



the Needleholder

Quarterly Newsletter

January - March 2010

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Head of Surgery
Helen Joseph Hospital

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Letter from the Chairman

Dr Martin Brand
Senior Surgical Registrar
WITS

Welcome to the first edition of *The Needle Holder*, official e-Dispatch of SASSiT.

Thank you for becoming a member of what in truth is your own Society. Without you we cannot be successful, and grow in the future. Hopefully, with all the benefits that are available to you, will encourage you to spread the word about us, and so help us gain more members.

Our first social evening is in February, and seminar morning in March where the topic will be colorectal cancer. Visit the website for the exact dates and venues, and come take part.

Enjoy the 'Best of 2009',

Martin Brand



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A biographical guide to the Surgical Tray

Dr Sarah Asbury
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1. Gillies' toothed tissue forceps

Gillies' toothed tissue forceps are named after Sir Harold Delf Gillies (1880-1960), the New Zealand born founder of modern Plastic Surgery. After training at Cambridge and St Bartholomew's in London, Gillies was posted to the ravaged fields of Flanders during the First World War where he encountered the shrapnel injuries and burnt faces of the men in the trenches. There was no capability to treat these wounds, and soldiers were left disfigured, often returning to battle even before fully healed. In France Gillies assisted Valadier, a dentist who was experimenting with bone and

tissue grafts to reconstruct jaw wounds, and Morestin, a reconstructive surgeon who was using flaps to fill defects. From these tutors and every available text, he developed his techniques.

When he returned to England he persuaded the army to found a Plastic Surgical unit, first in Aldershot, then in Sidcup, and sent luggage labels with the hospital's address to the front line where they were pinned to the disfigured. During the battle of the Somme, over 10 days 2000 men turned up with his labels attached, to be treated by this new unit.

Apart from his huge efforts to reconstruct ruined faces, and his toothed forceps, a further contribution to surgery was the 'Waltzing Pedicled Flap', an ingenious reconstructive method in the days before antibiotics, when anaesthesia was no more than ether-soaked gauze clamped over the nose. If no skin for reconstruction was available on the thorax, a tubed pedicle was raised on the abdomen or leg and the free end attached to the forearm, linking the two. Some time later, when the blood supply was assured, the distal end was cut and the flap rotated up to the shoulder or face, linking the arm to it. In a few weeks, when the new blood supply was intact, the flap was further rotated to its final position. In this way, flaps could be moved around the body with secure blood supply and with minimal danger of infection or failure.



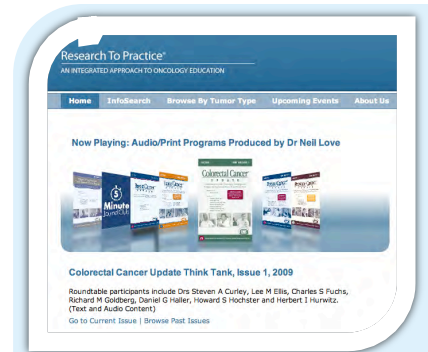
After the war, Gillies became the first specialist Plastic Surgeon in Britain, consulting in public and private practice throughout the UK. He pioneered gender-reassignment surgery, both female to male (using a tubed pedicle) and male to female. He introduced his distant cousin Archibald McIndoe to the art of reconstructive surgery, a man who would go on to change the lives of burned and disfigured airmen in the Second World War (and giving his name to next instrument in our major set).

Gillies was knighted in 1930 and died in 1960. Allegedly, there remains to his memory the Gillies Club, with membership open to all those careful and elegant Plastic Surgeons able to harvest a 10cm x 10cm split skin graft using only a 21 blade.

References:

Matthews DN Gillies: mastermind of modern plastic surgery Br J Plast Surg. 1979 Jan;32(1):68-77.

Martin NA. Sir Alfred Keogh and Sir Harold Gillies: their contribution to reconstructive surgery. J R Army Med Corps. 2006 Sep;152(3):136-8.



Website Review

<http://www.researchtopractice.com>

This is a fantastic site requiring registration (free of charge) that is an Aladdin's cave of evidence based surgery.

It provides oncological education through audio and print components with links to relevant websites.

Management principles are taught through case studies that are presented by world leaders in that specific field, who then discuss important issues and controversies.

Colorectal, HPB, breast, thyroid and many more tumours are included in this website. Visit it, register, and learn.

