Sports dermatosis with a twist: Liquid latex-induced hair shaft entanglement

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Key words: entanglement; hair shaft; liquid latex; mountain biking; rubber; sports dermatosis.

INTRODUCTION

Mountain biking is a vastly popular sporting activity worldwide with nearly 40 million participants annually in the United States alone.[1] Mountain bikers are exposed to various environmental elements as well as the sporting equipment used, including liquid latex. Liquid latex is the core ingredient in tire sealant, which is used to prevent flat tires.[2] We report an interesting case of liquid latex–induced hair shaft entanglement, a newly described sport dermatosis.

CASE REPORT

A 40-year-old man mountain biker presented to a dermatologist complaining of adhesions affecting the anterior aspect of his arms and legs. He gave a history that while mountain biking, he sustained a puncture of his front tire. His legs and arms were subsequently exposed to a fine spray of tire sealant. Thorough cleansing with soap and water did not alleviate the adhesions. On physical examination, there were greyish nodules and strands adhering to the hair shafts on his arms and legs (Fig 1). Dermoscopy found entanglement of the hair shafts with a grey homogenous material (Fig 2). The diagnosis of liquid latex–induced hair shaft entanglement was made.

DISCUSSION

Natural rubber latex is an emulsion of isoprene polymer microparticles harvested from the rubber tree.[3] In dermatology, latex is responsible for causing hypersensitivity reactions including allergic contact dermatitis and anaphylaxis.[4,5] Its role in causing sports dermatoses is less recognized.

Abbreviation used:

LLHE: liquid latex–induced hair shaft entanglement

Tire sealant is a fluid consisting of liquid latex and small rubber particles. The tires are filled with this fluid, which is used to self-seal small punctures while cycling.

In the event of a tire puncture, the internal tire pressure releases some of the liquid latex from the punctured tire while the wheel is rotating. During this self-seal process, a puncture plug is formed by an amalgamation of liquid latex and rubber particles resulting in a sealed tire. This process has a striking resemblance to blood clotting in which plasma and platelets in blood are analogous to the liquid latex and rubber particles in the tire sealant.

With larger tire punctures, the centrifugal spray of tire sealant can bring about accidental exposure to the body. Because of the tenacious nature of liquid latex, exposure to the skin causes the hair shafts to adhere to one another. The resulting clinical picture is one of greyish nodules and strands adhering to hair shafts on the arms and legs. The dermoscopy picture confirmed the adherence of latex particles to the hair shaft and showed the hair shaft entanglement. For this sport dermatosis, to our knowledge not previously reported in the literature, the authors suggest the term *liquid latex–induced hair shaft entanglement* (LLHE).

Because of the popular use of liquid latex in tire sealants, the incidence of LLHE is likely to be high, and dermatologists should be able to recognize the condition. The definitive treatment for LLHE is to clip

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Fig 1. Greyish nodules and strands adhering to the hair on the legs.

or shave the affected hair to minimize patient discomfort. Alternatively, the latex aggregates can be manually removed. This treatment often results in epilation of the affected hair. LLHE can be prevented by the shaving or clipping of the legs prior to cycling.

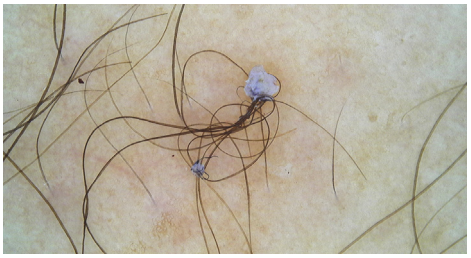

Fig 2. Dermoscopy image shows concretions of hair and latex particles.

Dermatologist and sportsmen should be aware of latex-containing products used during sports. Accidental exposure could potentially result in LLHE, allergic contact dermatitis, and anaphylaxis in sportsmen who are allergic to latex.

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