LAPAROSCOPIC SURGERY FOR PERFORATED PEPTIC ULCER

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INYUVESI YAKWAZULU-NATALI

health

Department: Health

PROVINCE OF KWAZULU-NATAL

BACKGROUND

- Incidence of complicated peptic ulcer disease (PUD) has reduced with eradication and PPI therapy
- Perforated peptic ulcers (PPU) is still a common surgical emergency
- Rickard et al[1] – 35% of surgeries performed for PUD in Sub-Saharan Africa is for PPU
- Associated with significant morbidity and mortality

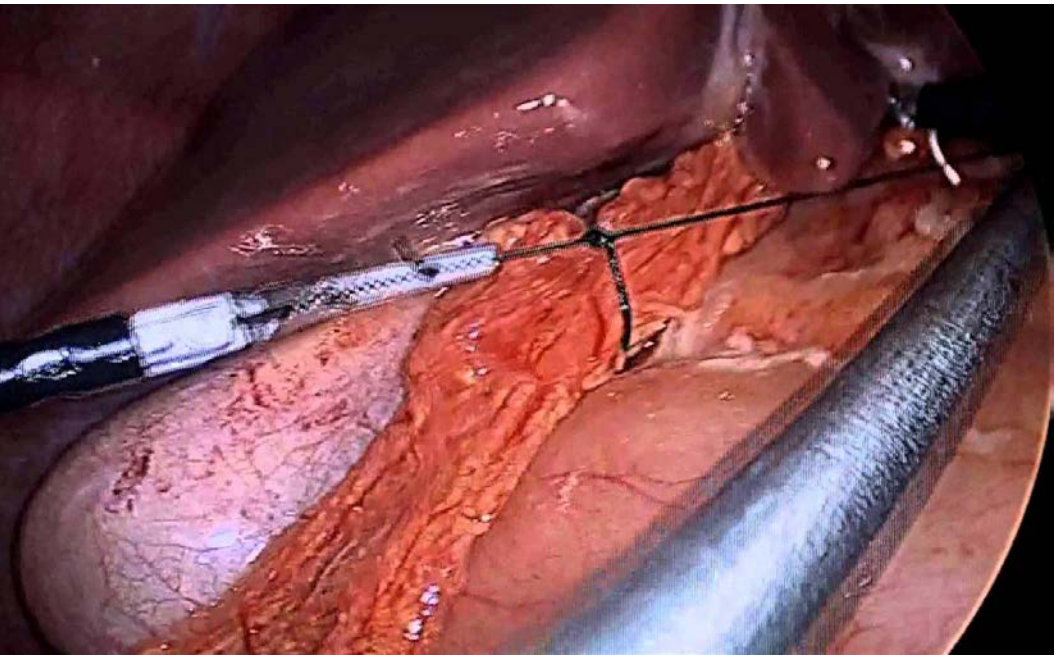
1. Rickard J; Surgery for peptic ulcer disease in sub-Saharan Africa: Systematic review of published data. J Gastrointest Surg (2016) 20:840-850

