Synchronous Colorectal Cancer

The University of British Columbia

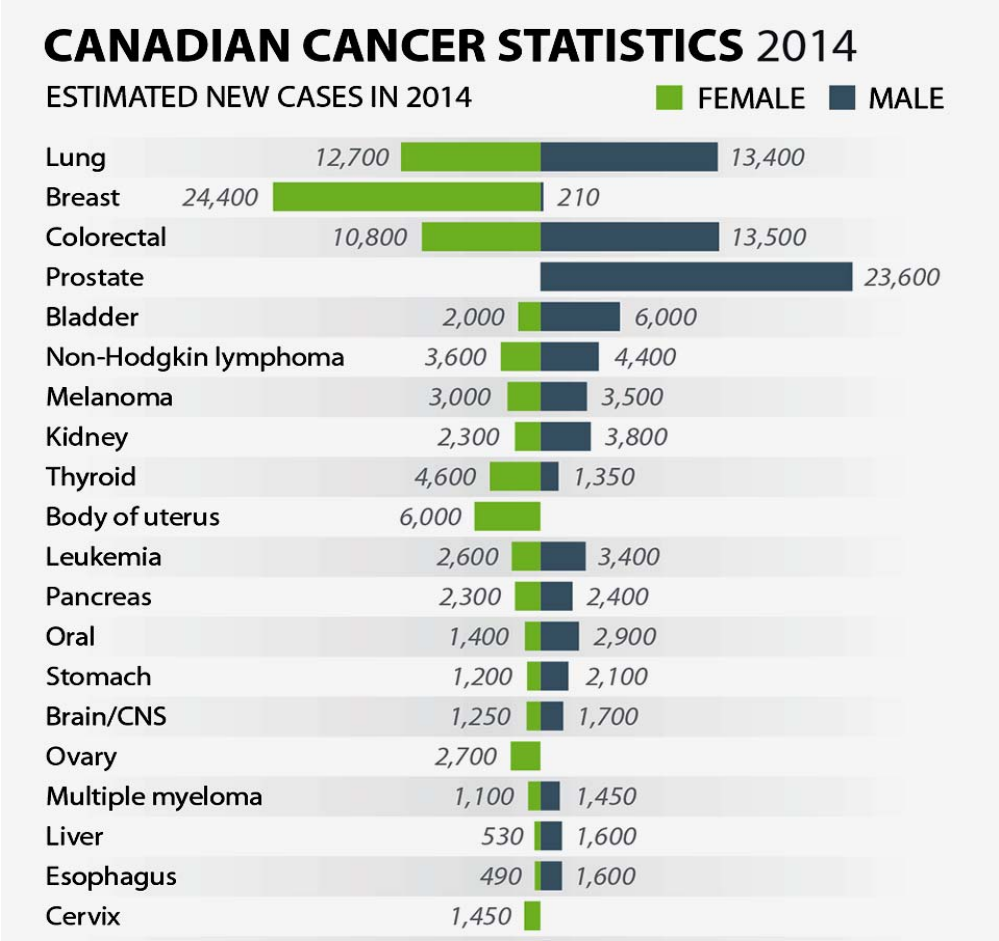
St. Paul's Hospital

November, 2015

Carl J. Brown, MD MSc FACS FRCSC Twitter @drcarl_vancouvr

Colorectal Cancer Risk

- Lifetime risk of colorectal cancer is 6.5%
- Rectal cancer 1/3 of this risk



Synchronous Colorectal Cancer (sCRC)

Multiple Primary Malignancies

- Warren S and Gates O, American Journal of Cancer, 1932
  - Proven Adenocarcinoma
  - Proven to be Distinct
  - Exclusion of Probable Metastatic Tumour from Primary

sCRC - Epidemiology

Author	Publication	Country	Years	Population	% sCRC
Lasser	1978	USA	1967-76	1002	6.2%
Langevin	1984	USA	1978-83	166	4.8%
Evers	1988	USA	1977-85	320	7%
Passman	1996	USA	1976-93	4878	3.3%
Takeuchi	1997	Japan	1990-93	225	4%
Chen	2000	China	1987-93	1780	3%
Oya	2003	Japan	1984-99	876	4.8%
Wang	2004	China	1974-98	1348	1.1%
Nikoloudis	2004	Greece	1990-2003	283	2.1%
Pinol	2004	Spain	2000-2001	1522	6.2%
Kim	2007	Korea	2001-2006	316	5.4%
Larournerie	2008	France	1976-2004	15562	3.8%
Mulder	2011	Holland	1995-2006	13586	3.9%

sCRC - Epidemiology

Epidemiology and prognosis of synchronous colorectal cancers

M. Latournerie, V. Jooste, V. Cottet, C. Lepage, J. Faivre and A.-M. Bouvier

National Institute of Health and Medical Research (INSERM) U866, Burgundy Digestive Cancer Registry, University of Burgundy and University Hospital Centre, Dijon, France

Correspondence to: Dr A.-M. Bouvier, Registre Bourguignon Cancers Digestifs (INSERM U866), BP 87900, 21079 Dijon Cedex, France (e-mail: anne-marie.bouvier@u-bourgogne.fr)

British Journal of Surgery 2008; 95: 1528–1533

- Cancer registry study in Burgundy, France
  - 1976-2004
  - 586 pts with sCRC

sCRC - Epidemiology

	Odds ratio	P*
Age at diagnosis (years)		
<55	1	
55–64	1·05 (0·73, 1·51)	
65–74	1·40 (1·01, 1·95)	
≥75	1·31 (0·94, 1·82)	0·043
Sex		
F	1	
M	1·41 (1·19, 1·68)	<0·001
Period of diagnosis		
1976–1982	1	
1983–2004	1·28 (0·96, 1·70)	0·097
Associated adenoma		
No	1	
Yes	2·02 (1·69, 2·41)	<0·001
Adenomatous remnants		
No	1	
Yes	2·10 (1·73, 2·55)	<0·001

	Second location		
First location	Right colon	Left colon	Rectum
Right colon	100	67	16
Left colon	52	173	70
Rectum	17	52	49

- sCRC related to age, gender,adenoma
- 55% (322/586) were in same segment of colon

Letournie, BJS, 2008

sCRC and Survival

sCRC - Survival

Contents lists available at ScienceDirect

Cancer Epidemiology

The International Journal of Cancer Epidemiology, Detection, and Prevention

journal homepage: www.canceepidemiology.net

Prevalence and prognosis of synchronous colorectal cancer: A Dutch population-based study

Sanna A. Mulder [a,*], Ries Kranse [b], Ronald A. Damhuis [b], Johannes H.W. de Wilt [c], Rob J.Th. Ouwendijk [d], Ernst J. Kuipers [a,e], Monique E. van Leerdam [a]

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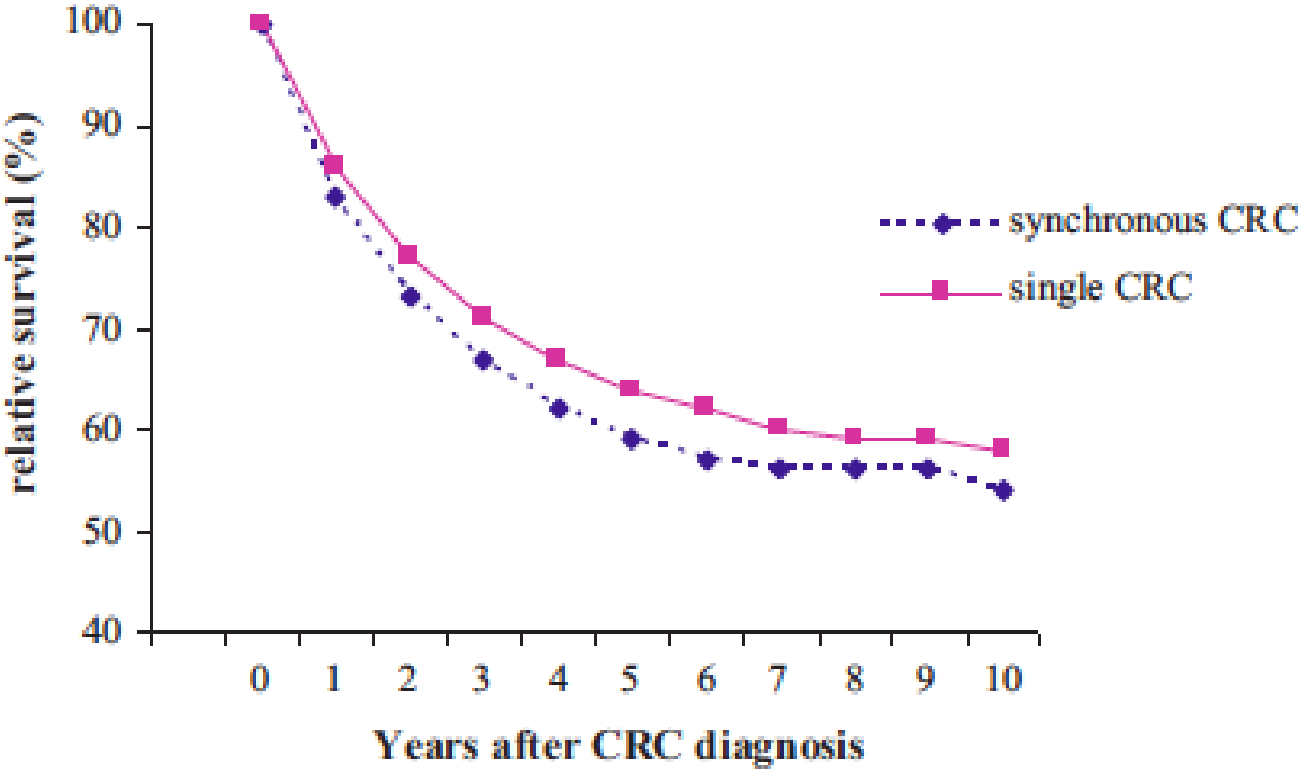
[b] Rotterdam Cancer Registry, Rochussenstraat 125, 3015 EJ Rotterdam, The Netherlands
[c] Department of Surgery, St Radboud University Medical Centre, Geert Grooteplein-Zuid 10, 6525 GA Nijmegen, The Netherlands
[d] Department of Gastroenterology, Ikazia Hospital, Montessoriweg 1, 3083 AN Rotterdam, The Netherlands
[e] Department of Internal Medicine, Erasmus University Medical Centre, 's-Gravendijkwal 230, 3015 CE Rotterdam, The Netherlands

- Rotterdam CRC database 1995-2006
- 16 Hosp (2.4million) → 13,683 pts with CRC

Synch CRC - Survival



Mulder, Cancer Epi, 2011

Synch CRC - Survival

	Solitary CRC	Synchronous CRC	Hazard Ratio	p-Value
Synchronous CRC				
Synchronous	–	534	1.02 (0.86–1.20)	0.83
Male	6723	323	1	–
Female	6426	211	0.99 (0.93–1.07)	0.885
Age				
<60	2693	72	1	–
60–69	3391	124	1.18 (1.07–1.29)	0.001
70–79	4445	217	1.33 (1.21–1.47)	<0.001
>80	2620	121	1.86 (1.66–2.09)	<0.001
Location				
Rectum	3088	80	1	
Left colon[a]	5724	261	1.02 (0.94–1.11)	0.622
Right colon	4337	193	1.19 (1.09–1.29)	<0.001
Presence of distant metastases				
No	11,555	436	1	–
Yes	1594	98	9.60 (8.93–10.31)	<0.001

Mulder, Cancer Epi, 2011

Synch CRC - Survival

Author	Publication	Years	Population	% sCRC	Survival
Lasser	1978	1967-76	1002	6.2%	
Langevin	1984	1978-83	166	4.8%	
Evers	1988	1977-85	320	7%	
Passman	1996	1976-93	4878	3.3%	**No diff**
Takeuchi	1997	1990-93	225	4%	
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Oya	2003	1984-99	876	4.8%	**No diff**
Wang	2004	1974-98	1348	1.1%	
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Pinol	2004	2000-2001	1522	6.2%	
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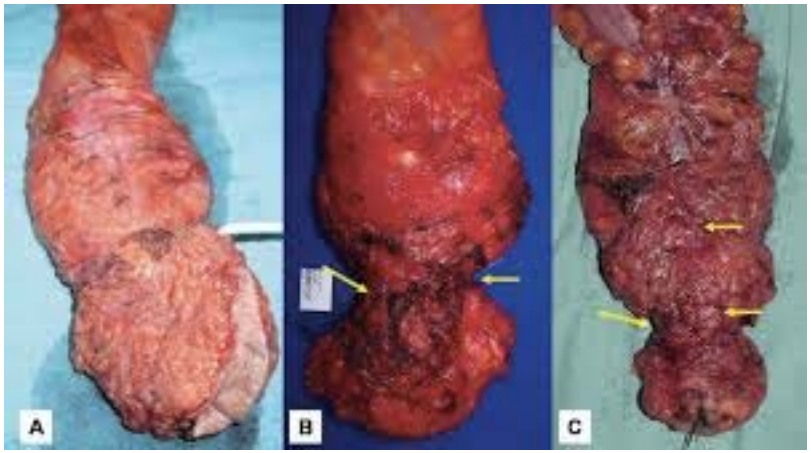
Larournerie	2008	1976-2004	15562	3.8%	**No diff**

Surgery for sCRC

Total Mesorectal Excision

- Standard Rectal Cancer surgical technique
- Local recurrence 8%
  - Historic 20-30%



Br. J. Surg. Vol. 69 (1982) 613-616 Printed in Great Britain

The mesorectum in rectal cancer surgery—the clue to pelvic recurrence?