This esoteric piece was written by Professor GJ Oettle, colorectal guru, head of surgery at Helen Joseph Hospital. Sadly, for many registrars, he has just retired from his post to embark upon the adventure of his retirement. Thank you Prof, it was a pleasure to meander up colon's aided by an Olympus and an accompaniment of 'nose up' 'nose down' left, 'right', and frequently 'clean your lens'.

Surgery before anaesthesia and antiseptics was so grim and lethal a discipline that we hardly feature in the standard literary texts. To get some idea of this, try the advice of John Woodall (Surgeon-General to the East India Company and author of the 1617 treatise, *The Surgions Mate*) to surgeons considering an amputation, to understand a little of what it meant to practice a profession with a 90% perioperative mortality:

Amputation or Dismembering is the most lamentable part of chirurgery, it were therefore the honour of a Surgeon neuer to vfe dismembering at all if it were possible for him to heale all hee vndertooke; but necessitie hath no law: the Patient will declare in his naturall desire to liue, the comfort that hee hath by it. Since therefore it is of necessary vfe, let the discreet Surgeon be euer prepared for it, and to that end let the... law be always in readinesse... If you be constrained to vfe your Saw, let first your Patient be well informed of the eminent danger of death by the vfe thereof; proscribe him no certainty of life, and let the worke be done with his owne free will, and request; and not otherwise. Let him prepare his soule as a ready sacrifice to the Lord by earnest

prayers... and forget thou not also thy dutie in that kinde, to craue mercie and help from the Almighty, and that heartily.

What follows are a few passages, some recent, some older and more peripheral, that have illuminated my practice. To start on a flippant note, *The Acute Abdomen in Rhyme* is a mine of valuable quotations and aphorisms for undergraduate lectures. The doggerel is so dreadful that the author (Sir Zachary Cope) was too embarrassed to publish it under his own name, and hid behind the pseudonym "Zeta"! My copy cost all of R2 - a reject from the Wits Medical School Library a few years ago. Here is a characteristic extract:

Acute abdominal disease
Is sometimes diagnosed with ease
But oft the best attempts will meet
With sad and sorrowful defeat;
So let me give you good advice,
Examine once, examine twice,
Examine from the head to toes
Before you dare to diagnose.

MORE HARM IS DONE BECAUSE YOU
DO NOT LOOK

Continued...

Upcoming Events SASSIT 2010

SASSIT

February:
Night out with SASSIT, check the website for your centre's date

Saturday 6 March:
Colorectal cancer seminar morning

Weekend 8-9 May:
Pre- intermediate and final FCS exam refresher courses

OTHER

8 Feb:	Paediatric Surgery for the General Surgeon, Red Cross, Cape Town
16-18 March:	Surgery College written exams
10-12 May:	Surgery College oral exams (Bloemfontein)
23-26 May:	WITS Biennial Surgery Congress

ATLS, BSS, DSTC and others as per website
Get more information from our website: www.sassit.co.za



THAN FROM NOT KNOWING WHAT IS IN THE BOOK.

Pretty close to doggerel as well is the biologist JBS Haldane's poem on rectal cancer and colostomies, written shortly before he died of the disease; he said "The major functions of my rhyme were to induce cancer patients to be operated on early and to be cheerful about it."

CANCER'S A FUNNY THING

I wish I had the voice of Homer
To sing of rectal carcinoma,
Which kills a lot more chaps, in fact,
Than were bumped off when Troy was sacked.

I noticed I was passing blood
(Only a few drops, not a flood)
So pausing on my homeward way
From Tallahassee to Bombay
I asked a doctor, now my friend,
To peer into my hinder end,
To prove or to disprove the rumour
That I had a malignant tumour.
They pumped in BaSO₄
Till I could really stand no more,
And, when sufficient had been pressed in,
They photographed my large intestine.
In order to decide the issue
They next scraped out some bits of tissue.
(Before they did so, some good pal
Had knocked me out with pentothal,
Whose action is extremely quick,
And does not leave me feeling sick.)
The microscope returned the answer
That I had certainly got cancer.
So I was wheeled to the theatre
Where holes were made to make me better.
One set is in my perineum
Where I can feel but can't yet see 'em.
Another made me like a kipper
Or female prey of Jack the Ripper.
Through this incision, I don't doubt,
The neoplasm was taken out,
Along with colon, and lymph nodes
Where cancer cells might find abodes.
A third much smaller hole is meant
To function as a ventral vent:
So now I am like two-faced Janus
The only god who sees his anus.
I'll swear, without the risk of perjury,
It was a snappy bit of surgery.
My rectum is a serious loss to me,
But I've a neat colostomy,
And hope as soon as I am able,
To make it keep a fixed timetable.