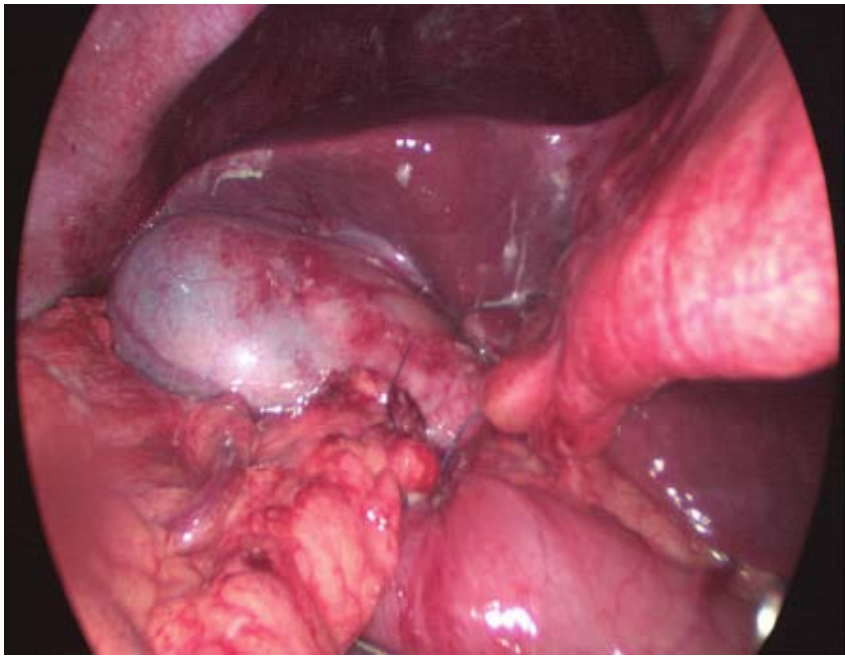
COMPLICATIONS

- Hernandez et al[1], local data from Grey's – 101 patients managed from 2013 – 2016
  - Superficial surgical site infection rate – 8.9%
  - Deep surgical site infection rate – 13.9%
  - Post-operative pneumonia rate – 17.8%
  - Mortality rate – 15.8%

1. Hernandez MC, Clarke DL et al. Validation of the AAST EGS grading system for perforated peptic ulcer disease. Surgery. 2018 Aug 3. pii: S0039-6060(18)30332-5. doi: 10.1016/j.surg.2018.05.061. [Epub ahead of print]

CHOICE OF REPAIR





LAPAROSCOPIC REPAIR (LR)

Surg Endosc (1990) 4: 232–233

Surgical Endoscopy

Laparoscopic repair/peritoneal toilet of perforated duodenal ulcer

Leslie K. Nathanson, David W. Easter, and Alfred Cuschieri

Department of Surgery, Ninewells Hospital and Medical School, University of Dundee, Dundee DD1 9SY, UK

EMERGENCE OF LR

- Successful use in elective surgery
- LR in United States ACS NSQIP population has nearly tripled – 4.5% in 2010 to 11.4% in 2016[1]
- Smith et al[2] – 65% of patients laparoscopic
- Palanivelu et al[3] – performed definitive surgeries for 12% of his patients

1. Davenport DL, Ueland WR, Kumar S et al; A comparison of short-term outcomes between laparoscopic and open emergent repair of perforated peptic ulcers. Surg Endosc. 2018 Jul 11. doi: 10.1007/s00464-018-6341-7. [Epub ahead of print]
2. RS Smith et al. Laparoscopic versus open repair of perforated peptic ulcer: A retrospective cohort study. Asian J Endosc Surg. 2018 May 27.
3. Palanivelu C, Jani K, Senthilnathan P (2007) Laparoscopic management of duodenal ulcer perforation: is it advantageous? Indian J Gastroenterol 26:64–66


Selection Bias

POST OPERATIVE OUTCOMES

Contents lists available at ScienceDirect

International Journal of Surgery

journal homepage: www.journal-surgery.net

Review

Laparoscopic versus open repair for perforated peptic ulcer: A meta analysis of randomized controlled trials

Shanjun Tan [a], Guohao Wu [a, *], Qiulin Zhuang [a], Qiulei Xi [a], Qingyang Meng [a], Yi Jiang [a], Yusong Han [a], Chao Yu [b], Zhen Yu [c], Ning Li [d]

- Lower post-operative pain scores and analgesic requirements.
- Lower risk of developing pneumonia

POST OPERATIVE OUTCOMES

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- Shorter nasogastric tube duration with earlier resumption of diet

POST OPERATIVE OUTCOMES

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- Similar leak rates
- Similar risk of intra-abdominal collection

POST OPERATIVE OUTCOMES

Surgical Endoscopy
https://doi.org/10.1007/s00464-018-6366-y

2018 SAGES ORAL

Surgical repair of perforated peptic ulcers: laparoscopic versus open approach

Victor Vakayil[1,2,6] · Brent Bauman[1] · Keaton Joppru[3] · Reema Mallick[4] · Christopher Tignanelli[1] · John Connett[5] · Sayeed Ikramuddin[1] · James V. Harmon Jr.[1]

- Lower rate of superficial surgical site infections (1.5% LR versus 4.2%)
- Lower rate of wound dehiscence and deep surgical site infections (0.3% LR versus 1.6%).