R. J. HEALD, E. M. HUSBAND AND R. D. H. RYALL
Basingstoke Bowel Cancer Clinic, Basingstoke District Hospital, Basing

Five cases are described where minute foci of adenocarcinoma have been demonstrated in the mesorectum several centimetres distal to the apparent lower edge of a rectal cancer. In 2 of these there was no other evidence of lymphatic spread of the tumour. In orthodox anterior resection much of this tissue remains in the pelvis, and it is suggested that these foci might lead to suture-line or pelvic recurrence. Total excision of the mesorectum has, therefore, been carried out as a part of over 100 consecutive anterior resections. Fifty of these, which were classified as 'curative' or 'conceivably curative' operations, have now been followed for over 2 years with no pelvic or staple-line recurrence.

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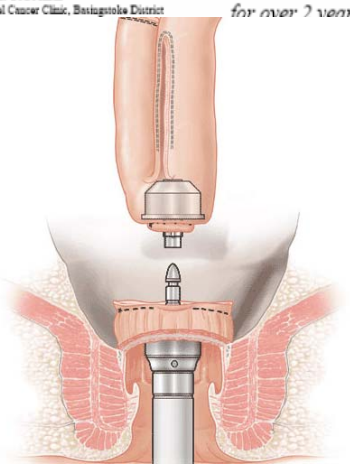
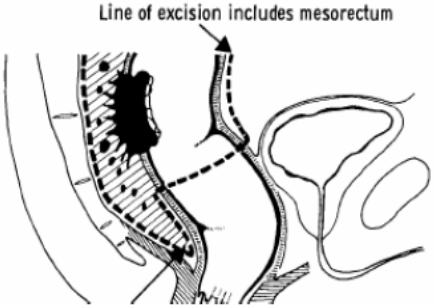
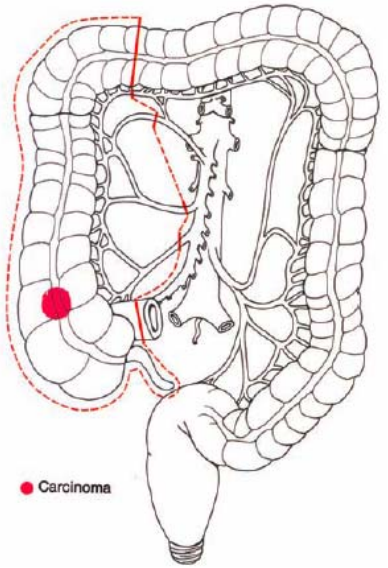
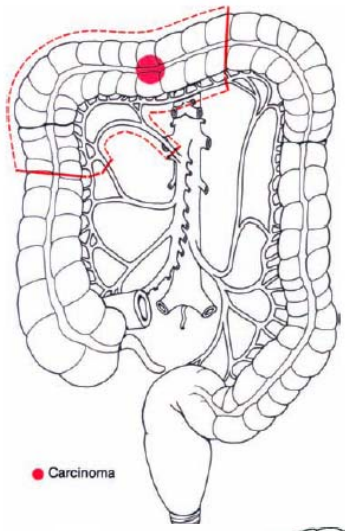
even though the anus, the levators, a small rectal reservoir and as much as possible of the nerve plexuses have been preserved.

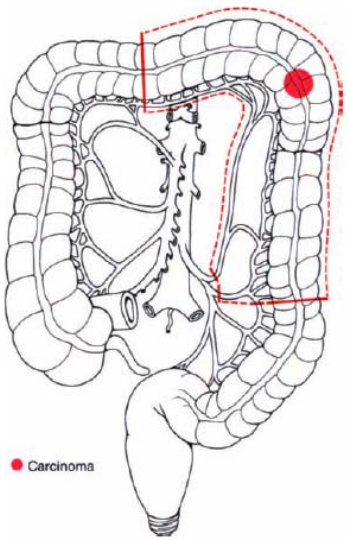


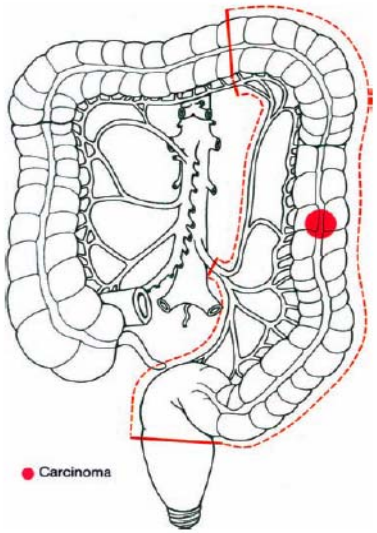


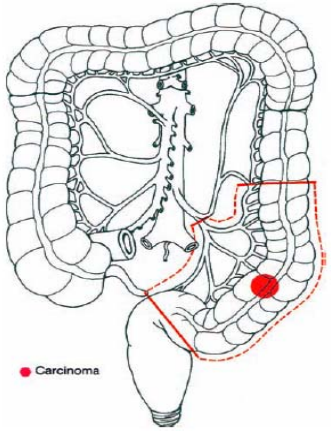
Surgery for Colon Cancer

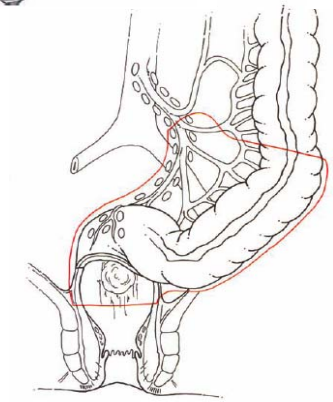












Surgery for Colon Cancer

ST. PAUL'S HOSPITAL
PROVIDENCE HEALTH CARE

BC Surgical Oncolog Network

BC Cancer Agency
CARE & RESEARCH

Original article

doi:10.1111/j.1463-1318.2008.01735.x

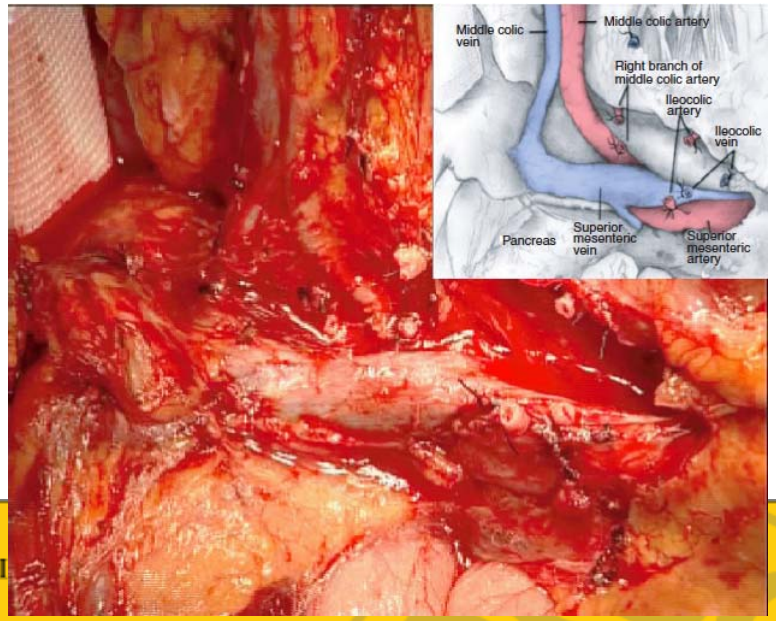
Standardized surgery for colonic cancer: complete mesocolic excision and central ligation – technical notes and outcome

W. Hohenberger*, K. Weber*, K. Matzel*, T. Papadopoulos† and S. Merkel*

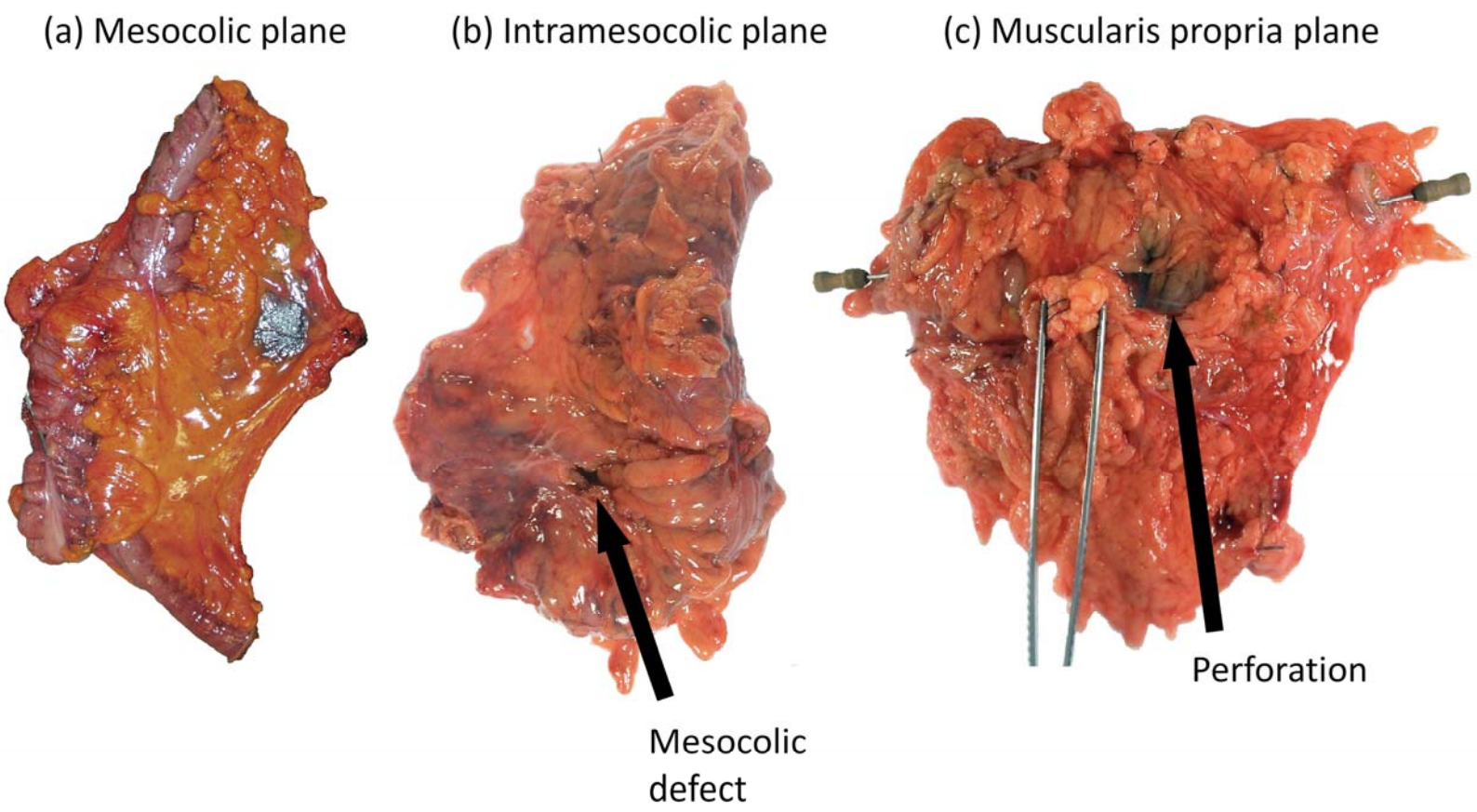
*Department of Surgery, University Hospital, Erlangen, Germany and †Department of Pathology, Vivantes Humboldt Hospital, Berlin, Germany

 Colorectal Disease, **11**, 354–365

- Simlar to TME
- CME defines surgical planes and lympadenectomy



Complete Mesocolic Excision



CME – Impact of Colon Cancer Outcomes

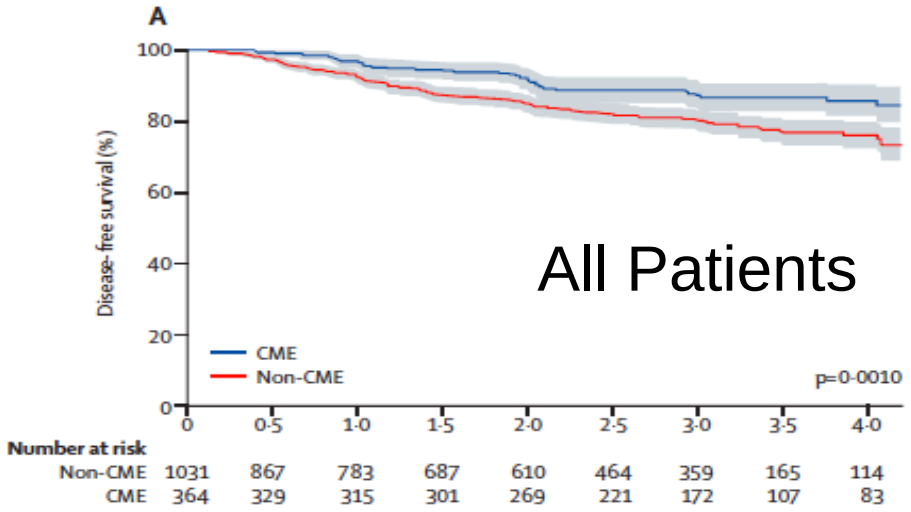
Disease-free survival after complete mesocolic excision compared with conventional colon cancer surgery: a retrospective, population-based study

