

Sports Purpura From Floorball, Indoor Climbing, and Archery

To the Editor:

Sports purpura can be broken down into different types including traumatic purpura,¹ exercise-induced cutaneous vasculitis,² occurrence of coincidental systemic purpura,³ and other conditions.⁴⁻⁶ Traumatic purpura results from brutal contact with an opponent, the court, the equipment, or the ball. Three cases of sports purpura related to equipment and balls are reported.

An otherwise healthy 27-year-old woman presented with multiple ecchymotic round patches on her legs. The largest patch was 70 mm and displayed a heterogeneous Swiss cheese–like pattern with discrete whiter round areas within the patch (Figure 1). She reported that she played as a defender in a second division floorball team weekly, acknowledging frequent body contacts and being hit on the legs with the sticks and balls. Purpura was diagnosed due to hits from the floorball.

A 32-year-old healthy man presented with purpuric petechiae of the left palm after indoor climbing. He had been regularly climbing indoors for 3 years and denied a history of similar eruptions. The lesions were painless, noninfiltrated, and did not disappear after pressure (Figure 2). Lesions presumably were due to repeated friction on the climbing hold. Petechiae took a transiently golden hue before resolving within a week.

A 26-year-old right-handed woman injured the left forearm while practicing target archery. She was not wearing an arm guard at the time of the injury. Once released, the bowstring scraped the volar aspect of the forearm, causing a painful warm ecchymotic and swollen plaque. She denied neurologic or vascular symptoms. The hematoma rapidly evolved from red to blue (Figure 3) and spontaneously resolved within weeks.

Purpura related to the high-velocity impact of sport balls has been previously reported with ping-pong,⁷ paintball,^{8,9} racquetball, squash,¹⁰ and baseball. Floorball, one of the most popular team sports in Finland, is played indoors and resembles ice

hockey. The players use graphite compound sticks and a light hollow plastic ball. Except for the goalkeeper, players do not wear specific protective gear. Accidental body contact, including a direct hit from the floorball stick or ball, are frequent.¹¹ The ball weighs 23 g, measures 72 mm in diameter, and has 26 holes that are 11 mm in diameter. The fastest shot was recorded at 127 miles per hour.¹² The cutaneous imprint from the ball impact on bare skin, as shown with patient 1, initially is annular,⁸⁻¹⁰ but the bruise later takes an unusual design due to the peculiar shape of the ball. This complication is no stranger to floorball players but has been rarely reported. The diagnosis is easy, the condition is benign and asymptomatic, and it resolves when the season is over; therefore, players commonly will not seek medical attention. Of note, lower limb injuries, including



Figure 1. Multiple ecchymotic patches including the largest patch, which displayed a heterogeneous Swiss cheese–like pattern from the ball design.

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Figure 2. Palmar petechiae after an indoor climbing session.



Figure 3. An ecchymotic plaque on the forearm from an archery bowstring immediately after the trauma occurred (A) and after 24-hour evolution (B).

joint sprains, muscle strains, and soft-tissue contusions, are frequent in female athletes.¹¹ Additional causes of purpura include collision with another player or with boards and stick hits.

Palmar petechiae from indoor climbing is similar to black palm from weight lifting.¹³ Although the typical black discoloration is absent, the mechanisms of friction and brutal trauma, clinical presentation, and evolution are similar.

Lastly, archery-induced hematomas are caused by the absence of an arm guard, which protects the wrist and forearm when the string snaps back.¹⁴ This complication is not often reported but is known by archers. Because archers usually wear protective gear, these injuries are expected to occur in novices or when safety measures are not respected.

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