

Laparoscopic Excision of an Infected Urachal Cyst in an Adult

Supoj Laiwattanapaisal MD

Department of General Surgery, Rayong Hospital

Abstract **Background and Objective:** The infected urachal cyst is rare. We reported here our experience in minimally invasive laparoscopic excision in an adult patient.

Material and Method: A 45-year-old fisherman was referred to the General Surgery Department at Rayong Hospital. He complained of peri-umbilical pain for two months with brownish yellowish foul-smell discharge from the umbilicus. We performed laparoscopic surgery using three 5-mm ports at the lateral border of rectus muscle. The cystic mass was excised together with medial umbilical ligament and removed via the umbilicus .

Results: The total operative time was 150 minutes and the blood loss was minimal with no operative complications. Length of hospital stay was seven days. The pain score was 2-5. Pathology result showed a urachal cyst with chronic inflammation.

Conclusion: Laparoscopic excision of infected urachal cyst can be performed with good outcome with minimal post operative complication.

Key words: Laparoscopic surgery, minimal invasive surgery, umbilicus, urachal cyst

INTRODUCTION

The urachus is a rare congenital abnormality of abdominal wall defect. It is a fibromuscular, tubular extension of the allantois that develops with the descent of the bladder to its pelvic position. Persistence of urachal remnant may result in cyst without or with infection, cyst with stone formation, fistula to urinary bladder, or carcinoma¹. Recently, laparoscopic surgery has been reported to be effective and safe procedure for a patient with urachal cyst². Most patients were found in the younger age group but an adult case is

very rare. We reported our experience of laparoscopic excision of infected urachal cyst. Patient data, intra-operative findings, pathologic data, and clinical outcomes were analyzed.

CASE REPORT

A 45-year-old fisherman presented to the General Surgery Department at Rayong Hospital with a two-month history of periumbilical pain with brownish, yellowish foul-smell discharge from the umbilicus. He

Correspondence address : Supoj Laiwattanapaisal MD, Department of General Surgery, Rayong Hospital, Rayong, Thailand;
Telephone: +66 3861 1104 Ext. 2244; Fax: +66 3861 7460; E-mail: supoj_laiwattana@yahoo.co.th

had no fever, urinary symptoms and abdominal pain. The pain was located only around periumbilical area. The cystic content looked like tooth paste as in Figure 1.

We did not send preoperative investigation for confirm diagnosis because of clear sign and symptom. We had a prior experience with laparoscopic repair of umbilical hernia and we planned to use laparoscope for diagnosis and treatment at the same time.

Surgical Technique

We performed laparoscopic excision under general anesthesia. The patient was placed in the

supine position. The surgeon stands on the left side of the patient. We used three port sites which a 5-mm camera port and the other two 5 -mm ports were inserted at lateral border of rectus muscle (Figure 2). The 30-degree laparoscope was used. The abdomen was insufflated with carbon dioxide to pressure of 12 mmHg. We excised the medial umbilical ligament until reaching the dome of bladder (Figure 3). No bladder involvement was found. The infected cystic mass was excised then removed through the umbilicus site due to a sinus tract from the cystic mass through umbilicus.

