One more addition to the alphabet of pouch surgery; why the D pouch should come before the J

S. R. Brown¹

Published online: 18 September 2021
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The incidence of pelvic sepsis after ileo-anal pouch formation approaches 15% [1]. Whilst some septic complications can be treated successfully with conservative or operative management with preservation of the pouch, function is often compromised and sepsis remains the most common cause of ultimate pouch failure [2, 3]. Raval in his series of 141 patients with anastomotic leaks, categorised six different types of leak [4]. By far the most common is the leak at the pouch anal anastomosis, accounting for over 55% of all cases. Conversely leak away from the pouch anal anastomosis occurred in only 16% of patients. It is not clear from this series what proportion of patients had a leak directly related to the stapled end of the J pouch, or the ‘J tip’, in contrast to the pouch body staple line. However, a similar retrospective analysis from a very large cohort of pouch patients from the Cleveland clinic suggests leaks from the J tip occur in less than 0.5% of cases (17 out of 3699 primary pouches) [5]. Hence such isolated leaks are undoubtedly rare. This has implications for any trial aimed at investigating an intervention to reduce the incidence. The low event rate means that a comparative trial would require thousands of participants.

Despite the rarity of such a complication, when J tip leak does occur it has serious consequences. Presentation may be more indolent than a leak from the pouch anal anastomosis. Problems may only become apparent at the time of ileostomy reversal. Sometimes the diagnosis is only reached at the time of salvage laparotomy. Whilst it is often ‘relatively’ easy to salvage the pouch in such cases, with suture repair or staple excision of the J-tip, 20% of patients may require a redo pouch [5]. And this is the experience from a specialist centre. In the real world there will be a substantial rate of permanent defunctioning and/or pouch excision after such a complication.

With these factors in mind, Zhang et al. [6] have devised a simple but clever technical alteration to the construction of a J pouch that they feel obviates the potential for a J tip leak. The D pouch utilises a circular stapler that enables the distal end of the ileum to be ‘plugged’ into the proximal limb. A linear stapler is then used to construct the double limb body of the pouch, with the staple line communicating with the circular anastomosis; in effect closing the space within the D. Whilst the authors cannot prove a theoretical reduction in leak potential, they have been able to show relatively robustly that the function of such a pouch is equivalent to the standard J pouch in their hands.

The authors have to be congratulated in their incredibly low rate of pelvic sepsis in patients undergoing both D and J pouch construction. As alluded to above it is not surprising that the leak rates were statistically similar between the two groups. Indeed the only difference in outcome was the time taken to construct the pouch. The authors found the D pouch quicker to complete. Whilst admittedly simple to construct, a J pouch is simpler still and this result is surprising to me. Regardless, the additional few minutes’ difference in operating time is essentially irrelevant.

There is one other potential advantage to this technique that the authors have not alluded to. Whilst perhaps rarer still, a poorly constructed pouch that leaves a long efferent limb may contribute to afferent limb syndrome, where kinking of the afferent limb of the pouch may result in poor functional issues [7–9]. Such a technical error is impossible with this D construction.

Modifications of well-recognised techniques are to be commended if they are simple and easy to apply, even if the theoretical advantage is difficult to prove definitively. Indeed one might argue this simplicity is the main basis behind the widespread adoption of the stapled J pouch over and above the more complex S and W pouch configurations. Maybe it is now right that D should come before J in the pouch alphabet?

✉ S. R. Brown
Steven.brown13@nhs.net

¹ Department of Surgery, Northern General Hospital, Herries Rd., Sheffield S5 7AU, UK

Declarations

Conflict of interest The author declares that he has no conflict of interest.

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