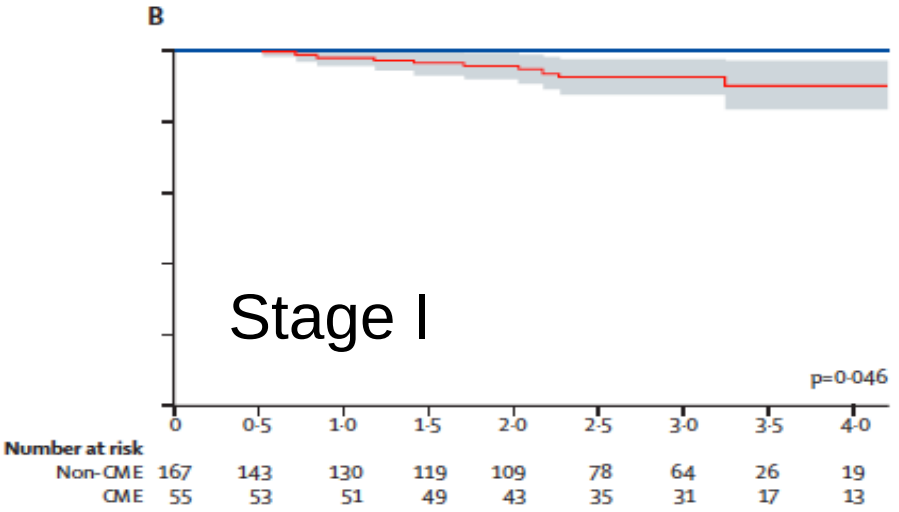
Claus Anders Bertelsen, Anders Ulrich Neuenschwander, Jens Erik Jansen, Michael Wilhelmsen, Anders Kirkegaard-Klitbo, Jutaka Reilin Tenma, Birgitte Bols, Peter Ingeholm, Leif Ahrenst Rasmussen, Lars Vedel Jepsen, Else Refsgaard Iversen, Bent Kristensen, Ismail Gögenur, on the behalf of the Danish Colorectal Cancer Group

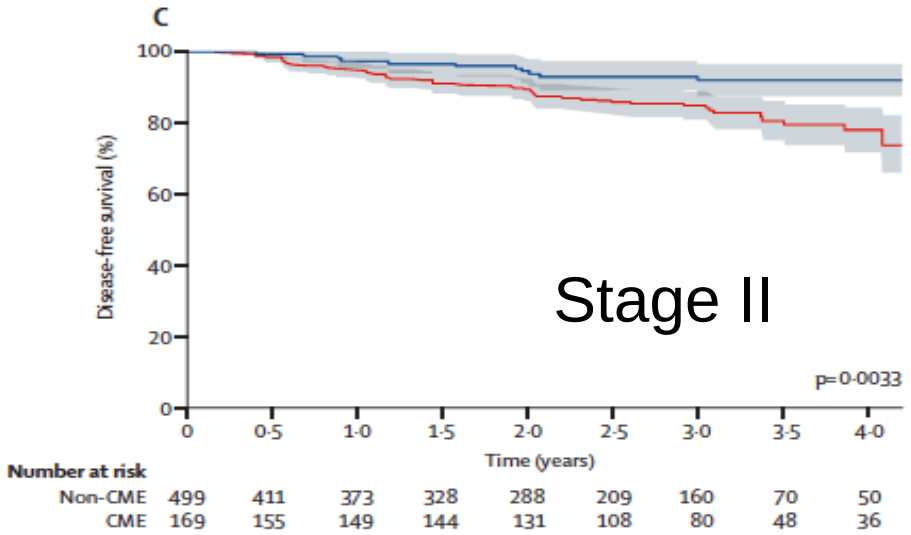
www.thelancet.com/oncology **Vol 16 February 2015**

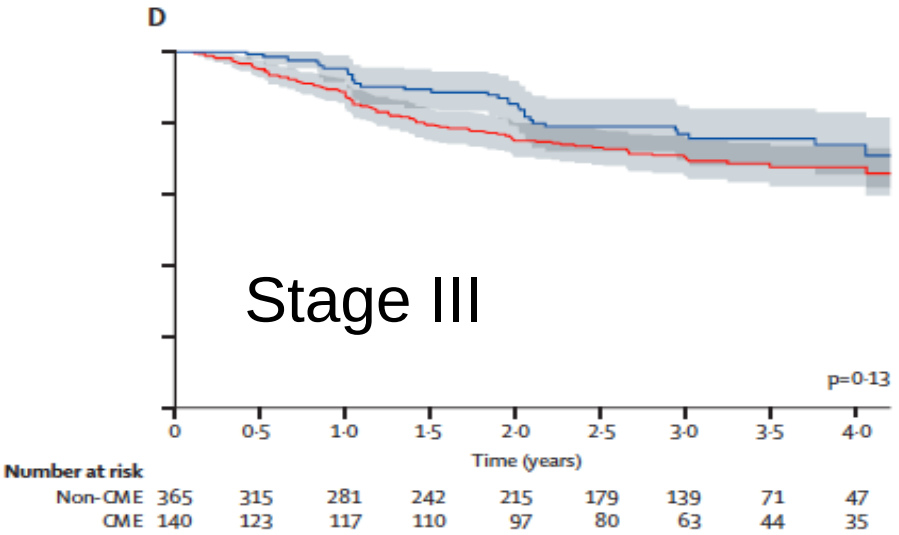
- 2008-2011 – Denmark
  - Validated Complete Mesocolic Excision (CME) centre compared to conventional surgery
  - CME (n=364) vs. standard (n=1031)

CME – Disease Free Survival

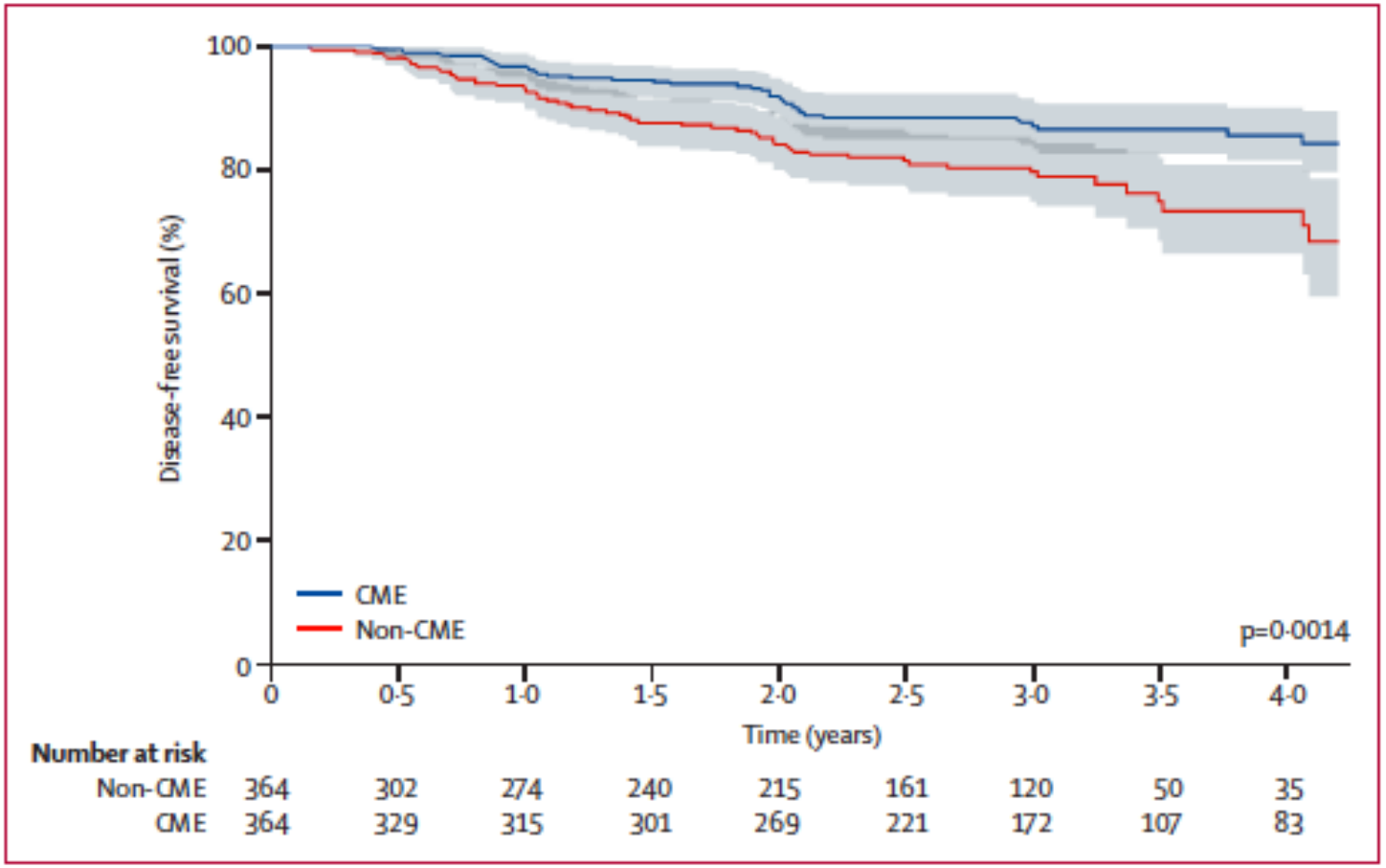






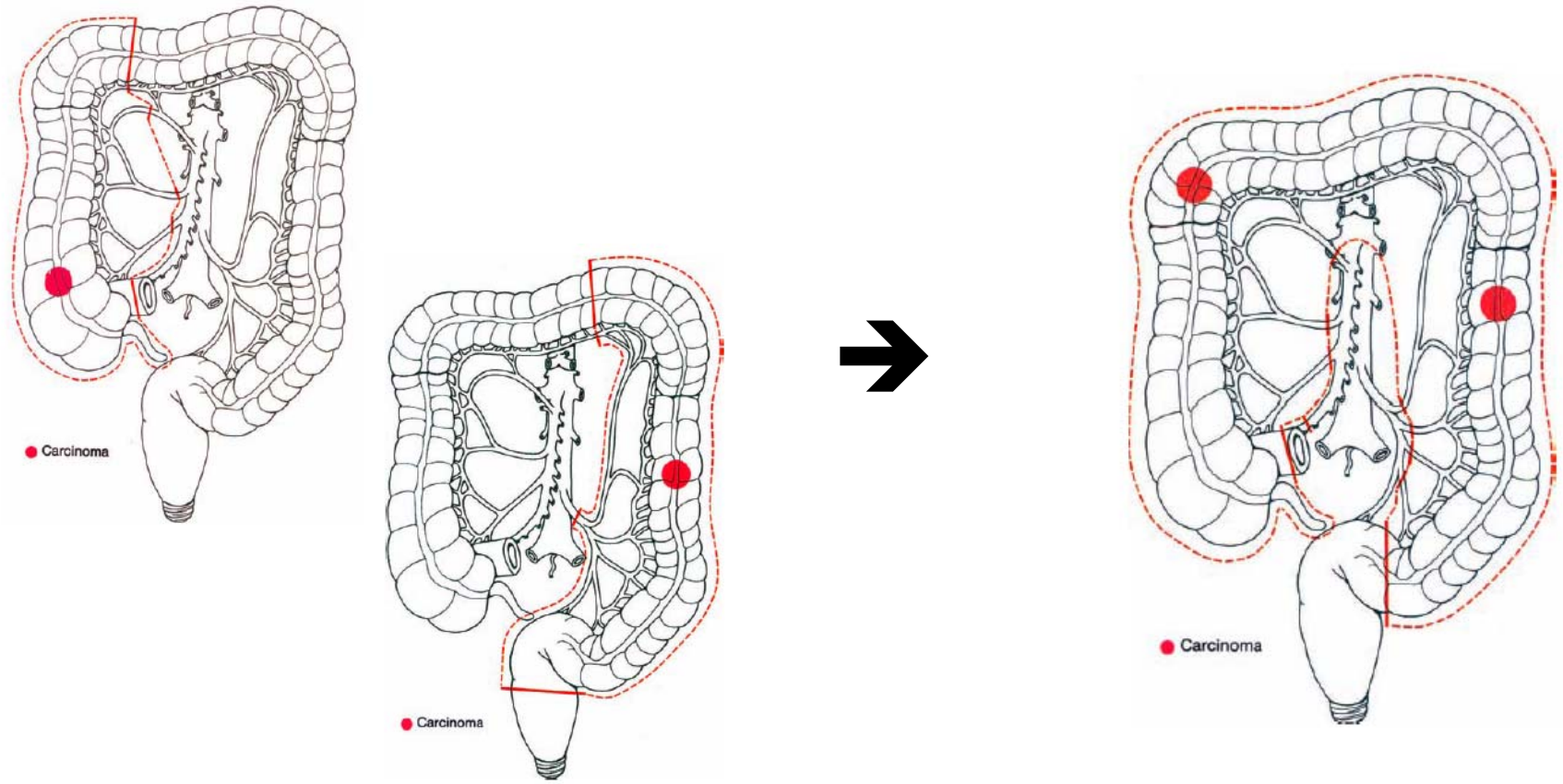


CME – Disease Free Survival



Bertelsen, Lancet Onc, 2015

Surgery for sCRC



Case #1

- 48 year old man, Hx of Ulcerative Colitis x5 years
  - Treated with sulfasalazine
  - IV and/or PO steroids 2x/year for flares
  - Last surveillance scope 4 years ago – "pseudopolyps" but no further details available
- May 2010 – referred to different GI
  - Started on Imuran
  - 1 bm/day, no blood
  - Occ abdo pain

