Recurrent abdominal pain post appendectomy – A Rare Case.

Cama Jitoko K

FRACS, Senior Lecturer-Surgery, Fiji School of Medicine. Correspondence to: Department of Medical Science, Fiji School of Medicine, Private Mail Bag, Suva. E-mail: jitoko.cama@fnu.ac.fj

Abstract

Right iliac fossa pain in young adults who have previously had an appendicectomy represents a diagnostic challenge. In such cases it is important to review the histology of the appendix and the previous operation notes. The appendix stump, if left long following an appendectomy, can result in chronic appendicitis of the stump, or it can rarely develop into a mucocele. This case report describes a patient with an appendix stump mucocele who presented with chronic pain under the right iliac fossa incision and was successfully treated by laparoscopic resection. (PHD 2011; Vol. 16(2): p78-81).

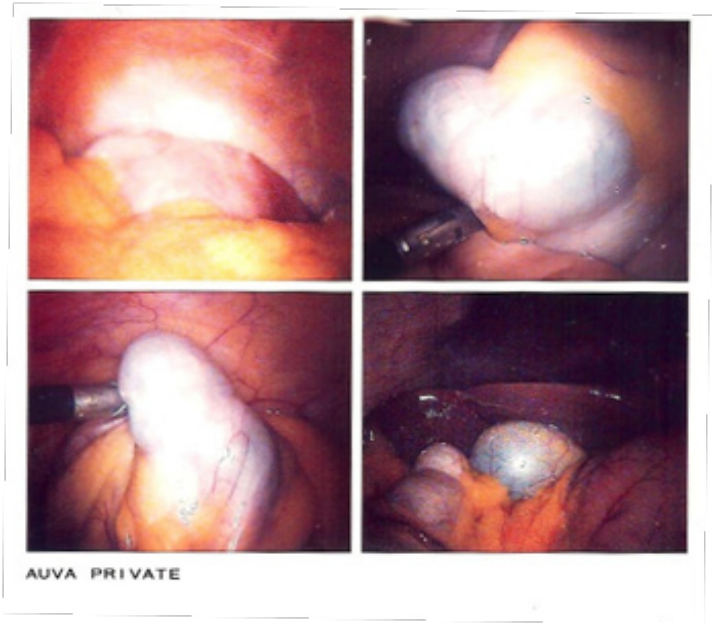
Key words: *Appendix, Mucocele, Appendectomy, Laparoscopy*

Case Report

A 27 year old Indo-Fijian female presented with a chronic history of right iliac fossa pain (RIF) for more than 12months. Previously she had had an open appendectomy 18 years prior to this presentation and histology of the appendix was not available for review. Pain was described as localized over the RIF, intermittent in nature which later became constant with increasing severity and frequency, there were no aggravating factors and it was occasionally relieved by oral analgesics. There were no other associated symptoms and she was otherwise healthy.

On examination, she had point tenderness over the RIF without any guarding or peritonism. Other systemic examinations were unremarkable. Haematological tests, urine and stool were normal. Abdominal ultrasound scan (U/S scan) revealed Polycystic Ovarian Disease without any other intra-peritoneal or pelvic pathology. She had a diagnostic laparoscopy and was found to have a cystic lesion arising from the base of the appendix. This appendix stump mucocele measured 3cm x 2cm and had a wide base as shown in the figure 1.

Figure 1: Appendix Stump Mucocele (Top right hand corner and bottom left)



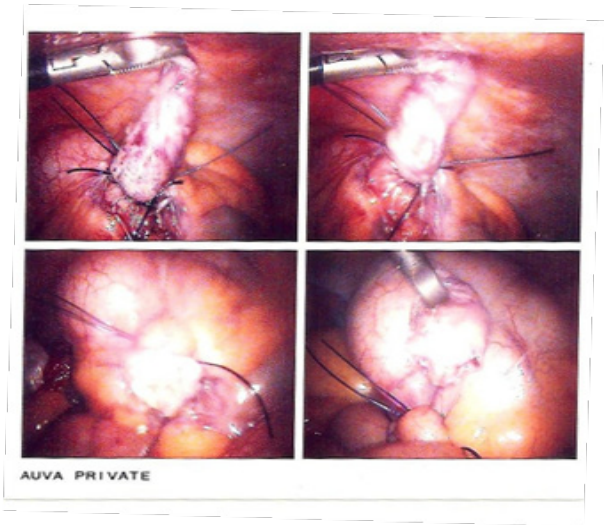


Figure 2: Laparoscopic Resection of Appendix Stump Mucocele

The mucocoele was excised laparoscopically and the base of the appendix stump was ligated close to the caecum with endoloops (figure 2). The histology of the cyst was reported as peri-appendicitis with chronic inflammation and fibrosis. She has remained well after surgery.