So do not wait for aches and pains
To have a surgeon mend your drains;
If he says 'cancer' you're a dunce
Unless you have it cut out at once,
For if you wait it's sure to swell,
And may have progeny as well.
My final word before I'm done,
Is 'Cancer can be rather fun
Provided one confronts the tumour
With a sufficient sense of humour'.

"The major functions of my rhyme were to induce cancer patients to be operated on early and to be cheerful about it."

-JBS Haldane

I know that cancer often kills,
But so do cars and sleeping pills;
And it can hurt until one sweats,
So can bad teeth and unpaid debts.
A spot of laughter, I am sure,
Often accelerates one's cure;
So let us patients do our bit
To help the surgeons make us fit.

For those of you for whom no literary essay is complete without some reference to the Bard, *All's Well that Ends Well* - an otherwise singularly uninspiring pot-boiler - is full of the most scatological references and double entendres imaginable. These generally refer to the king's fistula (healed by the heroine of the piece, Helena). They are too numerous to cite, but the play repays careful study, if only for professional reasons. (Look out for words like 'end', 'bottom', 'cheek', 'fine' or 'finish', as well as the straightforward 'fistula'.)

Gerard Manley Hopkins cared for a dying blacksmith, Felix Randal, and recounted his experiences as he 'lost his patient' - phrases that will resonate with every surgeon. The sonnet closes with what must be one of the greatest tercets in all English, with its harsh Anglo-Saxon alliteration, words crashing and clashing like his hammer on the anvil:

Felix Randal the farrier, O is he dead then? my
duty all ended,
Who have watched his mould of man, big-boned
and hardy-handsome
Pining, pining, till time when reason rambled in it
and some
Fatal four disorders, fleshed there, all contended?

Sickness broke him. Impatient, he cursed at first,
but mended
Being anointed and all; though a heavenlier heart
began some

Continued...

Months earlier, since I had our sweet reprieve and ransom
Tendered to him. Ah well, God rest him all road ever he offended!

This seeing the sick endears them to us, us too it endears.
My tongue had taught thee comfort, touch had quenched thy tears,
Thy tears that touched my heart, child, Felix, poor Felix Randal;

How far from then forethought of, all thy more boisterous years,
When thou at the random grim forge, powerful amidst peers,
Didst fettle for the great grey drayhorse his bright and battering sandal!

Hopkins recorded his own anguish in the "Terrible Poems"; a modern Job, he exposed the dislocation of great suffering, as the victim searches in the darkness for an explanation, a question our patients often ask us in their confusion:

But ah, but O thou terrible, why wouldst thou rude on me
Thy wring-world right foot rock?

All surgeons will be familiar with that sense of falling, of clutching at straws as a situation or patient spirals out of our control. The early 20th century German poet Rilke has a response of such austere purity that I have not dared translate it. I remember chanting it antiphonally with a wise mentor in an autumnal forest in Switzerland as the beech leaves fluttered around us:

Die Blätter fallen, fallen wie von weit,
als welkten in den Himmeln ferne Gärten;
sie fallen mit verneinender Gebärde.

Und in den Nächten fällt die schwere Erde
aus allen Sternen in die Einsamkeit.

Wir alle fallen. Diese Hand da fällt.
Und sieh dir andre an: es ist in allen.

Und doch ist Einer, welcher dieses Fallen
Unendlich sanft in seinen Händen hält.

As far as we know, Dante Alighieri never practised medicine. However, in order to take office in the Florentine republic, it was necessary to be a member of one of the great city guilds. To this end he entered the *medici* (doctors) as well as the *speziali* (apothecaries and booksellers). Sadly (from a surgeon's point of view) there are not many directly surgical references in the *Commedia*; the clearest is perhaps an oblique passage in the *Paradiso* (IX:55-57):

It would certainly have to be an over-sized bucket
That could hold all that Ferrarese blood,
And it would tire anyone who had to weigh it ounce by ounce.