Case #1

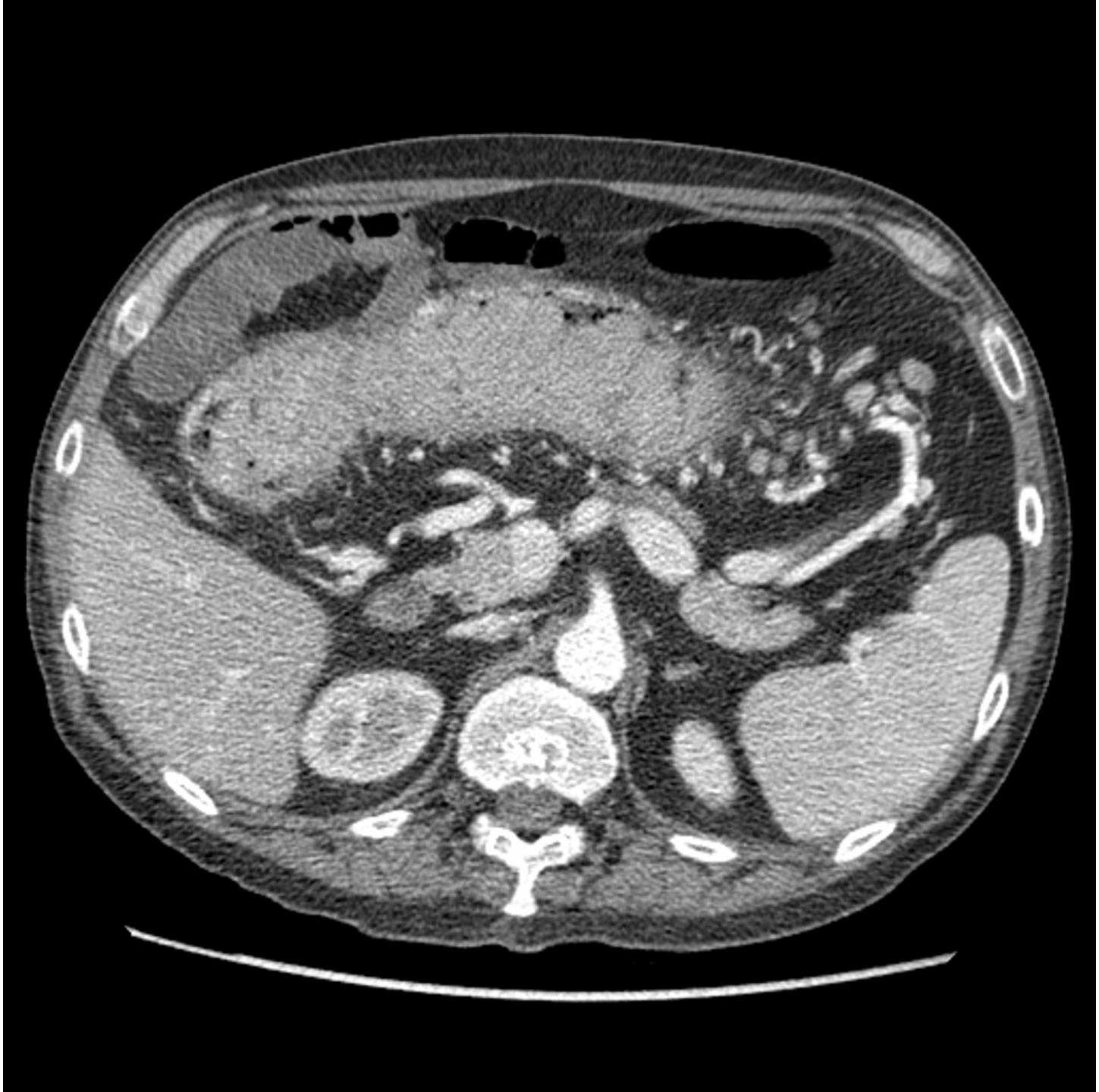
- Nov 2010 – flare of UC
  - 3 bloody diarrheal stools per day
  - Wt loss 20 lbs x 6 weeks
  - Progressive lower extremity edema since July
  - Hb 72, Albumin 14
- Admitted to hospital for W/U of hypoalbuminemia and anasarca
- Renal causes (negative) and GI causes considered

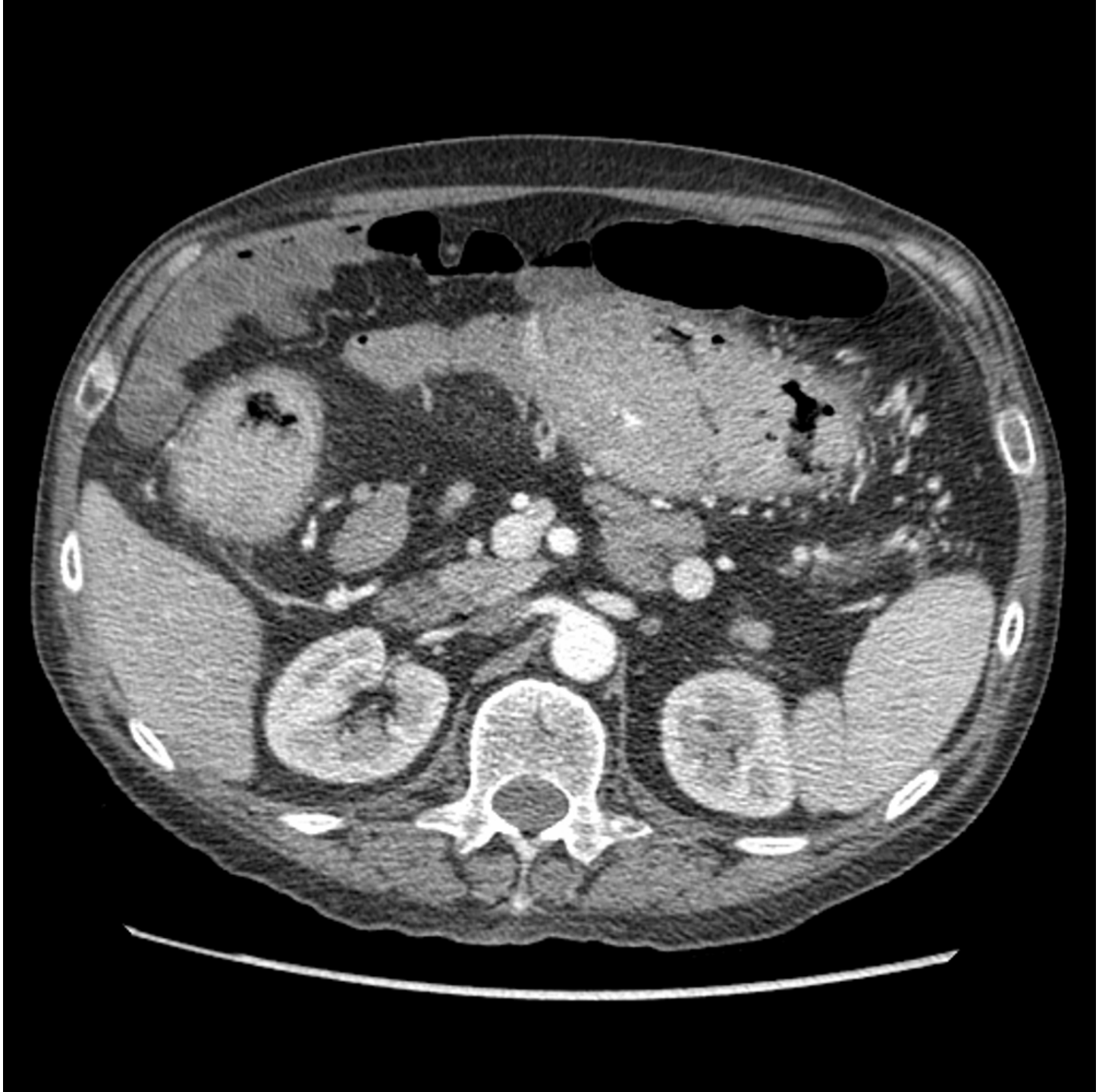
Case #1

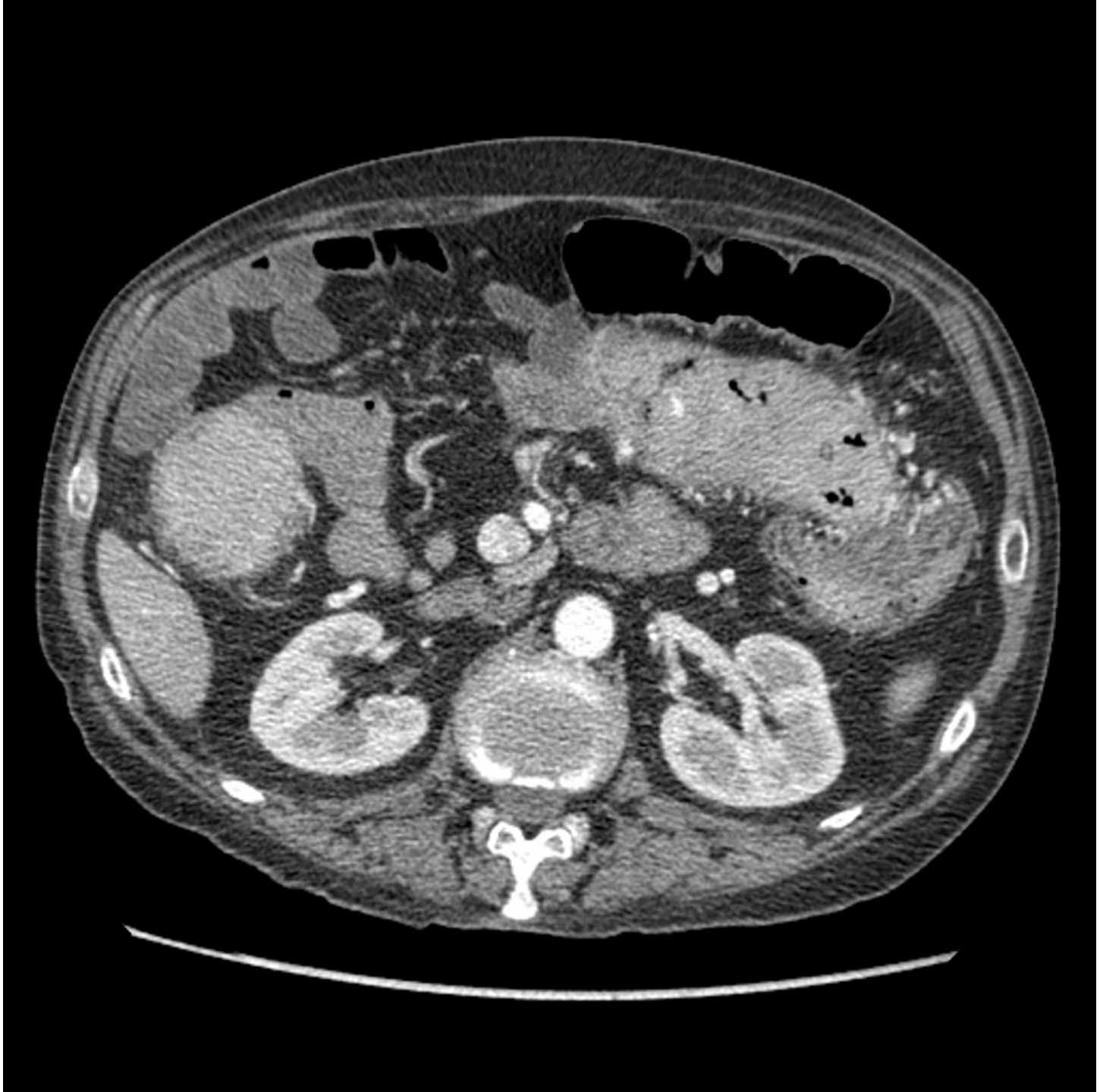
- Biochemical W/U for protein-losing enteropathy negative
- Colonoscopy
  - multiple partially obstructing pseudopolyps
  - Could not pass transverse colon
  - Bx – reactive dysplasia
- CT chest - multiple small PE
- Dopplers – bilateral DVT