POST OPERATIVE OUTCOMES

World J Surg (2009) 33:1368–1373
DOI 10.1007/s00268-009-0054-y

World Journal of Surgery

Randomized Clinical Trial of Laparoscopic Versus Open Repair of the Perforated Peptic Ulcer: The LAMA Trial

Mariëtta J. O. E. Bertleff · Jens A. Halm · Willem A. Bemelman · Arie C. van der Ham · Erwin van der Harst · Hok I. Oei · J. F. Smulders · E. W. Steyerberg · Johan F. Lange

- Shorter length of hospital stay (6.5 vs 8 days)
- Earlier return to work

OPERATIVE TIME

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DOI 10.1007/s00268-009-0054-y

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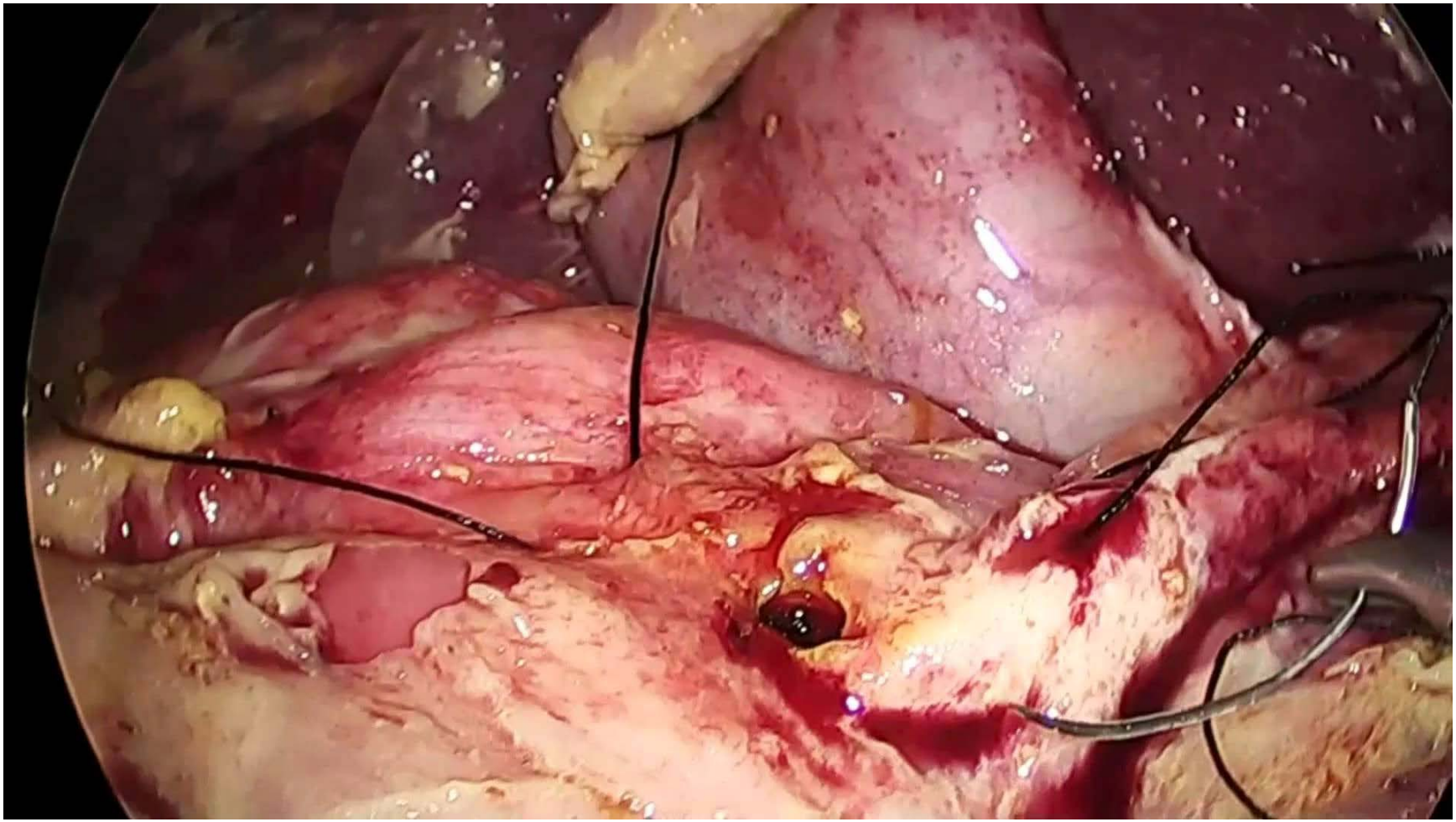
LR was found on average to be 25 minutes longer

LAPAROSCOPIC SUTURING



OPERATIVE TIME

A prospective randomized controlled trial of laparoscopic repair versus open repair for perforated peptic ulcers

