Relapse of nephrotic syndrome after a bee sting

Sir,

Relapses in patients with minimal change disease (MCD) have been rarely reported following exposure of inhaled allergens, foods, insect stings, and vaccination.[1] Herein, we report a case with relapse after a bee sting while in complete remission.

A 28-year-old male presented with sudden onset generalized edema. One week before the admission he had a bee sting on his forearm. He had a known medical history of MCD, but was in complete remission for 6 years. Seven days after the bee sting the patient had marked edema on the face, and legs. On admission the patient was afebrile, with eyelid and 3+ pretibial edema and a normal blood pressure of 110/60 mmHg. Laboratory examinations revealed proteinuria (2708 mg/day), normal renal function (creatinine 0.8 mg/dl), total serum protein 5.1 g/dl, serum albumin 2.8 g/dl, total cholesterol 315 mg/dl, triglycerides 68 mg/dl, LDL cholesterol 228 mg/dl, and white blood cell 19,600/mm^3. We accepted these findings and symptoms as a relapse of disease, and methylprednisolone treatment was introduced at the dose of 1 mg/kg/day. One week later his proteinuria resolved to 356 mg/day and clinically improvement was observed. The dosage of corticosteroid was tapered to 4 mg/day over the next 4 weeks, and there was no relapse during 1-year follow-up.

Bee stings usually cause minor local allergic reactions. But, systemic complications such as glomerulonephritis (GN), interstitial nephritis, acute renal failure, myocarditis, centrilobular necrosis of liver, Guillain-Barre syndrome, and vasculitis can be seen.[2-4] GN is rare and there are little known data about histological findings, long-term follow-up, incidence, and response to therapy of GN after an insect sting. Cuoghi *et al.*, in their series, include 180 children with nephrotic syndrome (NS); found that three children had recurrent NS triggered by the

insect sting and the remission was achieved with steroid therapy in all.[3] Although spontaneous remission may occur in some cases, the most reported cases required corticosteroid therapy for remission.[2-4] Similarly, oral steroid treatment-induced prompt remission in our case.

Recent data suggest that atopic disorders are common in patients with MCD despite of little evidence that they have a direct pathogenic role in this disorder. Many patients with MCD have increased serum immunoglobulin (Ig) E and interleukin (IL)-13 levels. IL-13 has the ability to cause switch from IgM to IgE in B cells and induce CD80 expression by podocytes.[1] It may be responsible for developing proteinuria and increased IgE levels. Reiser *et al.*, showed that induction of CD80 by podocytes results in proteinuria in rat with glomerular epithelial cell foot-process fusion.[5] Morever, urinary CD80 levels increased in patients with MCD during relapse and return to normal after remission.[1] Consequently, recent studies suggest that IL-13 may mediate proteinuria in patients with MCD because of its ability to directly induce CD80 expression on the podocyte.

M. Ceri, I. Kurultak[1]

Department of Nephrology, Ankara Education and Research Hospital, Ankara, Turkey, [1]Department of Nephrology, Gulhane Military Academy of Medicine, Haydarpasa Training Hospital, Istanbul, Turkey

Address for correspondence:
Dr. Mevlut Ceri,
Ankara Education and Research Hospital,
Department of Nephrology, Cebeci, Ankara, Turkiye.
E-mail: mevlutceri@gmail.com

References

1. Abdel-Hafez M, Shimada M, Lee PY, Johnson RJ, Garin EH. Idiopathic nephrotic syndrome and atopy: is there a common link? Am J Kidney Dis 2009;54:945-53.
2. Zaman F, Saccaro S, Latif S, Atray N, Abreo K. Minimal change glomerulonephritis following a wasp sting. Am J Nephrol 2001; 21:486-9.
3. Cuoghi D, Venturi P, Cheli E. Bee sting and relapse of nephrotic syndrome. Child Nephrol Urol 1988-1989;9:82-3.
4. Kaarthigeyan K, Sivanandam S, Jothilakshmi K, Matthai J. Nephrotic syndrome following a single bee sting in a child. Indian J Nephrol 2012;22:57-8.
5. Reiser J, von Gersdorff G, Loos M, Oh J, Asanuma K, Giardino L, *et al*. Induction of B7-1 in podocytes is associated with nephrotic syndrome. J Clin Invest 2004;113:1390-7.

Access this article online	
Quick Response Code:	Website: www.indianjnephrol.org
	DOI: 10.4103/0971-4065.97147