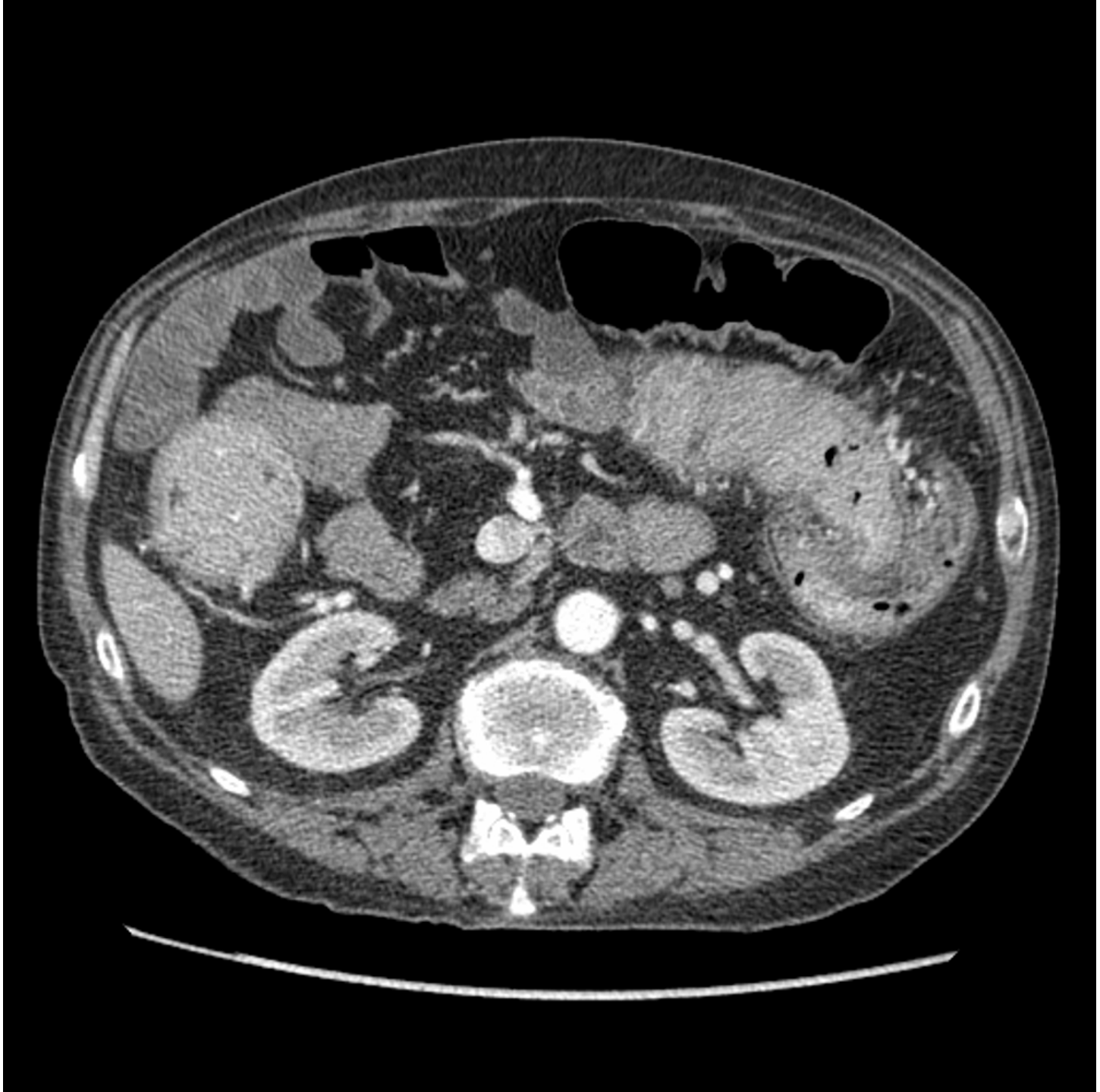
Case #1

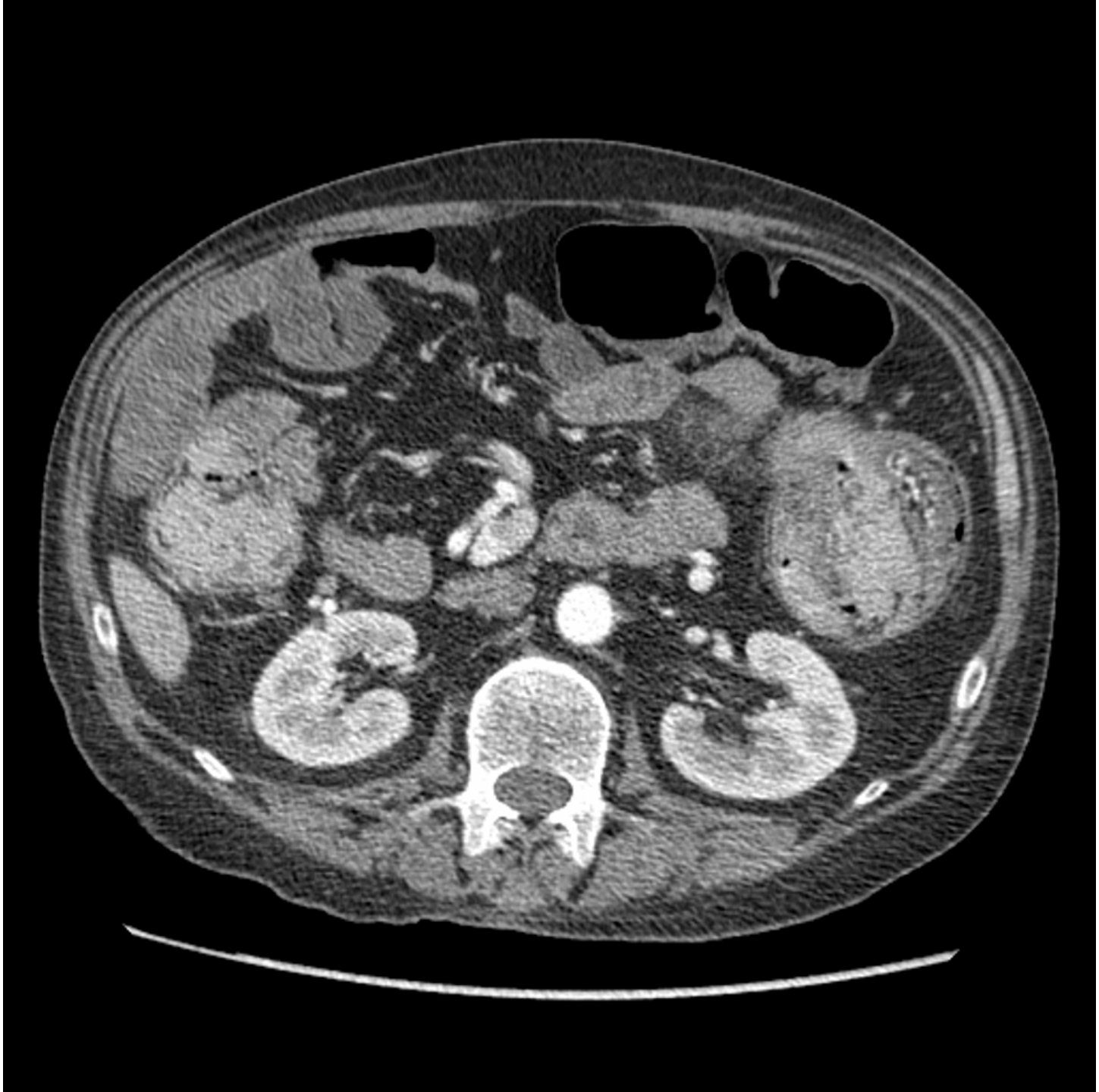
- CT Abdo Pelvis
  - Pan colitis
  - Colon thickened/stranding from ascending to mid-descending
  - ‘can’t exclude mass’
  - Prominent mesenteric nodes
  - Numerous polyps
  - Left colo-colic intussusception
  - Only mild disease mid-descending to rectum
  - SB normal