Bujun Ge, MD, Min Wu, MD, Qing Chen, MD, Quanning Chen, MD, Rui Lin, MD, Liming Liu, MD, *and* **Qi Huang, MD,** *Shanghai, People's Republic of China*

Similar operative times between LR and OR

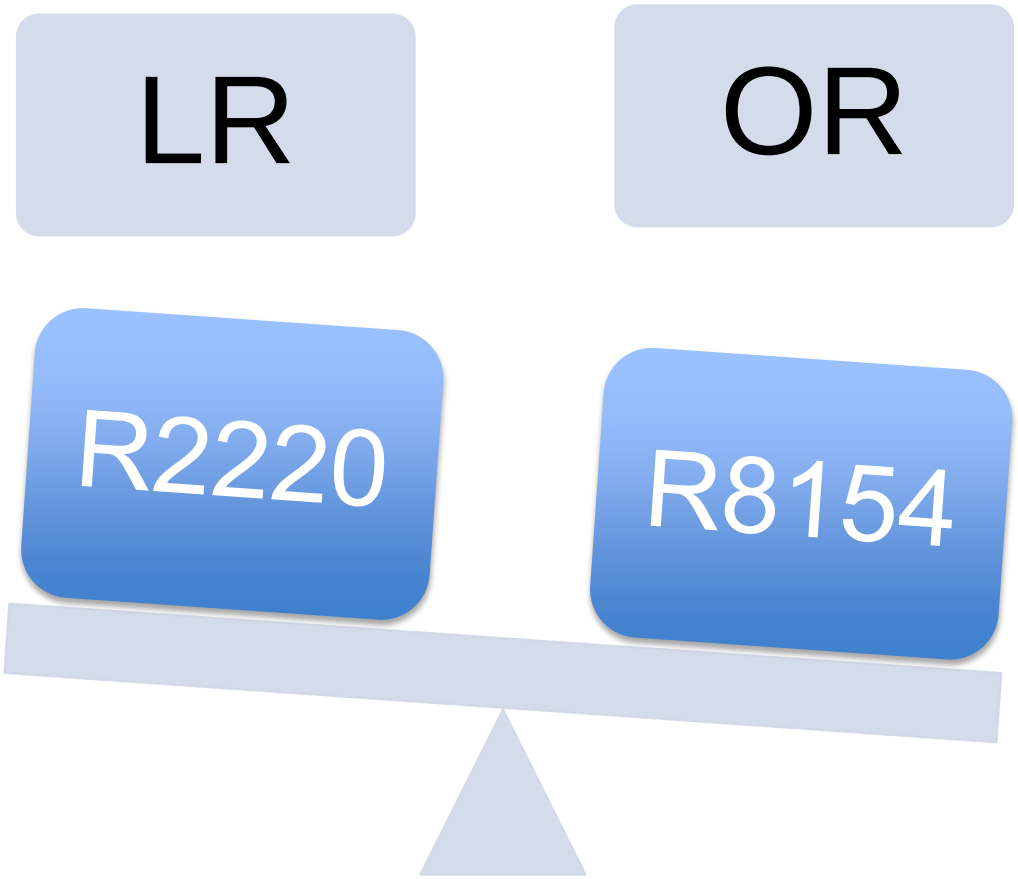
COST COMPARISON

Cost-efficiency and outcomes in the treatment of perforated peptic ulcer disease: Laparoscopic versus open approach

G. Paul Wright, MD,[a,b] Alan T. Davis, PhD,[b,c] Tracy J. Koehler, MA,[c] *and* David E. Scheeres, MD, FACS,[a,b,d] *Grand Rapids, MI*

	Laparoscopic	*Open*	P *value*
Duration of stay*	7.0 (4–10)	8.0 (5–12)	<.001
Disposition			
Home	113/142 (79.6%)	3,353/5,216 (68.1%)	.025
Transfer to facility	23/142 (16.2%)	1,214/5,216 (23.3%)	
Deceased	5/142 (3.5%)	421/5,216 (8.1%)	
Other	1/142 (0.7%)	28/5,216 (0.5%)	
Total charges*	$44,095 ($27,908–$75,479)	$52,055 ($31,005–$93,604)	.019

COST COMPARISON



WHO SHOULD WE CONSIDER?

- Haemodynamically stable
- ASA 1 and 2
- Less than 24 hours since onset of symptoms
- Minimal ileus
- Ulcers ≤ 10mm
- Ulcers in D1 or juxtapyloric

Thank you