Technical Section

TECHNICAL NOTES & TIPS

Technical Notes

A safe closed seroma aspiration system

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BACKGROUND

Seroma formation is a common complication of breast and axillary surgery which occurs despite the early use of wound drains. Traditional methods of seroma drainage involve multiple aspirations of 60-ml aliquots dispensed into an adjacent kidney bowl. Detachment of syringe from needle is a potential source of infection and the open expression of syringe contents generates an aerosol of hazardous body fluids.

TECHNIQUE

We describe a safe and convenient closed method of aspiration of wound seromas. The standard 60-ml syringe is connected via a three-way tap to a white (14 gauge) needle. The needle is introduced through the cleaned anaesthetic wound line and seroma contents aspirated until the syringe is full. The tap is turned to the side port to which is attached a 600-ml sealed and calibrated drainage bag (Disposal Depot: Merit Medical UK Ltd, The Atrium Business Centre, North Caldeen Road, Coatbridge, Lanarkshire ML5 4EF, UK). The syringe contents are expelled, the tap rotated and the process repeated until the seroma is aspirated to dryness. The aspirate volume is easily measured, can be sent for microbiological examination or discarded without spillage into standard hospital waste systems.

DISCUSSION

This simple, inexpensive (bag and tap cost about £4.50 each) system allows up to 600 ml of wound seroma to be aspirated into a completely closed system sparing patients and staff the physical and psychological stress of exposure to body fluids. The system reduces the risk of needle displacement and the need for assistance to prevent spillage from the kidney bowl.

The use of octyl-2-cyanoacrylate (Dermabond™) tissue adhesive for skin closure in head and neck surgery

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BACKGROUND

Skin incisions in the neck, such as for thyroidectomy, have traditionally been closed with a variety of materials, ranging from clips to subcuticular sutures, either absorbable or non-absorbable. We propose the use of octyl-2-cyanoacrylate (Dermabond™, manufactured by Ethicon Inc., Ethicon Products, PO Box 151, Somerville, NJ 08876-0151, USA) as an effective method of skin closure with benefits for the surgeon, nursing staff and patient. Whilst Dermabond™ has found favour in the closure of small wounds, its use for larger incisions is less common.

TECHNIQUE

After adequate haemostasis, deep layers are closed as usual, with

Figure 1 Neck dissection: wound 2 weeks following closure with Dermabond™.

Figure 2 Superficial parotidectomy: wound 3 months following closure with Dermabond™.

sutures to platysma routinely and deep dermal sutures only if the wound edges require approximating. The surgical field is cleaned and dried. Dermabond™ is applied along the wound, and forceps used to maintain skin edge eversion if necessary. Two further applications are made. No further dressing is required; after 3 min the glue is dry and fully waterproof.

DISCUSSION

Skin closure with sutures can be time-consuming, and removal can be distressing for the patient. Cosmetic outcome is variable, depending on the accuracy and tension of the closure. Dermabond™ is quick to apply and no foreign material is left within the skin. It is waterproof, allowing patients to shower from day one, and requires minimal input from nursing staff. A randomised, controlled trial of 111 patients showed Dermabond™ to have a superior cosmetic outcome at 1 year compared with sutures, with no increase in complications.¹ A recent study looking at wounds greater than 4 cm found Dermabond™ provides equivalent wound closure to sutures, with a decreased incidence of wound infection.² In our experience, both patients and nurses find this method of closure preferable to sutures, with good cosmetic results (Figs 1 and 2).

References

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Use of a skin stapler to repair penetrating cardiac injury

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BACKGROUND

Performance of emergency thoracotomy of penetrating cardiac injuries is a daunting experience especially for junior surgeons. The environment of accident and emergency is often sub-optimal especially with reference to operative equipment and provision of an adequate light source. We advocate the use of an automated skin stapling device rather than direct suturing for repair. This achieves rapid haemorrhage control and obviates the risk of needle-stick injury to the surgeon from such high-risk patient groups.¹

TECHNIQUE

Following anterolateral thoracotomy, opening and evacuation of the pericardial cavity,^{2,3} the wound is controlled by digital compression or with the use of clamps if the laceration is atrial. The laceration may then be closed with a standard skin stapler using wide (6 mm) staples. The staples are placed at a 3–5 mm intervals with additional ones placed only if required to achieve haemostasis. Following stapling, the laceration may be safely oversewn using a 4/1 polypropylene suture in the operating theatre.

DISCUSSION

Skin stapling may be used with success when combined with emergency thoracotomy to achieve effective and rapid control of bleeding following single or multiple cardiac stab wounds. Traditionally, the method of repair employed is by the placement of multiple non-absorbable sutures beneath the surgeon's finger. Automated skin stapling devices are readily available and easy to use with most surgeons having prior knowledge on their deployment, thus enabling this life-saving procedure to be performed without specialist expertise which may be unavailable. We additionally have found that this method reduces the exposure of the operator to needle-stick injury.

References

1. Naughton MJ, Brissie RM, Bessey PQ, McEachern MM, Donald Jr JM, Laws HL. Demography of penetrating cardiac trauma. *Ann Surg* 1989; **209**: 676–81.