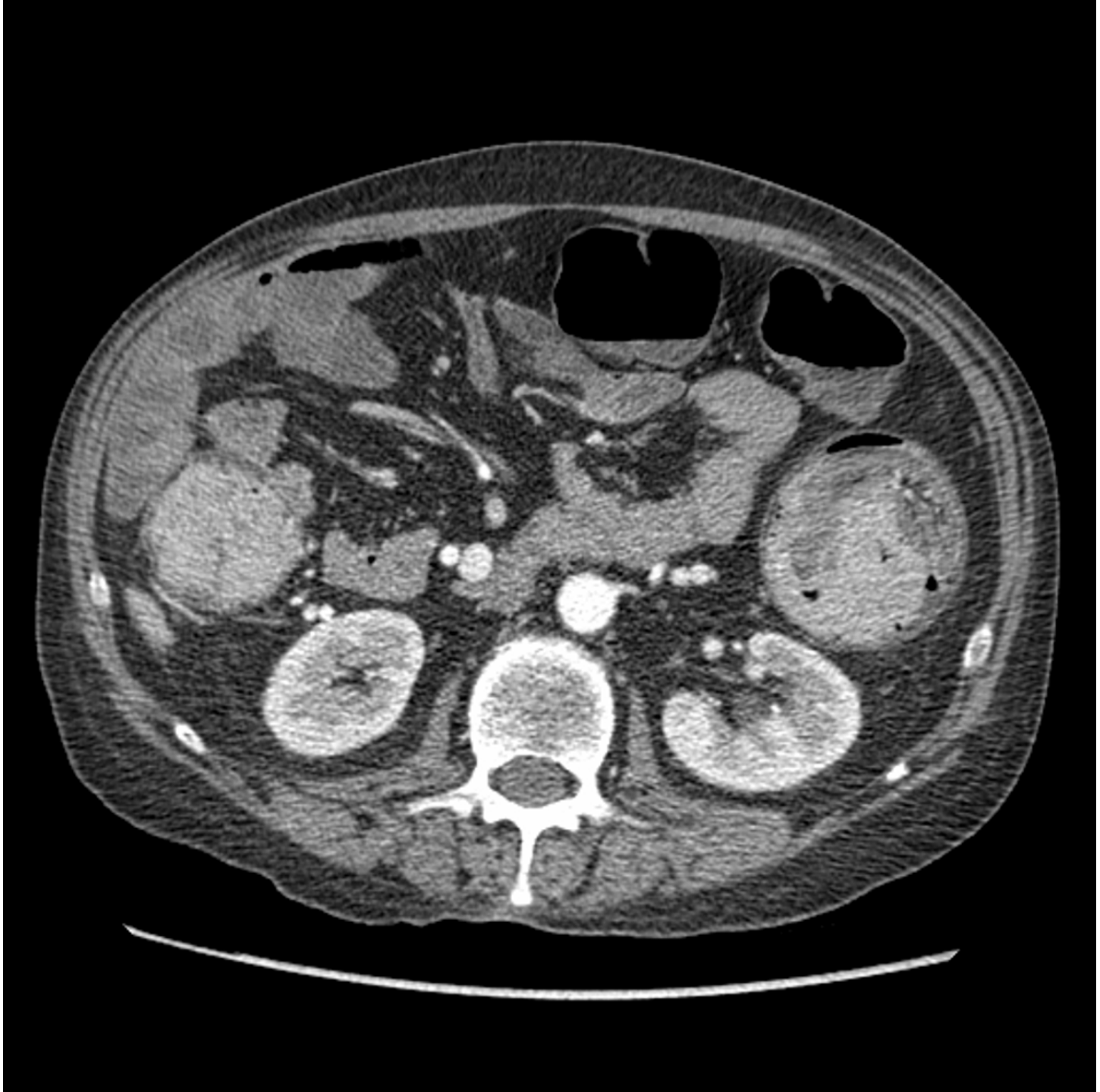


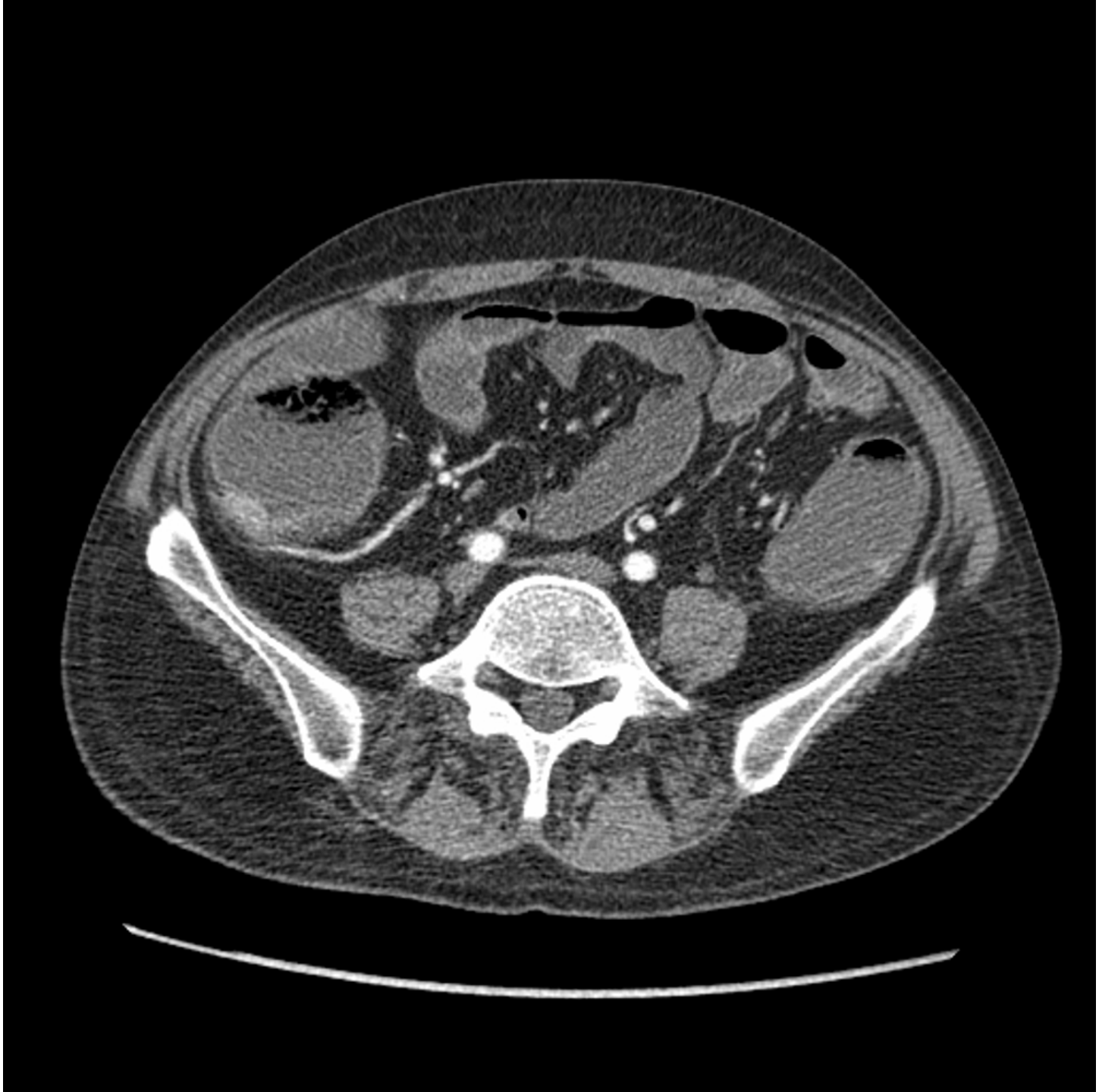


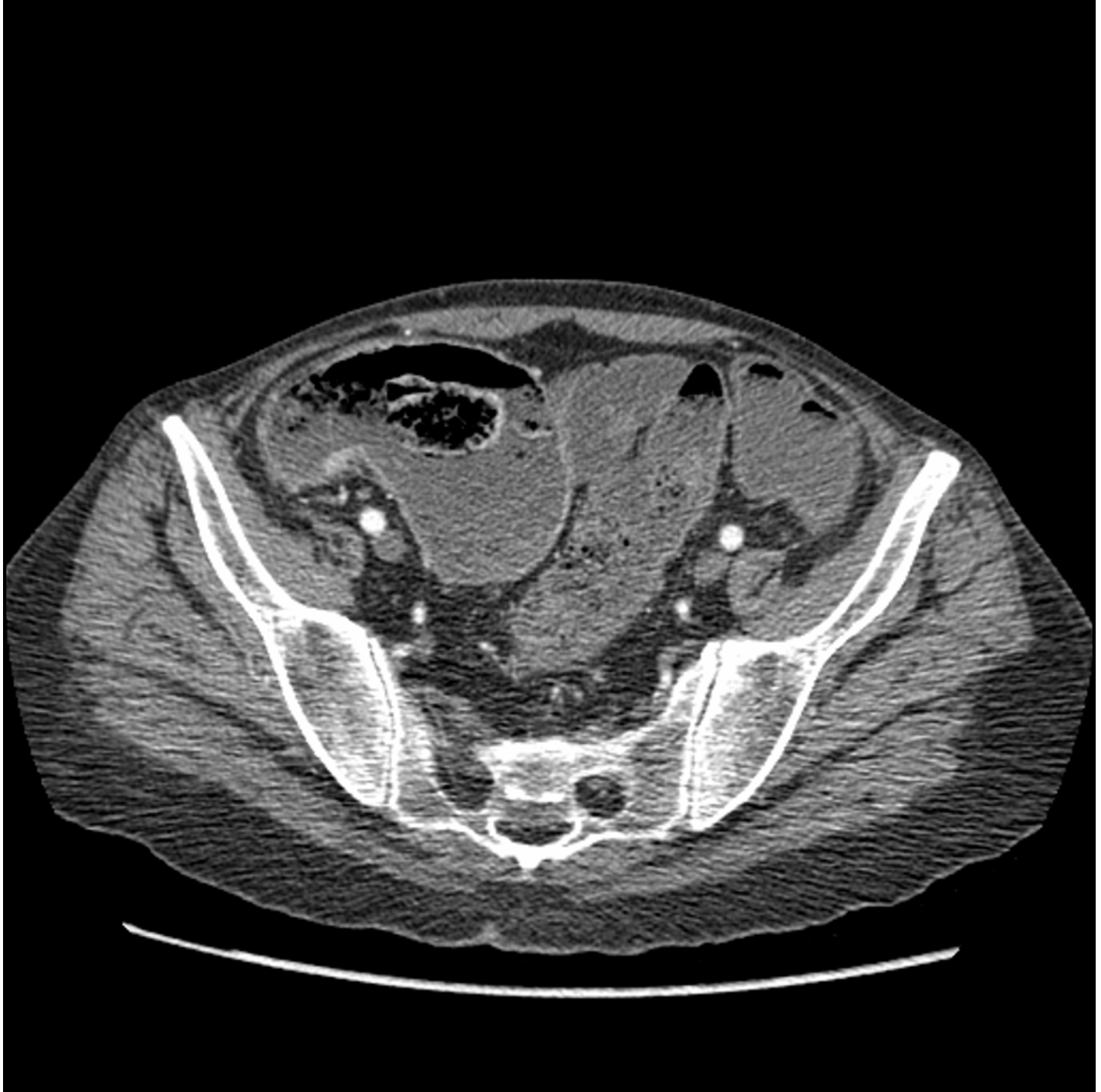


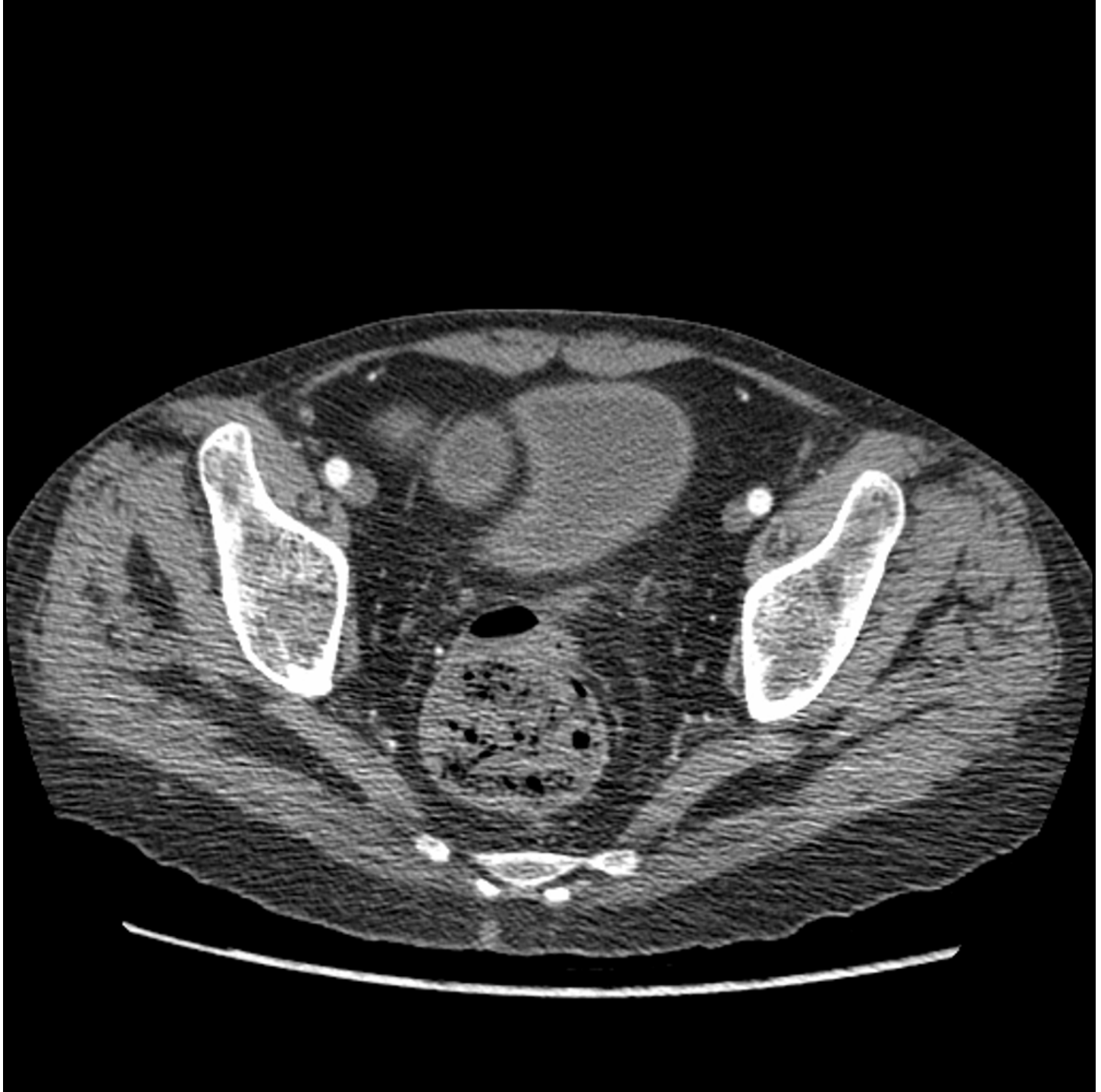












Surgery

- Ongoing protein loss thought to be from pseudopolyps
- Subtotal colectomy/ileostomy
- IVC filter

Pathology

- Pancolitis with extensive inflammatory pseudopolyps
- 2 low grade adenocarcinomas
  - Right colon
  - Transverse colon (at intussusception)
  - At worst T3N0 (55 nodes negative)
  - Some extranodal mesenteric deposits
  - Perineural invasion
  - All margins negative

Next Steps?

- Stage II
- Average risk or high risk?
  - UC
  - Extranodal tumour deposits
  - Age
  - Synchronous cancers
- "Stage III equivalent"

Case #1

- 8 cycles CAPOX – tolerated well
- Transient neutropenia – G-CSF

- Scope of rectosigmoid stump 1 year later
  - UC
  - No pseudopolyps
  - No lesions
  - No dysplasia

- Sept 2012
  - Completion proctocolectomy and pelvic pouch
  - No dysplasia or neoplasia on final path

Case #1

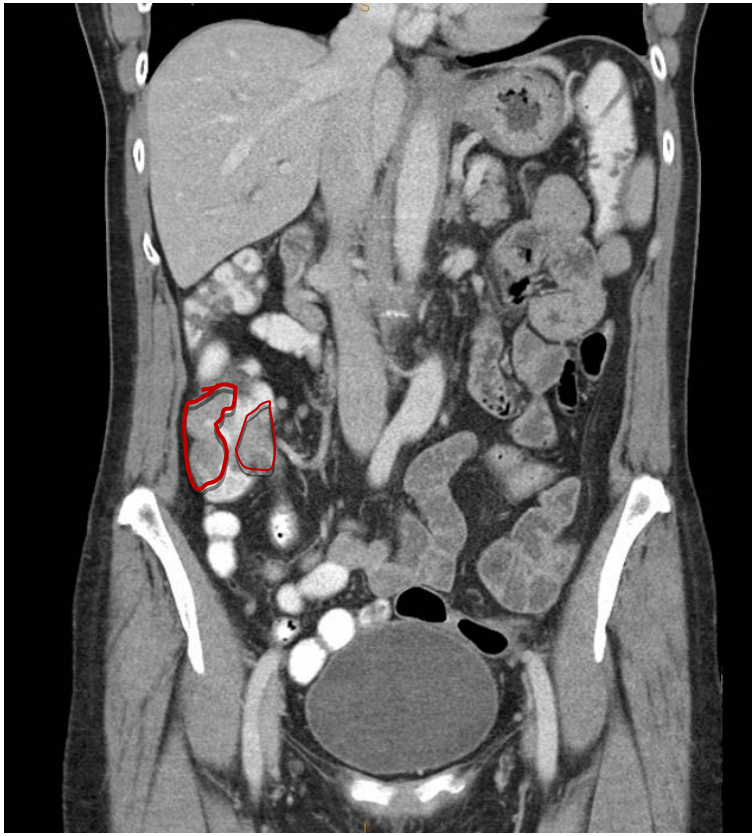
- What if cancer found in rectum and transverse colon?
  - Preop radiation?
  - Resection and pouch?
  - Subtotal colectomy, radiation, then completion proctocolectomy and pouch?

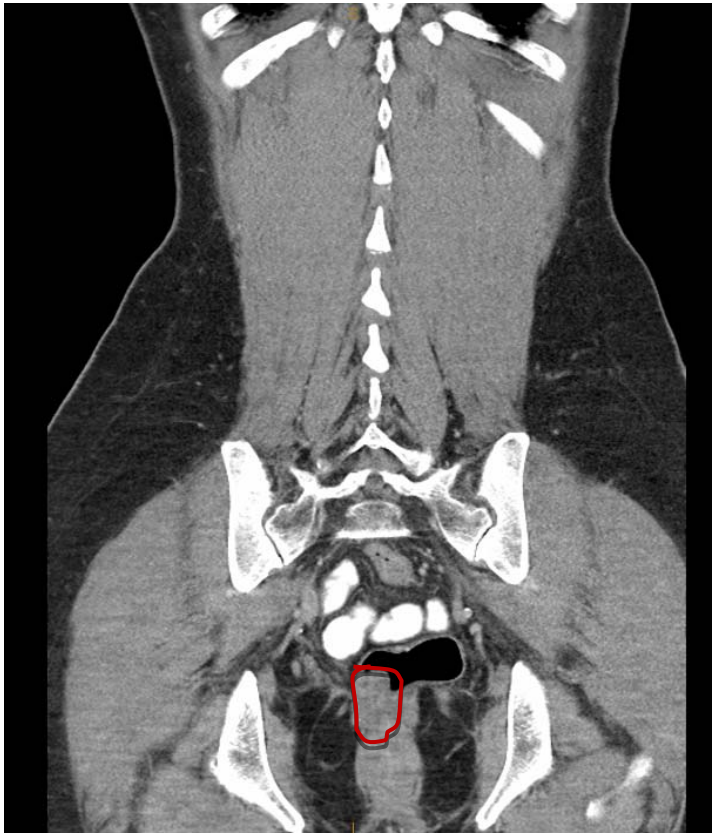
Case #2

- 52 woman
  - No risk factors
  - Healthy
  - FIT+ve

- Colonoscopy
  - Right colon circ lesion – biopsy adenoCA
  - Rectal Polyp – biopsy adenoma

Case #2





Synchronous Adenoma

Synchronous colorectal neoplasias: our experience about laparoscopic-TEM combined treatment

WORLD JOURNAL OF SURGICAL ONCOLOGY

Alessandro Spizzirri[1*], Marco Coccetta[1], Roberto Cirocchi[1], Francesco La Mura[1], Vincenzo Napolitano[1], Maurizio Bravetti[1], Daniele Giuliani[1], Angelo De Sol[1], Eleonora Pressi[1], Stefano Trastulli[1], Micol Sole Di Patrizi[1], Nicola Avenia[2], Francesco Sciannameo[1]

- 6 pts with synch rectal and colon lesion
- TEM/Colon Resection

PATIENTS	RECTUM		COLON	
	ADENOMA	*CARCINOMA*	*RIGHT*	*LEFT*
1		T1	Adenoma	
2	Adenoma		Carcinoma	
1	Adenoma			Carcinoma
2	Adenoma		Adenoma	

Case #2

- TEM
  - Villous adenoma – clear margins

- Lap Right Hemicolectomy
  - Stage II colon CA

Summary

- sCRC occurs in 3-6% of patients with CRC
- In most patients, both tumours in same anatomic segment
- When separated, careful planning tailored to the individual patient critical
- Managed properly, sCRC should have no additive impact on survival

"The people in cancer clinics all over the world need people who believe in miracles.

