A simple technique for securing surgical drains

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Summary Drains are commonly used in all aspects of surgery. One of the complications of putting drains is they can either fall in or out of the draining cavity. We describe a simple technique for securing such drains.

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Introduction

Surgical drains are commonly used following elective abdominal, cardiothoracic, orthopaedic and breast surgery. Chest and abdominal drains are also in use in the trauma patients whether for treatment of pneumothorax/haemothorax or following emergency cardiothoracic or abdominal surgery.

The drains so far have been secured using various techniques and materials.1,3,4,6 One of the commonest methods for securing drains is the Roman garter technique using silk as the suture material. This method relies on silk creating a sufficient friction around a drain to secure it. However the silk may become loose whether due to inadequate technique or because the suture becomes wet and looses its friction.6 This can lead to inadvertent loss of drain in to the draining cavity which is usually seen in abdominal surgery or the misplacement or loss of drain which is a problem with both abdominal and chest drains.2,5,7 This is particularly important in the trauma patients where because of dealing with many aspects of patient injuries close attention may not have been paid to securing the drains. Also current techniques for removing drains can lead to the device accidentally transected and sliding back into the patient’s body especially in abdominal surgery. When drains have to be sequentially reduced, this involves cutting the original suture material and inserting another suture. This has the risk of drain damage as well as displacement into the cavity with its consequent morbidity. The medical protection society (MPS) alone had dealt with at least 60–70 cases involving a retained drain. In this report, we describe an easy, quick, effective and secure technique for all types of drains preventing accidental, inadvertent or inappropriate dislocation and loss of drain from the surface of the body. This technique also dispenses with the need for scissors or other sharp instruments to cut or release any encircling sutures as required with previous method.

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Technique

Once the drain is placed in the cavity, two Tie-Lok™ (distributed and marketed by Portex Ltd., UK) (Fig. 1) are used to firmly secure the component to the body of the drain (Fig. 2a and b). The tail of the Tie-Lok™ may then be snipped off with a scissors. This then prevents the drain falling back into the body cavity because a flange has been created. A suture is then stitched to the skin in a classical technique. A separate loop of the stitch is then passed through the hollow eye of the Tie-Lok™ and a further surgical knot completed.

For shortening of the drain or repositioning the drain, the hollow eye is cut from the Tie-Lok™, the drain revised, another Tie-Lok™ applied to the drain and this is then secured to the cut hollow of the Tie-Lok™. In this way the drain is positioned or shortened.

Discussion

Abdominal and chest drains are commonly used in both elective and emergency surgery as well as in the treatment of spontaneous pneumothorax. Various methods have been described for securing the drains. The most important complication encountered after securing drains is of either the drain falling out or falling into the body cavity. This can be life threatening especially in cardiothoracic cases or when used in the treatment of pneumothoraces. In abdominal cases, patients have had to undergo laparotomy to retain the abdominal drains. It is for these reasons that this technique was developed by the author (JLP) which is simple and cheap and can be easily learnt thus allowing it to be used by any grade of doctors from house officers to consultants.
References