Discussion

Persistent RIF pain after an open appendectomy is not uncommon. Various case reports have documented appendicitis of the appendix stump or stump appendicitis, if the appendix stump is left too long.[1-11] In 2006, Liang et al, reported 36 reported cases in the world literatures and since then, there have been other single case reports in both English and non-English literatures1. These cases of stump appendicitis have been reported following open[3,4] and laparoscopic appendectomy[1,2,9] in both children and adults.[3,4] The typical presentation of stump appendicitis are similar to those of acute appendicitis[1,6,8,] however there is also a high risk of perforation in stump appendicitis.[1,5,10] The clinical diagnosis may be difficult, hence the importance of correlating the clinical findings with other haematological and radiological investigations.

Appendix mucocele is a separate pathological entity and can present with clinical features of acute appendicitis or with a RIF mass. This usually requires either an open or laparoscopic appendicectomy without any reported risks of having an on-going stump mucocele. Only a few cases have been reported of the appendix stump developing into a mucocele,[12-15] much later after an appendectomy. Our patient developed an appendix stump mucocele from having a long appendix stump following an incomplete appendectomy done as a child.

The mucocele develops when the appendix becomes distended by the accumulation of luminal mucus. This could result in a simple mucocoele which may develop following appendicitis if the lumen becomes obstructed by fibrosis.[13] It may also develop secondary to a hyperplastic polyp (similar to colonic polyp), mucus-secreting adenoma (cystadenoma)[14,15] or carcinoma (cystadenocarcinoma) of the appendix,[13,16] obstruction from endometriosis, and rarely from inspissated mucus (cystic fibrosis).[17] These explanations could also be true for the appendix stump developing mucocele as a result of fibrosis at the distal end from the previous appendectomy. This could explain the development of a cyst in our patient, especially if the appendix stump was left too long during the first surgery. It is important that the appendix stump is ligated or transfixed at the base leaving only part (5mm or less) of the base is important to prevent such complication.

The diagnosis can be difficult as the presenting complaints can be vague. In post appendectomy, the vague presentation of RIF pain due an appendix stump pathology may or may be not associated with other gastrointestinal symptoms. These patients should be thoroughly investigated with inclusion of ultrasound scan and CT scan in some selective cases. Abdominal U/S scan might detect the appendix stump mucocele or a mass over the RIF and further assessment with abdominal CT scan will be useful. This will assist in the exclusion of pseudomyxoma peritonii, a condition which is progressive and often fatal due to adhesion formation and intestinal obstruction.[13] Other investigations such a mid-stream urine for microscopy and culture might be needed, especially in females, to exclude cystitis. Urinary ultrasound should exclude hydronephrosis or a renal calculus. Stool microscopy, culture and sensitivity for Yersinia infection, worms and other parasites should be performed. Inflammatory bowel disease should be considered and could be diagnosed by contrast studies, or colonoscopy and terminal ileum biopsy. Occult blood in the stool in this case might also be relevant in the initial stool assessment. An appendix stump mucocele, however, should remain a diagnosis of exclusion unless it is imaged and its diagnosis can only be confirmed at the time of surgery.

An appendix mucocele can be safely resected laparoscopically without rupturing the cyst as reported by Lau et all.[17] In appendix stump mucocele following a previous appendectomy, surgical resection can still be safely done laparoscopically without rupturing the cyst. The dissection and laparoscopic resection should be meticulous as rupture of the mucocele may result in pseudomyxoma peritonii.[13] A thorough Medline and Pubmed internet search did not reveal any similar case report of an appendix stump mucocele being resected laparoscopically. The histology of the appendix stump showed chronic inflammation and fibrosis without any evidence of adenoma or carcinoma. No evidence of mucin was seen microscopically. The presence of a mucocele in the appendix or appendix stump post surgery should be followed with a thorough U/S scan assessment to exclude mucinous tumours of the ovaries and gallbladder which could result in pseudomyxoma peritoneii.[13]

Conclusion

Appendix stump mucocele post appendectomy is rare and it can be resected laparoscopically as in acute appendicitis. It is a feasible and safe technique which would allow the rest of the pelvis and abdominal cavity to be assessed thoroughly. Histological assessment of the appendix stump mucocele is important to exclude carcinoma and complete recovery is expected.

