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Case Report

Exercise Induced Vasculitis

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Abstract

Exercise-induced vasculitis is a rash of the lower leg which commonly occurs after prolonged walking. Cause, treatment & best method of prevention is not agreed upon. This case report suggests the main cause of the rash may be venous stasis aggravated by prolonged walking. A trial of support stockings may be warranted to try to prevent recurrence of exercise-induced vasculitis.

Abbreviations: MI: Indicates miles; IB: Indicates pounds

Introduction

Exercise induced vasculitis causes a rash of the lower leg which commonly occurs after prolonged walking [1]. It is also known as golfer's vasculitis or golfer's rash [2]. It appears as erythematous and or purpuric areas in the skin of the lower legs [1-3]. It is usually painless but may cause itching and burning [1]. It has not been found to be associated with any systemic diseases [1,3]. Blood tests and patch testing for allergies have been negative [2]. Biopsy usually reveals leukocytoclastic vasculitis [1-3]. It generally resolves in a few days regardless of treatment and frequently recurs if activity is repeated [1]. Compression stockings have been reported to prevent recurrence [1,3]. Cause, treatment and best method of prevention are not widely agreed upon.

Patient

A 71 y/o male had been physically active for many years. At least weekly he would stand for hours at a time at work, use stair machine 30 to 45 minutes at a time, jog for hours and play tennis 5 hours at a time in hot humid weather without ever developing a rash on his leg. He began training for a hiking trip by walking on a treadmill with a weighted backpack on. On 3/16/18 he hiked 12.5 miles with a backpack on weighing 17.5 lbs. The next morning he had a severe rash on his legs, the left greater than right (Figures 1-3). His only symptom was that the dorsal foot's redness felt like a sunburn. His dermatologist diagnosed leukocytoclastic vasculitis and told him it would resolve in a few days which it did. The dermatologist did not know the cause or how to prevent recurrence.

On 4/9/18 he hiked 12.5 miles with a backpack weighing 10 lbs. and developed no rash. On 4/20/18 he hiked 14.5 miles with a backpack weighing 15 lbs. and on 4/21/18 the rash recurred again left greater than right (Figure 4). The patient became concerned about continuing to hike. He was confused by the lack of rash with other activities.

Figure 1: Rash left medial leg 3/17/18.

Figure 2: Rash left lateral leg 3/17/18.

Figure 3: Rash right medial leg 3/17/18.

Figure 4: Rash left medial leg 4/21/18.

He assumed there must be something different about the hiking activity, different about hiking on different occasions and different about the right and left leg. He knew that he had more varicose veins visible on his left leg than on his right. In retrospect he determined that he had worn support stockings on days he did not get the rash but had not worn them the days he did get the rash. Table lists dates, miles hiked, weight of backpack, whether support stockings were used and whether rash occurred. On 5/4/18 he hiked 14.7 miles with support on left leg and none on right and developed rash only on the right leg (Figure 5). He hoped the support stockings would prevent future episodes of the rash and they did so on multiple occasions since. Between August 2 and 12, 2018, he hiked over 70 miles on or near the John Muir Trail in the Sierra Nevada mountains with a 15 pound backpack with support stockings with no recurrence of the rash. As of 4/1/20 there has been no recurrence of the rash (Table 1).

Figure 5: rash right medial leg 5/4/18.

Date	Distance Hiked	Weight of Backpack	Support	Rash
3/11/2018	11.5 mi	20 lb	no support	no rash
3/16/2018	12.5 mi	18 lb	no support	rash
4/9/2018	13.6 mi	10 lb	support	no rash
4/20/2018	14.5 mi	15 lb	no support	rash
4/29/2018	11.9 mi	10 lb	support	no rash
5/4/2018	14.7 mi	15 lb	left support	no rash
			right no support	rash
5/9/2018	13.5 mi	16 lb	support	no rash
5/12/2018	12.7 mi	16 lb	no support	rash
5/19/2018	13.1 mi	16 lb	support	no rash

Table 1: dates, miles hiked, weight of backpack, whether support stockings were used and whether rash occurred.

Comment

This patient developed a rash on his lower legs after hiking with a backpack on. He did not get a rash with other activities or with support stockings on. The cause of this rash in this patient appeared to be aggravation of subclinical venous stasis by hiking with a backpack. The waist strap on the backpack combined with the weight of the backpack may have increased the venous pressure. The waist strap may have put enough pressure on the femoral vein to increase the venous pressure in the legs, aggravating the venous stasis and causing the rash. Decreased efficiency of venous pump because of muscle fatigue, vasodilation, muscle and systemic inflammation from prolonged exercise have also been proposed as contributing factors [1]. Golfers may get the rash since their venous stasis can be aggravated by a tight belt and the weight of the golf bag and its contents. Others who get this rash after exercise may also have venous stasis. This could explain this patient's lack of the rash developing with other activities and when wearing support stockings. Since support stockings have been reported to prevent recurrence, the cause of this type of rash in other patients may also be prolonged exercise in a patient with venous stasis.

Conclusion

The rash in this patient seemed to be due to venous stasis aggravated by hiking with a backpack. The main cause of the rash in this and other patients may be venous stasis. A trial of support stockings and belt loosening may be warranted to try to prevent recurrence of exercise-induced vasculitis. Exercise induced vasculitis, hiker's rash, and golfer's rash may all be venous stasis dermatitis.

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