I am not a dreamer, and I am not saying that this will initiate any kind of definitive answer or cure to cancer.

But I believe in miracles.

I have to."

Terry Fox, October 1979

ST. PAUL'S HOSPITAL
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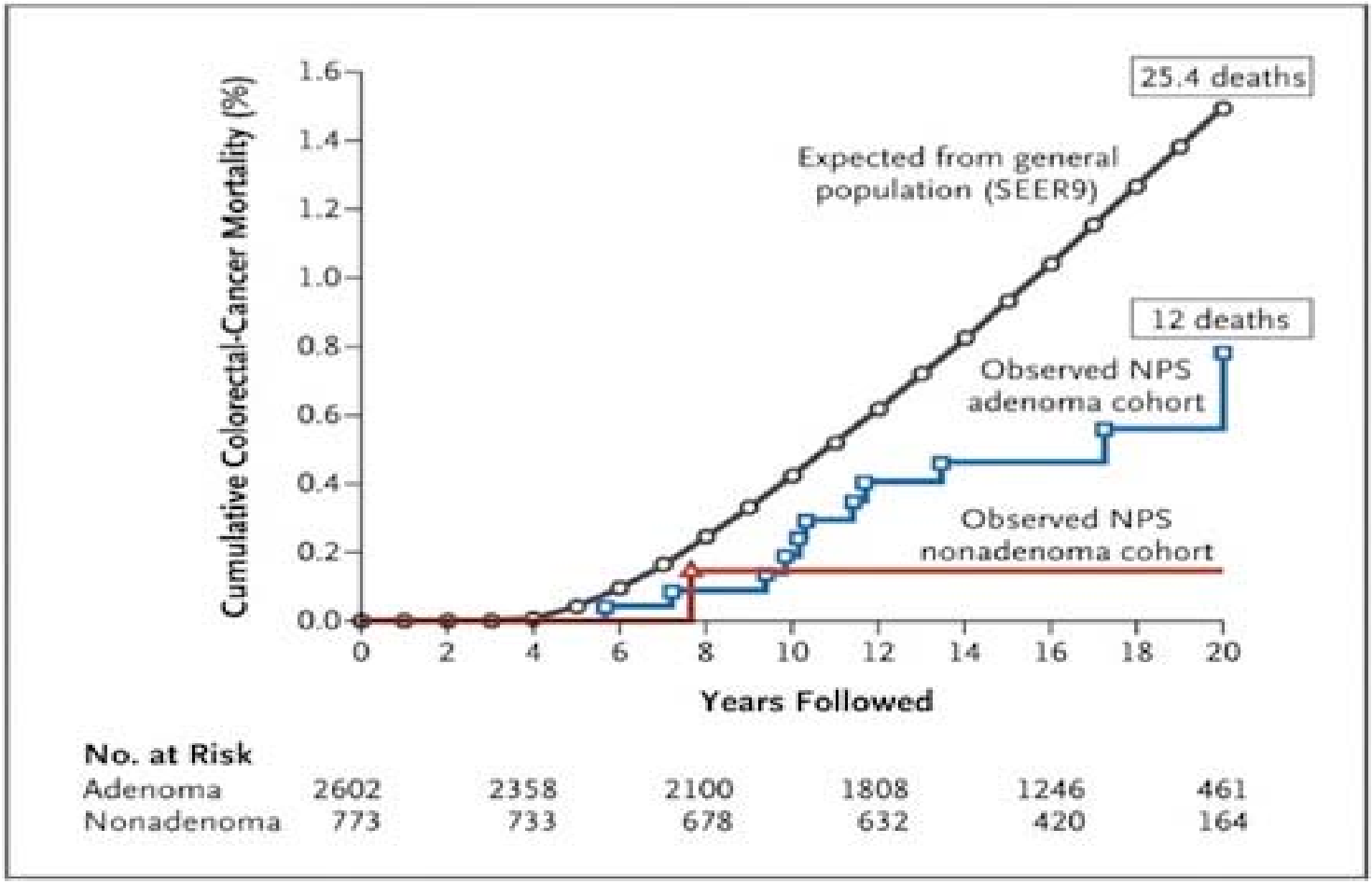
Christy Clark @christyclarkbc · 13h
Celebrating **#TerryFox** & our cultural ties to China at the **Hong Kong Terry Fox** run. **#BCTM2015**

9 15

Meaghan Higginson @meg_higginson · 7h
Completed the 10k International **Terry Fox** Run today **#hongkong**

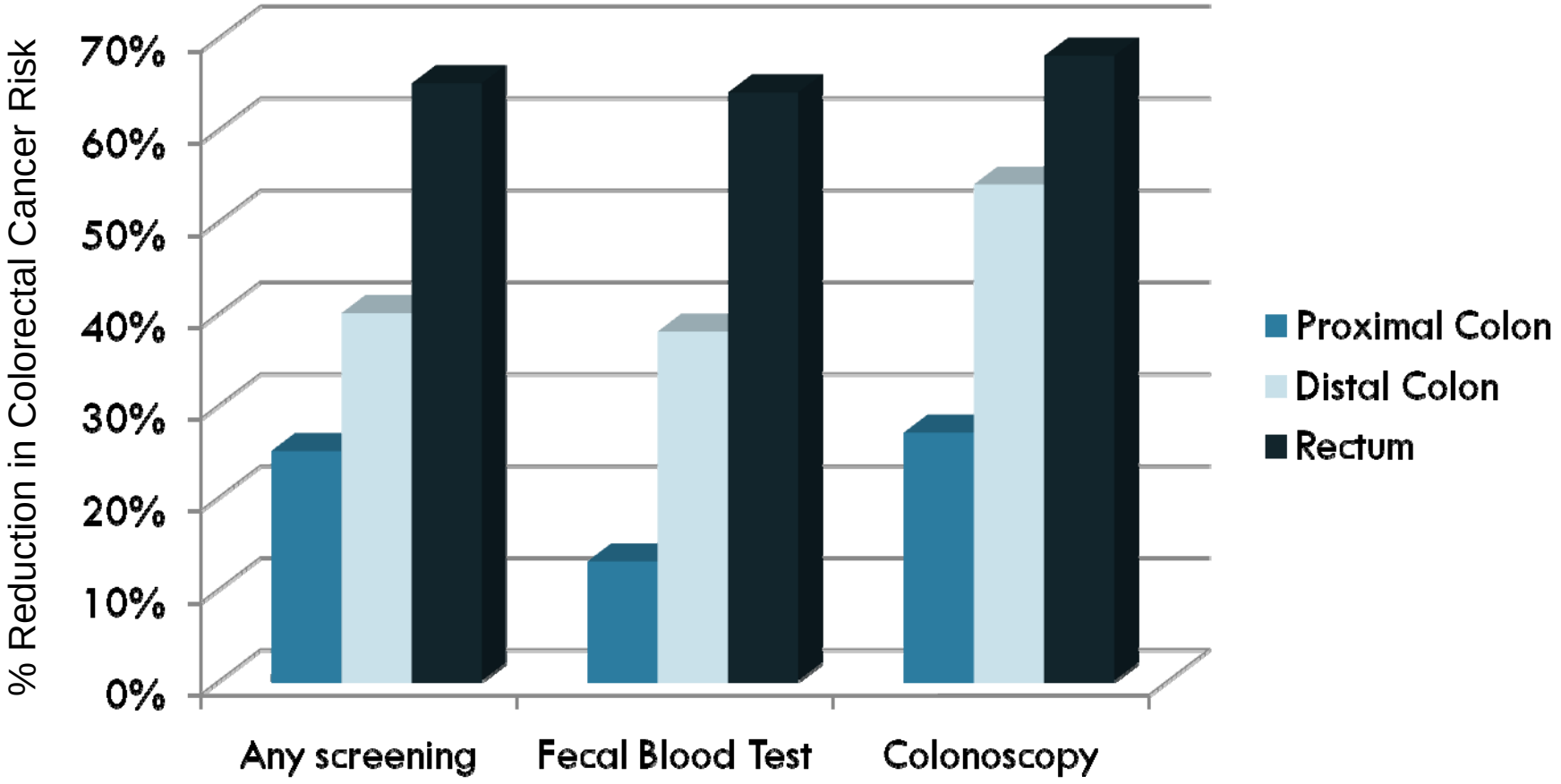
> **TerryFoxFoundation** @TerryFoxCanada
> Some 1,200 participants are expected to run, jog or walk in Hong Kong's 3rd Annual Terry Fox Run for cancer... fb.me/5bKTrYiOa

National Polyp Study



Zauer, NEJM, 2012

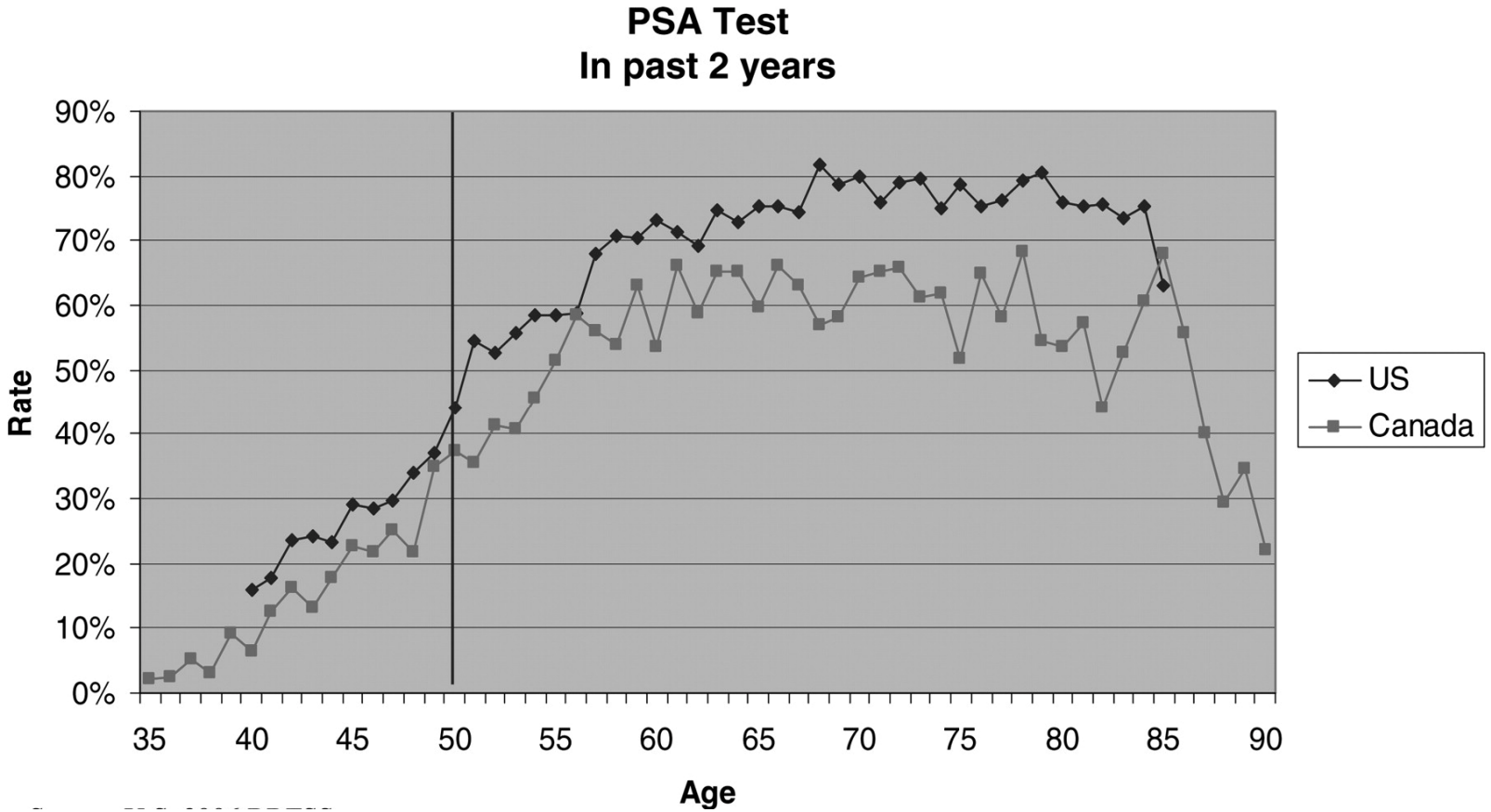
Importance of Colon Screening



Steffen, Med Journal Aust, 2014

Is it just delinquent men?

