate to severe Hidradenitis suppurativa: a parallel randomized trial. *Ann Intern Med* 2012;157:846-55.
10. Grau RG. Drug-induced vasculitis: new insights and a changing lineup of suspects. *Curr Rheumatol Rep* 2015;17:71.

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