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Managing bleeding complications in skin surgery

Case study

Mr AB, aged 78 years, developed a lentigo maligna (LM) on his left cheek just below the orbital margin (*Figure 1*). Dermoscopy was typical for LM, with thickened variable peri-follicular pigmentation, some granular pigmentation, and an area of regressive depigmentation (*Figure 2*). Mr AB has a past history of aortic valve replacement and has been taking warfarin prophylaxis for many years.

The tumour was excised with a 6 mm margin and effected a laterally based transposition flap. Warfarin was not ceased either before or after surgery. A small bleed occurred from the wound 2 days postsurgery. Redressing was effected but no other intervention was required. Sutures were removed on day 8. Two days after removal of sutures, Mr AB bumped his left cheek in a stumble and the wound started bleeding again. He developed a haemorrhage under the flap resulting in significant haematoma (*Figure 3*), flap necrosis, and subsequent ulceration (*Figure 4*) at the site. This required wound toileting and repeated dressings in a prolonged postoperative course. Over time, the wound healed with conservative management (*Figure 5*).

Bleeding complications in skin surgery

The following points about bleeding complications are relevant to Mr AB's case:

- Postoperative bleeds from abdominal, brain and chest surgery can be catastrophic, but no life threatening bleed has ever been reported following cutaneous surgery^{1,2}
- Surgeons often claim to be able to tell during surgery whether or not the patient is on anticoagulants. The evidence suggests surgeons cannot make such a differentiation³
- In skin surgery, most complications are managed by conservative measures such as toileting the wound, applying pressure and applying dressings. Antibiotics are sometimes required for overt wound infection
- Operative intervention for skin surgery complications is rare. If a bleed is active and ongoing then surgical control of the bleeding may be required. If the bleed is old and stable, nature and time will invariably sort the matter out
- Diathermy, preferably bipolar, should be available for skin surgery cases so as to control and minimise any intra-operative bleeding when this does happen.

At our Geelong (Victoria) based skin cancer centre we completed a prospective study from July 2002 until

October 2006 of 6000 patients looking at the effects of thrombosis preventive medication on skin surgery.⁴ Patients did not have their aspirin or warfarin ceased unless the International Normalised Ratio (INR) was greater than three. In 6000 cases, the postoperative bleeding incidence was 0.67%.⁴ There were four independent risk factors for postoperative bleeding:

- warfarin management
- surgery in or near the ear
- age over 67 years, and
- closure with flap or graft.

Table 1 demonstrates how the risk of bleeding increases as these four risk factors accumulate. The study found that aspirin is not an independent risk factor for postoperative

Table 1. The risk of bleeding complications for patients grouped by the number of bleeding risk factors in 6000 consecutive cases⁴

Number of risk factors	Overall bleeding rate
0	1 in 1000
1	4 in 1000
2	12 in 1000
3	43 in 1000
4	56 in 1000

bleeding. There is no case for ceasing aspirin for skin surgery.

Warfarin may be ceased if the risks of continuation outweigh the benefits. This is only likely when three or more of the identified risk factors are present. However, warfarin should never be ceased within 1 month of a life threatening thromboembolic event.⁵ Warfarin should invariably be continued in patients

undergoing leg surgery given that reduced mobility following such surgery compounds the thromboembolic risk to the patient. If continuing warfarin, ensure the INR level before and after surgery is in the therapeutic range.⁶

Newer agents such as clopidogril and ticlopidine were not included in this prospective study as they were not in common usage during the design phase of the study. No advice can be drawn on the ceasing or otherwise of these newer agents. The study found that smoking and diabetes were not risk factors for postoperative bleeding.

Discussion of the role of short term subcutaneous heparins is now somewhat moot and supports previous studies² demonstrating that there is little if any case for a switch to short term heparins to effect skin surgery. The main consideration in the past has been for leg excisions requiring prolonged immobilisation. Immobilisation is not commonly required with

more current approaches below the knee.⁷ It would now only be considered with skin graft surgery for large defects >5 cm diameter.⁶ Defects of this size account for around 1% of skin defects arising from elective excision of skin lesions below the knee.

When managing melanoma, given a 1 cm margin of normal skin is usually appropriate,⁸⁻¹⁰ a melanoma would need to be around 3 cm in diameter to result in a 5+ cm defect.

Conflict of interest: none declared.

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Figure 1. LM on left cheek. Surgery in this region must ensure there is no pull that might result in ectropion

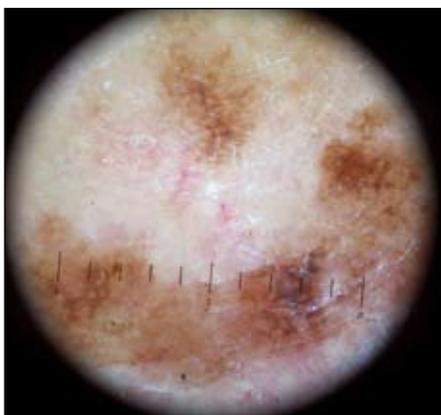


Figure 2. Dermoscopy of the LM



Figure 3. A large haematoma develops



Figure 4. As the bleed matures an area of ulceration develops



Figure 5. Despite the graphic appearance following the bleed, the wound settles

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