Reference

1. *Liang MK, Lo HG, Marks JL. Stump appendicitis: a comprehensive review of literature. American Surgery. 2006 Feb; 72(2): 162-6.*

2. *Baek SK, Kim MS, Kim YH, Chung WJ, Kwon JH. A case of stump appendicitis after appendectomy. Korean Journal of Gastroenterology. 2008 Jan;51(1):45-7.*

3. *Mentes O, Zeybek N, Oysul A, Onder SC, Tufan T. Stump appendicitis, rare complication after appendectomy: report of a case. Ulus Travma Acil Cerrahi Derg. 2008 Oct; 14(4):330-2.*

4. *Gasmi M, Fitouri F, Sahi S, Jemai R, Hamzaoui M. A stump appendicitis in a child: a case report. Italian Journal of Paediatrics. 2009 Nov 17;35(1):3.*

5. *Thomas SE, Denning DA, Cummings MH. Delayed pathology of the appendiceal stump: a case report of stump appendicitis. American Surgery.1994 Nov; 60(11): 842-4.*

6. *Truty MJ, Stulak JM, Utter PA; Solberg JJ, Degnim AC. Appendicitis after appendectomy. Archive of Surgery 2008. April; 143(4):413-5.*

7. *Uludag M, Isgor A, Basak M. Stump appendicitis is a rare delayed complication of appendectomy: A case report. World Journal of Gastroenterology. 2006 Sep 7;12(33):5401-3.*

8. Aschkenasy MT, Rybicki FJ.Acute appendicitis of the appendiceal stump. Journal of Emergency Medicine. 2005 Jan;28(1):41-3.

9. Watkins BP, Kothari SN, Landercasper J. Stump appendicitis: case report and review. Surgical Laparoscopic Endoscopic Percutaneous Tech.2004 June;14(3): 167-71.

10. Roche-Nagle G, Gallagher C, Kilgallen C, Caldwell M. Stump appendicitis: a rare but important entity. Surgeon 2005 Feb; 3(1):53-4.

11. De U, De Krishna K. Stump appendicitis. Journal of Indian Medical Association. 2004 Jun; 102(6):329.

12. Kim MK, Lee HY, Song IS, Lee JB, Kim GH, Yoo SM, Rho JY, White CS. A case of a giant mucocoele of the appendiceal stump presented with a palpable mass in the right thigh: pre-operative diagnosis based on characteristic multidetector CT findings. British Journal of Radiology. 2010. 83: 220-223.

13. Spence R.A.J, Sloan J.M, McCluggage G, Synopsis of Systemic Pathology for Surgeons. Oxford University Press Inc., page 62-63.

14. Korkolis DP, Apostolaki K, Plataniotis GD, Tzorbatzoglou J, Karaitianos IG, Vassilopoulos PP. Mucocele of the Appendiceal stump due ro Benign Mucinous Cystadenoma. Anticancer Research-International Journal of Cancer Research and Treatment. 2006. January; 26(1B): 635-638.

15. El Ajmi M, Rebai W, Ben Safta Z. Mucocele of appendix stump-an atypical presentation and a diagnostic dilemma. Acta Chir Belg.2009 May-June; 109 (3): 414-5.

16. Yeong ML, Clark SP, Stubbs RS. Papillary Cystadenocarcinoma of the appendiceal stump with mucocele and peritoneal metastases. Pathology 1989 April; 21(2):131-3.

17. Lau Hung, Yuen Wai, Loong Florence, Lee Francis. Laparoscopic Rescetion of Appendiceal Mucocele. Surgical Laparoscopy, Endoscopy & Percutaneous Techniques. 2002; Oct 12(5): 3677-370.

Excerpts from **Medicine: Fiji Medicine Men**
TIME Magazine (Monday, May.01, 1944). *Retrieved from* http://www.time.com/time/magazine/article/0,9171,774898,00.html

N.M.P.Y. M.D. The Suva degree is N.M.P.—Native Medical Practitioner. With it goes a Government salary and the right to practice within the Western Pacific Islands. Many N.M.P.s are so good that Europeans prefer them to white doctors (in the islands there are about 20 white doctors, 200 N.M.P.s for 1,000,000 people). But N.M.P.s' chief job is to care for their own people. Native diseases are bad: yaws (a childhood skin disease caused by a spirochete), malaria and blackwater fever, filariasis (worm infestation which frequently ends as elephantiasis). The imported diseases are often worse: diphtheria, gonorrhea, tuberculosis, leprosy, measles (which is often fatal to South Pacific natives who have not yet acquired immunity). The N.M.P.s vaccinate, fight mosquitoes, teach latrine building, operate for elephantiasis, give quinine, deliver babies. The slow increase of native populations on most Western Pacific Islands is largely due to their efforts.