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Novel Method of Fixing and Retaining the Suction Drain

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Abstract

various techniques of drain fixation have been described in the past, but we have encountered technical difficulties like slipping of drain which has defeated its purpose.

We present a simple method of fixing the suction drain which ensures safe and secure way of fixation until the drain is removed at a desired time. this is easy to learn, secure and remove.

keywords: Suction drain; Fixation; Rubber tubing; Plastic guard; Hematoma; Seroma.

Introduction

Surgeons are aware of the difficulties in maintaining safe and secure fixation of drain in the postoperative period.

The success of surgery depends upon prevention of postoperative hematoma and seroma. Hence the drain has to be retained in situ for appropriate period of time. Many techniques have been described to fix the drain [1], but unfortunately dislodgement of the drain and sometimes excoriation of skin in the peridrain site are common [2]. We describe a novel technique that is easy to perform, simple and effective.

Materials and methods

We have been using this technique of drain fixation regularly for the past ten years. We hereby present the use of this technique in 140 patients over a period of one year at our tertiary health centre.

We have used this technique in flap surgery, closed degloving injury and routine plastic surgical procedures. Drain tube was fixed well away from the main wound. The parts of drain are: -

1. Needle with plastic guard
2. Tube with stop cork
3. Container (chamber)

We used the plastic guard to fix the suction drain. We have measured the internal diameter of plastic guard and external diameter of the suction drain in order to fit it snugly.

A 10mm length was cut from the plastic guard which is normally used to protect the drain needle tip. The cut piece of plastic guard was gently widened by using hemostat, and then it was threaded on to the drain tube up to the base (away from the skin). As a first step the suture was passed through the skin and a loop was created, then needle was passed through serrations which were present on the inner wall of plastic guard. These serrations were taken as an advantage in negotiating needle without puncturing the drain tube. The last step was tying the knot around the drain tube in regular manner.

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Results

Our experience with technique of securing the drain using a plastic guard has worked well. There was no accidental dislodgement of drain in any case until it was removed. Peridrain leak was not observed in any case, skin necrosis around the drain and widening of the wound was not observed, hence drain site scar healed well.

Discussion

The success of surgery lies in prevention of hematoma and seroma under the flap. It is a

Fig 1: Drain apparatus showing tubing, needle with plastic guard (Inset: Star serrations)

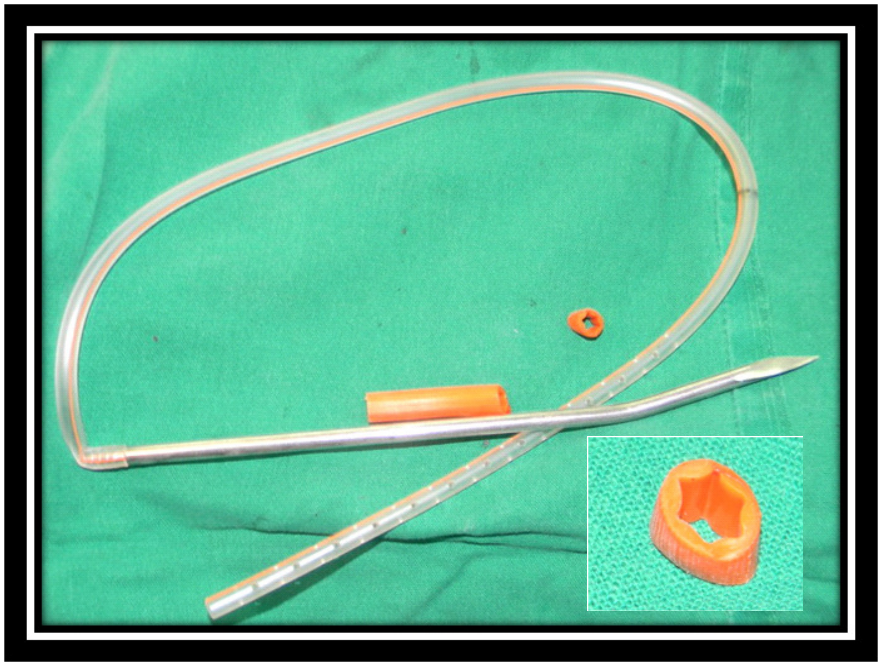

Fig 2: Making a first loop on to the skin

Fig 3: Showing the needle passing through plastic guard and within the serrations without injuring the drain tube

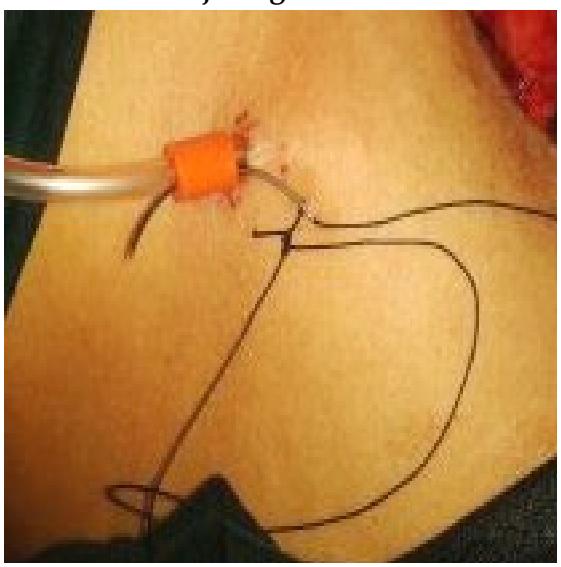

Fig 4: Shows the final knot in regular manner

common observation that in conventional methods where the drain is fixed to the skin directly [3], the chances of dislodgement of drain tube and skin necrosis around the drain tube is high. This results in nonfunctioning of drain tube and collection of blood under the flap which is sometimes detrimental to flap survival [4]. Hence we started using this technique of inserting the plastic guard which has serrations (groove) without injuring either the plastic guard or drain tube. With this innovative method we never faced problems like dislodgement of drain or skin necrosis in the area of drain fixation.

Conclusion

Our innovative technique of fixing, securing and maintaining the drain tube till it is removed is a safe, easy and effective way of draining the operated site. This technique ensures a "good night sleep" for both patient and surgeon.

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