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# A purpuric rash

**Case study**

Kelly is 28 years of age and a recreational sea swimmer and surfer. He presented with a rash on both arms of 6 months duration. Kelly said a similar eruption occurred 12 months previously and resolved in a few weeks with 1% hydrocortisone cream. He has no significant past history, is not on any medication, and there is no recent history of trauma or contact with insects or animals. Physical examination revealed multiple, flat, nonblanching dark red lesions on the medial aspect of both arms (*Figure 1, 2*). The rest of the physical examination was unremarkable. Full blood examination revealed normal levels of haemoglobin, white cells and platelets, and coagulation studies are normal.

Figure 1. Purpuric eruption on medial aspect of right arm following surfing



Figure 2. Purpuric and symmetrical eruption on left arm

**Question 1**

What is the most likely diagnosis?

**Question 2**

Why has this condition occurred in Kelly?

**Question 3**

What is the appropriate management?

**Answer 1**

Kelly has nonpalpable purpuric lesions on the medial aspect of both arms. Purpura are dark red nonblanching lesions caused by haemorrhages into the skin. Palpable purpura are raised as they contain both haemorrhage and inflammatory cell infiltrate. They are typically seen in vasculitic conditions such as leukocytoclastic vasculitis. Kelly's lesions are nonpalpable, meaning they are flat and contain extravasated blood but no inflammatory infiltrate. Nonpalpable purpura can be caused by a coagulopathy or thrombocytopenia, capillaritis, and infections such as meningococcaemia. The lack of other systemic symptoms or disease, normal investigations and localised nature of the eruption make this unlikely. The most likely diagnosis is traumatic purpura, in this case, 'sports purpura'.

**Answer 2**

Kelly is a regular surfer, which involves lying on a surfboard and paddling rapidly with the arms to gather speed. In Kelly's case, it appears that repeated rubbing of the arms against the side of the board has caused the eruption.

**Answer 3**

Kelly's management involves education about the probable association between his rash and chronic trauma on his arms from padding on the surfboard. He should be advised to modify his paddling action in order allow the purpura to heal. Usually the lesions fade gradually and further evaluation is unnecessary.<sup>1,2</sup> The lesions may take between 1 week and 3 months to fade.

**Discussion**

'Sports purpura' are nonpalpable purpura that occur on exposed

Table 1. Activities they may cause sports purpura

Sport	Ball sports <sup>1</sup>	Vigorous exercise <sup>2,3</sup>	Skiing <sup>4</sup>	Swimming <sup>5</sup>	Golf and hiking <sup>6</sup>	Surfing
Type of rash	Eccymoses	Nonpalpable purpura on the back and chest	Nonpalpable purpura	Nonpalpable Purpura over the eyelids	Palpable purpura on the legs	Nonpalpable purpura on the arms
Cause	High velocity impact	Ruptured dermal capillaries caused by raised intrathoracic pressure	Cold exposure	Suction pressure from swimming goggles*	Leucocytoclastic vasculitis caused by altered blood flow to the skin from heat, exercise, and possibly venous stasis <sup>‡</sup>	Paddling
* Goggles may also cause lid oedema, corneal erosions, irritant contact dermatitis and peri-orbital haematomas. Patients need education in proper goggle use and should be advised to check their goggles before each swim						
‡ Advise patients to wear light clothing. Antihistamines and nonsteroidal anti-inflammatories may be helpful in prevention, and treatment. Potent topical corticosteroids may also reduce the time for resolution						

parts of the body, typically the arms, and result mainly from mechanical trauma. This case study illustrates that surfing is one of the many activities that may cause 'sports purpura' (see *Table 1*). As sports people may not make the temporal association with the triggering activity, it is important to ask about participation in sports when a patient presents with purpuric rash.

Conflict of interest: none declared.

### References

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