Drain Tags: A Reliable Method of Securing Drains in the Neck

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Abstract Drains are essential in most surgeries. Primary need is elimination of dead space and related consequences but drains per se do have their share of complications, one of them being dislodgment. Complications related to dislodgment can range from inactive drains to damage to critical areas like anastomosis sites. Securing drains using this technique was described by Jayaraj et al. in 1988. Since then, no study was done to determine the efficacy and outcomes of this method. An audit was conducted from 2009 to 2014 at SDM Craniofacial unit to determine the utility of drain fixation. Data was collected of a total of 143 patients from the medical records. This useful technique has the advantage of preventing the drain from displacement and its consequent complications.

Keywords Surgical drains · Head and neck surgery · Oncology

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Introduction

The concept of surgical drains was proposed as early as the fifth century BC where in it was used for spontaneous drainage of abscesses [1]. The concept of vacuum drains was first proposed by Heaton in 1898 which was later popularised by Chaffin in 1932. Finally, it was Redon and Jost who first developed portable closed suction units in 1954 [2]. Surgical drains are commonly used following elective abdominal, cardiothoracic, orthopaedic and head and neck surgery [3]. The philosophy behind these drains was to reduce the dead space which is a potential aetiology for post-operative hematomas and infections. Securing the drain is as important as placement and the drain should be secured in a manner that it does not get dislodged or fall out before completion of its use. In this regard, technique of drain fixation is routinely taught to the most junior member of any operating team [4]. Starting from traditional suture materials to drain attachment devices, a variety of techniques has been described previously.

Surgical Technique

In our unit, we have adopted a more reliable technique to secure the drain [5] in addition to the routine stay sutures engaged at the port of exit after neck dissections. The technique prevents the drain from dislodgment or extrusion and also plays the role of a drain indicator externally.

Technique In this technique, the drain is first placed in its desired position, and then a short length of the tubing is cut from the distal part of the tubing. After this, a non-absorbable suture preferably 3–0 silk suture is passed near the edge of the drain (Fig. 1). Now, the suture is passed through the most

Fig. 1 Proximal end of the tube being fixed to the drain tag

distal holes of the tube after proceeding within the cavity and exits the cavity after coming out of the opposite distal hole of the tube (Fig. 2). Now, secure the tube with stay sutures (Fig. 3) but before securing make sure that the no further movement of the drain is possible.

Results

We have used this technique for 143 patients from 2009 to 2014. All of them were cases of head and neck cancer and who underwent primary resection of tumour, neck dissection followed by reconstruction using local or free flaps. In two cases where we did not use this technique and followed simple stay suture technique, there was extrusion of the drain. This led to the distal end of the drain getting displaced over the anastomosis site leading to failure of anastomosis which ultimately led to failure of the flap. In rest of the cases where we used this technique, no such complications were encountered.

Fig. 2 Final position of the drain tube after securing

Fig. 3 Secured drain tag with stay sutures

Discussion

After elective surgeries in the abdomen, cardiothoracic and head and neck region, surgical drains are commonly used [4]. Indications of surgical drains are to eliminate dead space, to evacuate accumulated fluids and also to prevent accumulation of such fluids. Adequate drainage after surgery is essential, as potential collections can lead to formation of haematoma or seroma which can complicate wound healing [6].

Securing the drain is as important as its placement. Conventionally, drains are secured by means of skin stay sutures tied around them. This may lead to extrusion or displacement or slippage of drain which may entail its premature removal. Poorly secured drain may also lead to inadvertent movement of the drain end over the anastomosis site in microvascular reconstruction. This can damage the anastomosis site leading to related complications. Securing the drain as per the original method suggested by Jayaraj et al [5] has the following advantages:

1. It provides a visual indication of the position of the drain end
2. The drain is secured safely to the skin which avoids problems such as extrusion or displacement.
3. The drain indicator acts as a buffer between the knot and the skin which prevents local necrosis
4. It is safe, quick and cost effective

Conclusion

Dain indicators by this method help in preventing complications due to displacement or movement of the drains. They are extremely cost effective and do not require additional skill or training. Finally, we would like to emphasize that this is not

any new technique but it is an attempt to highlight one of the basic and easy techniques of drain fixation which is getting masked with the advent of recent techniques.

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

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