



ELSEVIER



CASE REPORT

The 'Celtic cross' technique for immediate umbilical reconstruction post-laparotomy and surgical ablation of the umbilicus[☆]

Emmanuel A. De La Cruz^{a,*}, Raffat K. Jaber^b, Arnold D. Tabuenca^{a,c}, Victor C. Joe^c

^a Department of Surgery, Loma Linda University Medical Center, Loma Linda, CA 92354, USA

^b Department of Internal Medicine, Loma Linda University Medical Center, Loma Linda, CA 92354, USA

^c Department of Surgery, Riverside County Regional Medical Center, Moreno Valley, CA 92555, USA

Received 8 December 2006; accepted 4 October 2007

KEYWORDS

Immediate umbilical reconstruction;
Urachal cyst;
Surgical ablation of umbilicus;
Umbilicus;
Surgical technique

Summary We present a novel method for immediate umbilical reconstruction following surgical ablation of the umbilicus that is simple and reproducible with aesthetically satisfactory results.

© 2007 British Association of Plastic, Reconstructive and Aesthetic Surgeons. Published by Elsevier Ltd. All rights reserved.

Loss of the umbilicus after surgical procedures for congenital abdominal wall defects, urachal cyst and for various benign or malignant tumours of the umbilical area can be an embarrassing deformity. Several methods have been

used to reconstruct the umbilicus with mixed results. However, there have been very few techniques published in the literature describing the reconstruction of the umbilicus immediately after surgical ablation.^{1,2} We present a simple approach to reconstruct the umbilicus immediately after a midline abdominal incision and surgical ablation of the umbilicus, which we called the 'Celtic cross' technique. This is an unreported novel technique for immediate umbilical reconstruction using the midline incision as part of the reconstructive procedure. In our experience, this technique resulted in an aesthetically acceptable newly formed umbilicus.

[☆] None of the above authors has any commercial association that might pose or create a conflict of interest with information presented in this manuscript.

* Corresponding author. Address: 10998 SW Celeste Lane #103, Portland, OR 97225, USA. Tel.: +1 (909) 8622371.

E-mail address: Jingo112674@msn.com (E.A. De La Cruz).

Surgical technique

After the flap design is drawn on the abdomen (Figure 1), a circular incision is then made down to the subcutaneous fat around the umbilicus, creating an island of skin with the previous umbilicus, measuring approximately 3 cm in diameter. This is followed by a midline incision superiorly and inferiorly. A 2 cm lateral incision is then performed on each side of the circle, creating a 'Celtic cross' configuration (Figure 2B). Ablation of the umbilicus results in a circular, full-thickness abdominal wall defect. Four local flaps of skin and subcutaneous fat are then made. Upper and lower anchoring sutures of 2/0 vicryl are placed in the rectus fascia at the new vertical limits of the umbilicus. The underside or dermis of each flap is then sutured towards the centre of the underlying muscular fascia, causing the depression of the flap (Figure 2C–E). The superior flaps are first anchored down to the level of the linea alba and rectus sheath. The inferior flaps are similarly anchored on to the rectus muscle fascia. The skin is then reapproximated with 4/0 monocryl subcuticular sutures, and then with dermabond.

Case reports

Case 1

A 27-year-old male presented with a 3-week history of abdominal pain and mucous drainage from his umbilicus. On examination the patient was found to be afebrile and was found to have an umbilical sinus tract with minimal mucopurulent drainage but no cellulitis. He had mild leukocytosis with a white blood cell count of 12.6. Abdominal tomography revealed an 11 cm cystic structure at the umbilicus suspicious for a cyst versus an abscess. The patient was started on piperacillin/tazobactam



Figure 1 Flap design drawn around the umbilicus.

intravenously and subsequently was taken to the operating room. He was found to have an inflamed pre-peritoneal cystic mass requiring a limited laparotomy and complete excision of the umbilical cyst. The cyst was completely removed without any rupture or spillage of cyst contents into the surrounding surgical field. Primary closure and umbilical reconstruction using the 'Celtic cross' technique was then performed (Figure 3). The patient was discharged with oral augmentin for 7 days. The postoperative course was unremarkable with no evidence of wound infection.

Case 2

A 30-year-old male presented with a 4-day history of abdominal pain, fever and drainage from his umbilicus. Examination revealed a temperature of 38.8 °C, and an umbilical sinus tract with mucous drainage but no periumbilical erythema. No leukocytosis was found on laboratory testing. Antibiotics and intravenous fluids were initiated. Abdominal tomography revealed an inflammatory midline mass posterior to the rectus sheath with no extension to the bladder. The patient was taken to the operating room where an external urachal sinus with inflammation involving the umbilicus was found. This required excision of the sinus tract and umbilical cyst, and complete surgical ablation of the umbilicus. There was neither a cyst rupture nor cyst content spillage during the surgical procedure. Thus, primary closure was then considered with immediate umbilical reconstruction using the 'Celtic cross' technique (Figure 4). Pathology revealed a urachal remnant with no evidence of malignant cells. The postoperative course was unremarkable with no evidence of wound infection.

Discussion

Numerous techniques for reconstruction of the umbilicus have been described and reported.^{3–8} These techniques most often are delayed reconstructions designed on an intact abdominal surface which use various local flaps ranging from a double V–Y pattern,⁶ a twisted vertical rectangular flap,³ a rotated paramedian flap,⁵ to a triangular skin flap.⁹ Often, flaps designed for umbilical reconstruction are combined with a skin or a cartilaginous composite graft.⁸ Very few techniques, however, describe immediate reconstruction after surgical removal of the umbilicus.^{1,2} These techniques ranged from a simple purse-string suture technique² to a more innovative progressive rotation of flaps similar to the 'iris' of a camera lens.¹ To our knowledge, immediate umbilical reconstruction after a midline laparotomy and ablation of the umbilicus has never been described in the English language literature. Our technique is an unreported method for umbilical reconstruction using the midline incision as part of the procedure. This technique is applicable to surgical procedures after a midline laparotomy incision that requires surgical ablation of the umbilicus for benign or malignant conditions. The 'Celtic cross' technique can also be used for primary umbilical reconstruction on a patient who had previous removal of the umbilicus, as well as in abdominoplasty cases. This can be achieved by making a shorter midline incision superiorly and inferiorly to minimise scarring.

Download English Version:

<https://daneshyari.com/en/article/4122121>

Download Persian Version:

<https://daneshyari.com/article/4122121>

[Daneshyari.com](https://daneshyari.com)