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Air-bag injury

Whilst driving in the USA recently a 53-year-old man sustained lesions of the forearm and facial skin which looked remarkably like dermatitis artefacta.

The injuries were the result of the explosion of an air-bag, which are now built into the steering column of many American cars as a safety feature. He had skidded on an oil patch into a stationary car in front, with an impact velocity of about 10 m.p.h. He was wearing a 3-point lap and shoulder seat-belt. There was minor damage to the front bumper of his car, but no damage to the other car or its occupants. On impact he heard a loud bang, and was momentarily concussed. When he awoke, the car was filled with black smoke, the lower half of his face was stinging and covered with blood, he had three large superficial haematomas in a line along the flexor aspect of the left forearm and there was a painful onycholysis of the right thumb nail. His front-seat passenger was unhurt, though shaken, as she 'thought his head had exploded'.

The expanding canvas bag had dermabraded the lower half of his face and it had 'scuffed' his expansile metal watch-strap from the wrist towards the elbow, damaging the superficial veins. The bleeding stopped quickly, and the areas of erythema and abrasion were then seen to be in 'artificial' angular and linear patterns, with areas of skin sparing typical of the morphology of dermatitis artefacta. This unusual appearance was due to sparing of the creases caused by the tangential impact of the bag on the skin.

Air-bags reduce the risk of brain damage and facial lacerations in severe car crashes, and the fatality rate might be reduced by around 6% if all cars had air-bags in addition to seat-belts.¹ The incidence of cervical spine injury is also reduced by air-bags, because they decelerate the forward flexion of the neck in those wearing seat belts.² There is therefore a 'trade-off' between their beneficial effects

in severe crashes, and the unexpected damage they might cause in minor crashes.³

In addition to abrasions of the face, neck, arms and chest, they can also cause abrasion or contusion of the eyes³⁻⁵ and minor burns of the hands and fingers due to escape of hot gases from the rear of the exploded bag in the car.⁵ Second degree burns of the front of the neck 'in a striated pattern' due to air-bag explosion have been reported previously,⁵ although the present case suggests these may have been mild abrasions rather than thermal burns.

Such injuries will be seen frequently by accident and emergency staff when air bags become standard fittings in British cars. Air-bag injury should be added to the list of conditions which can mimic dermatitis artefacta.

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Waste of a precious resource?

The concept of autotransfusion is over a century old¹ but apart from some interest during the First World War, for its use in chest injuries,² it was largely forgotten with the advent of blood donation and safe cross-matching. Over the last two decades it has again come into vogue, prompted by fears of HIV and in an attempt to meet the ever increasing demand on blood stocks. A number of studies have shown the benefits of autotransfusion in planned vascular, transplant and orthopaedic surgery. However, it does not appear to have been taken up in