The total operative time was 150 minutes. The

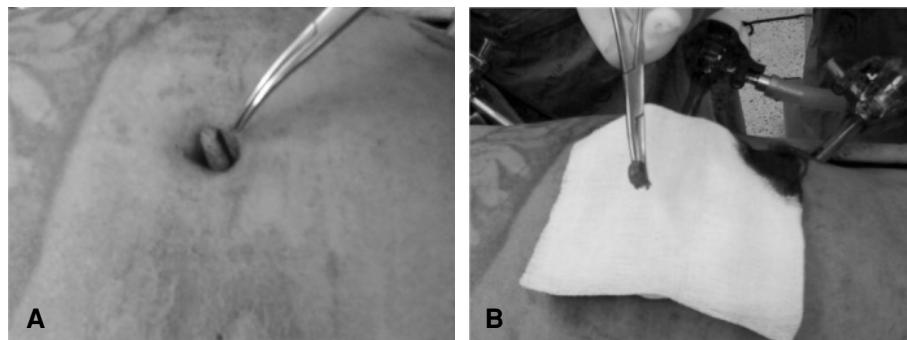


Figure 1

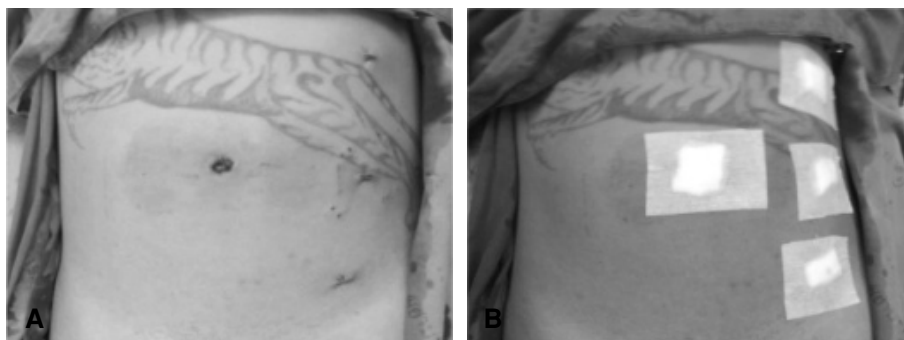


Figure 2

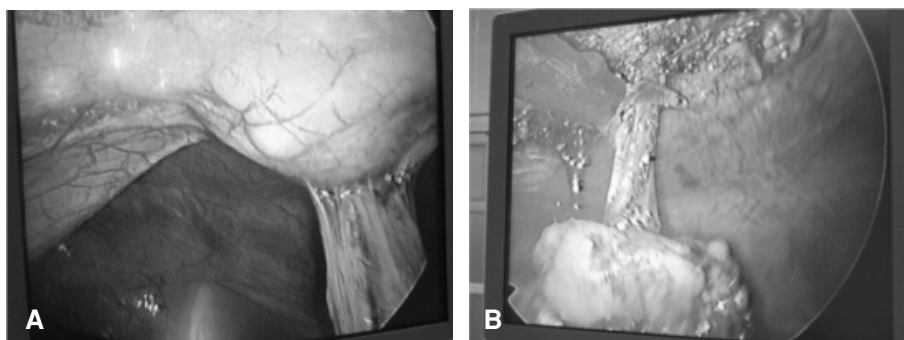


Figure 3 A A part of omentum was adhered to urachal cyst
B The cyst was excised

blood loss was estimated at 10 mL. The patient stayed in hospital for five days. The pain score was 2-5. There were no peri-operative complications. The pathological results showed an inclusion cyst with chronic inflammation. At three-month follow-up there was no evidence of recurrence.

DISCUSSION

There are two treatment options for patients with infected urachal cyst presenting with peri-umbilical pain and discharge. The conservative or non-operative treatment includes antibiotic therapy and drainage (percutaneous or laparoscopic)^{3,4}, however there is a 30% chance of recurrence if it is a complicated urachal cyst. Another option is the operative treatment in which minimally invasive surgery is the treatment of choice. Traditionally, an open procedure using a lower midline incision has been used with safe and effective results⁵. However, minimally invasive techniques have recently gained increasing acceptance. Laparoscopic removal has been proposed to be as

effective and safe as open technique with additional advantages of decreased hospital stay, less post operative pain, and more rapid recovery⁶. In addition, we found that laparoscopic technique provides an excellent view of the whole operative field.

All study case in Table 1 showed no complication⁷. Risk of cancer is small (0.5%) and usually occurs at the age of 40-70 years with no symptoms. The overall five-year survival rate is only 10%¹⁰. In Thailand 2010 Sompol Permpongkosol, et al⁸ reported three cases of laparoscopic excision of urachal cyst with a good outcome and no complication. Most cases were reported from the specialties of urology and pediatric surgery. The first report from general surgeon was by Linos D et al in 1997² but in Thailand we have never seen the report before. There are many laparoscopic approaches for cyst excision depending on the site of urachal cyst⁷. In this present case we performed laparoscopic removal using three ports at lateral border of rectus muscle. The advantage of this approach is good view and the minimal risk of incomplete excision of the urachal remnant proposed by Cutting et al⁹.

Table 1. Laparoscopic excision of complicated urachal cyst in an adults

Author	Sex	Age	Presenting symptom	Surgery	Pathology	Complication	
Neufang T	1992	F	28	Training sinus at the umbilicus	Laparoscopic excision of urachal remnant	Urachal cyst	None
Siegel JF	1994	F	18	Infection	Laparoscopic excision of urachal remnant	Urachal cyst	None
Jorion JL	1994	F	57	Infection	Laparoscopic excision of urachal remnant	Urachal cyst	None
Stone N	1995	M	21	Infection	Laparoscopic excision of sinus and cyst, bladder closure with stapler	Urachal cyst	None
Cadeddu J	2000	3 F 1 M	43.3 (mean)	Acute suprapubic pain and fever	Laparoscopic radical excision of urachal remnant in all cases	Urachal cyst	None
Yamada T	2001	F	48	Abdominal tumor	Laparoscopic removal anterior abdominal wall mass	Urachal cyst	None
Yohannes P	2003	F	16	Umbilical discharge	Laparoscopic radical excision of urachal sinus	Urachal sinus	None
Castillo O	2005	M	25	Abdominal pain and fever	Laparoscopic excision of urachal remnant in both cases	Infected uracha cyst	None
		M	38	Incidental		Urachal cyst	

CONCLUSION

The laparoscopic approach for infected umbilical patients appears to be safe and effective with better cosmetic result.

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