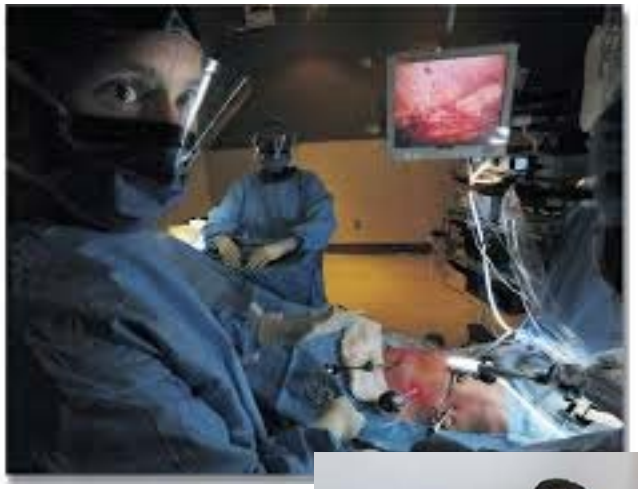
Prostate Screening

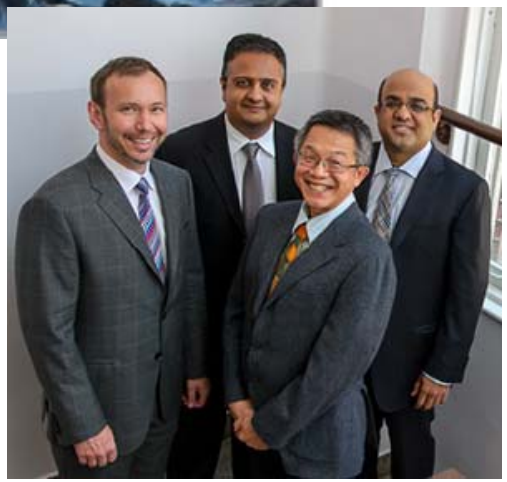


Kadiyala, Int J Qual Health Care, 2011

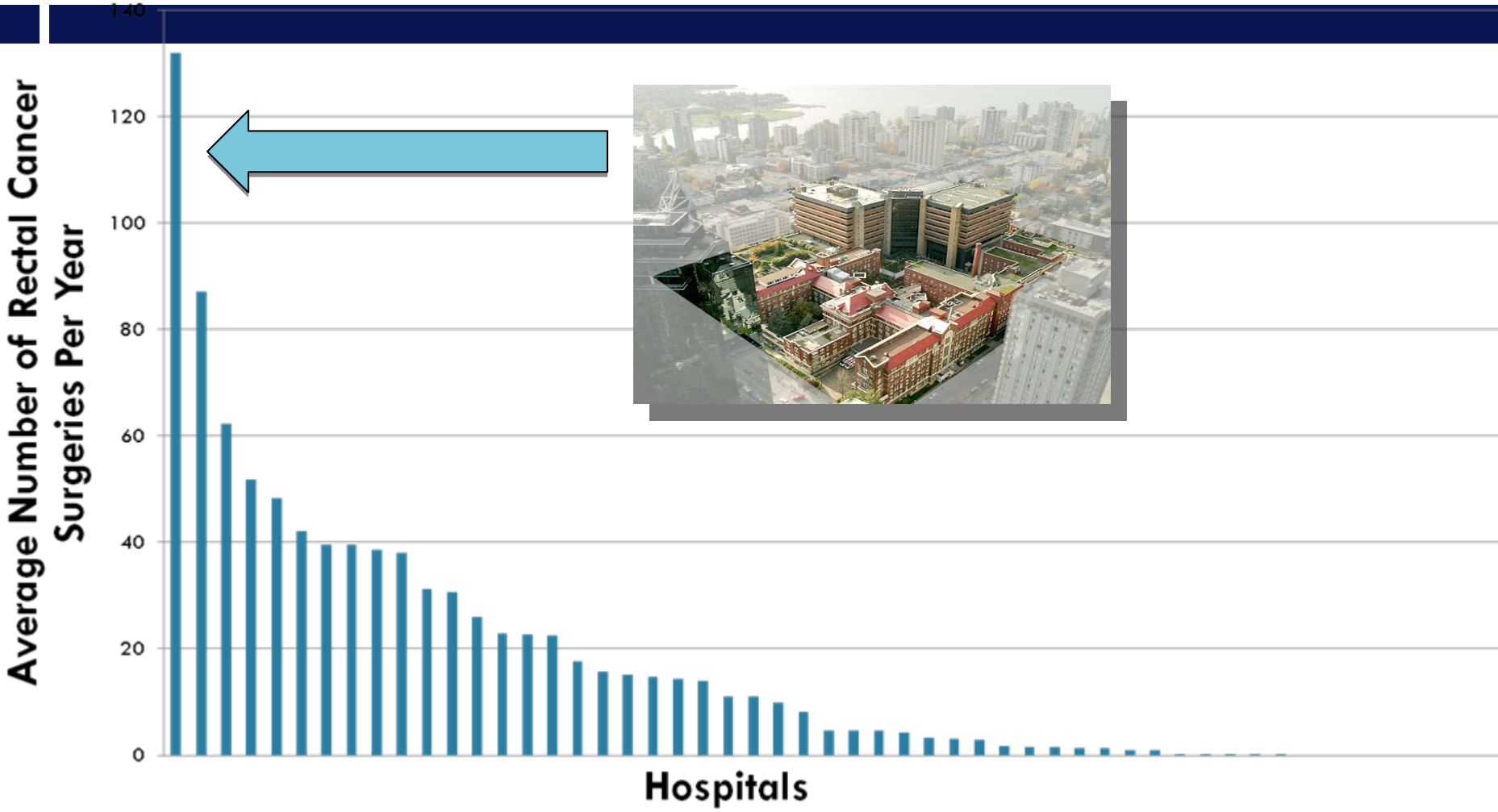
SPH CRC Surgical Oncology

- Provincial referral centre
- Highest volume CR cancer centre in BC
- Comprehensive care
  - Colonoscopy screening
  - Minimally Invasive Surgery
  - Cancer follow up

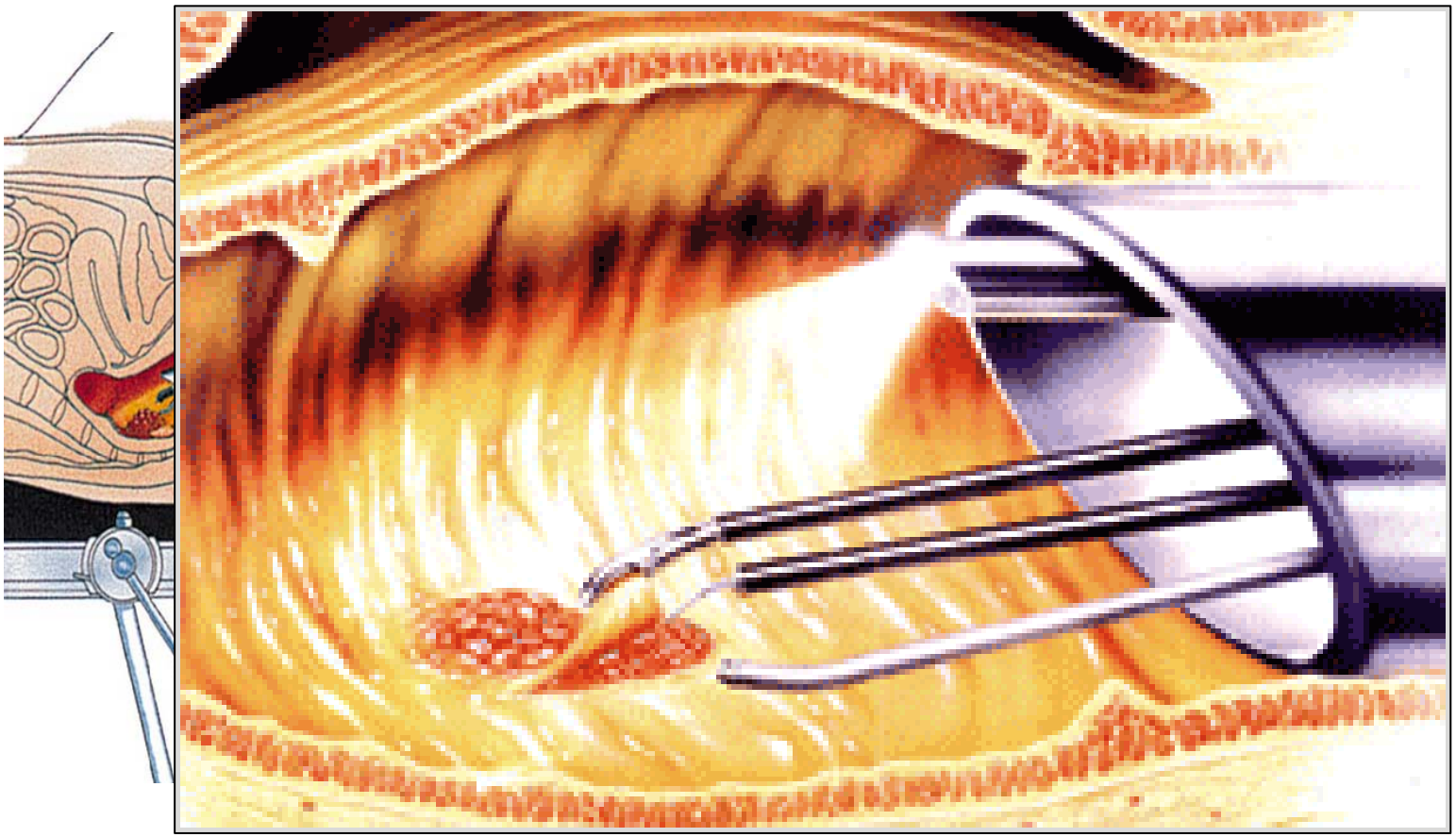




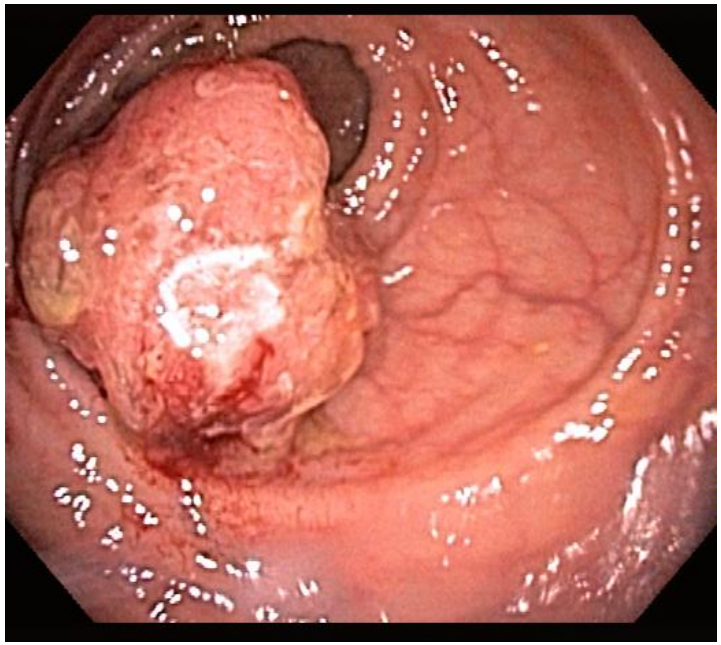
Rectal Cancer Surgery - BC



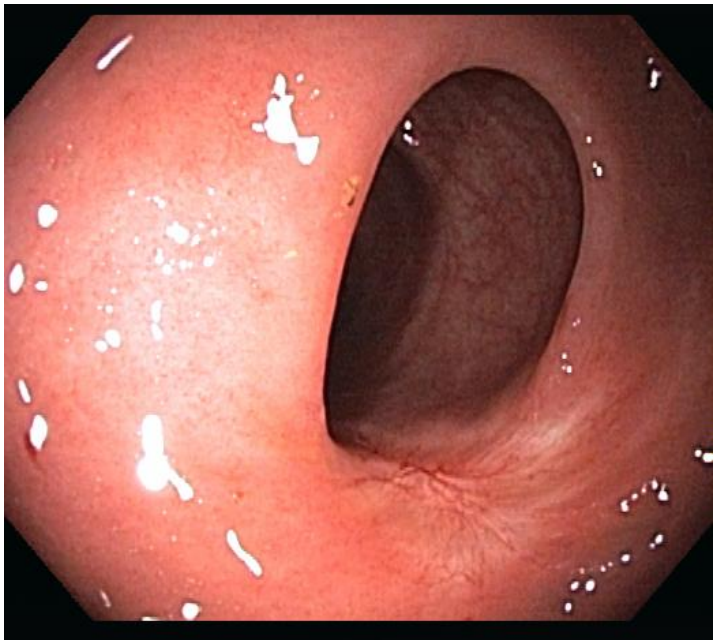
Transanal Endoscopic Microsurgery



TEM – Endoscopic Follow Up



Preop Image



1 Year Later

Colorectal Cancer - Treatment