A novel technique to facilitate the use of circular staplers in anterior resections and reversal of Hartmann's procedures

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BACKGROUND

A common method of performing colorectal procedures involves the use of circular intraluminal staplers and the formation of double layered anastomoses. Typically, the most cephalad part of the rectal stump is formed by cross-stapling the rectum. Central to the creation of a safe anastomosis is the smooth advancement of the stapler body to the cross-stapled vault of the rectal stump. It can be difficult to pass the flat-headed stapler through the anus and advance it to the tip of the stump because the flat end can 'catch' on the mucosal folds of the rectum.

Figure 1 View of the flat circular end of the stapler.

Figure 2 View of the attached ice cube converting the flat end of the instrument into a dome shape facilitating advancement into the most cephalad part of the rectum.

TECHNIQUE

We created a brass prototype of a dome-shaped ice cube, which would fit accurately over the end of the stapler and subsequently formed a silicone-based mould of the prototype. Normal saline was used to make an ice cube, which converts the flat circular head into a smooth dome facilitating the passage of the stapler during the procedure (Figs 1 and 2). On reaching the desired position in the rectum, the operating surgeon can remove the ice dome from the stapler head, whose detachment is also aided by gradual melting at body temperature.

DISCUSSION

This is a safe, cheap and effective technique to reduce difficulties in blind instrumentation of the rectal stump in reversal of Hartmann's procedures and anterior resections. Its use could reduce known complications in stapled anastomoses. No adverse effects have been noted so far in 20 patients who consented to participate in this study.

Bayonet tip versus drill tip wires: are they deflected similarly by bone?

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BACKGROUND

The use of percutaneous wires is a crucial part of the Ilizarov technique, the success of which relies partly upon the accurate insertion of percutaneous wires in order to achieve adequate fixation. Currently, there is uncertainty about which of the two types of wire is superior – the drill tip or the bayonet tip wire.

TECHNIQUE

The aim of the experiment was to test whether there was a significant difference in the degree to which each type of Ilizarov wire was deflected by bone. The apparatus was constructed as depicted in Figure 1. Each bone was sequentially drilled using the different Ilizarov wires and the measurements of deflection recorded. The bone was drilled at 5-mm intervals to ensure that fresh bone was encountered on each recording. The drill operator was blinded to the type of Ilizarov wire used for each recording; the wires were changed and positioned for drilling out of sight of the drill operator.

DISCUSSION

There was no difference in the distance which the two wire types were deflected by bone at the 1% level ($P > 0.99$). The results are shown in Table 1. The drilling efficiency and temperature elevation of different wires has been tested by Piska *et al.*¹ The distance by which a wire is deflected by bone is important as increased deflection may increase both the risk of damaging neurovascular