This refers to blood letting (the exclusive province of the *chirurgo* - the artisan who *worked with his hands*; physicians were far too exalted ever to *work*, or actually *touch* the patient), when the volume of blood let was carefully measured.

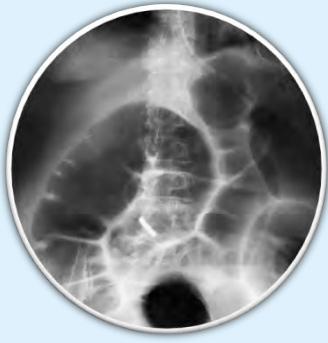
Even the large bowel features in the *Commedia* (Inf, XXVIII:22-27); but proctologists will all grieve that its sole description are the unfortunate words "*il tristo sacco*":

No barrel burst apart with scattered planks
Gaped wider than the soul I saw split down
From where his chin was down to where he farts
To leave his guts hung out and that sad bag
That turns whatever's swallowed into shit

Gia veggia, per mezzul perdere o lulla,
com' io vidi un, cosi non si pertugia,
rotto dal mento infin dove si trulla.
Tra le gambe pendevan le minugia ;
la corata pareva e 'l tristo sacco

Continued...

'All surgeons will be familiar with that sense of falling, of clutching at straws as a situation or patient spirals out of our control.'



Syndromes

Ogilvie's Syndrome

Synonym for pseudo-obstruction of the large bowel. In 1948 Sir Heneage Ogilvie described two patients in whom he was convinced there was a distal colonic tumour causing their bowel obstruction, and despite normal barium enemas he proceeded to laparotomy where he could find no mechanical cause of the colonic distension. He did find tumours at the diaphragm crura involving the sympathetic chain, and postulated that sympathetic denervation was the cause of the apparent obstruction. Nowadays we use the terms primary pseudo-obstruction, encompassing a genetic abnormality that is often familial, and secondary pseudo-obstruction that is far more common and has an identifiable cause. It may be induced by medications, especially opioids, infection, retroperitoneal haematomas, electrolyte imbalances, diabetes ect. Water soluble contrast enema is diagnostic, and management tends to be conservative, eliminating the cause of the ileus.

A review of the subject by De Giorgio R, Knowles CH. Acute colonic pseudo-obstruction. Br J Surg. 2009 Mar;96(3):229-39

che merda fa di quel che si trangugia.

In Canto XXVI of the *Inferno*, Dante continues where Homer finishes: Odysseus, having returned to Ithaca, is unable to settle down, and leaves on further explorations. As he and his crew are about to sail through the pillars of Hercules into the unknown Atlantic, he encourages them with a great speech, concluding with lines that could stand as a watchword for all who engage in the search for truth, and particularly in the clinical sciences:

My friends and I had both grown old and slow
When finally we reached that narrow strait
Where Hercules had set his marking posts
To warn men not to stray beyond their bounds.
Upon the right we'd passed beyond Seville
And Ceuta lay behind us on the left.
"Brothers," I said, "who've reached the west, and braved
a hundred thousand dangers on the way,
don't let that last and momentary watch
remaining to our senses be denied
the experience that lies beyond the sun,
the world that is devoid of human kind...

*Considerate la vostra semenza,
fatti non foste a viver come bruti
ma per seguir virtute e conoscenza*

...Remind yourselves of your high ancestry,
You were not born to live a brutish life
But for the quest of knowledge and the good [virtue, excellence].

I finish with five lines from TS Eliot's *East Coker*, typically layered with echoes, resonances and cross-references within and outside the poem, that encapsulate our participation in our patients' suffering as well as the heart of our calling, the sharing in the restoration of all things.

The wounded surgeon plies the steel
That questions the distempered part;
Beneath the bleeding hands we feel
The sharp compassion of the healer's art
Resolving the enigma of the fever chart.

These articles were selected by Dr Dean Lutrin, a surgical GIT fellow from WITS who recently passed his fellowship exam. They are a pot pourri of upper and lower GIT papers. The original articles are available in our website's library.

1: *Klarenbeek BR. Laparoscopic sigmoid resection for diverticulitis decreases major morbidity rates: a randomized control trial: short-term results of the Sigma Trial. Ann Surg Jan 2009.*

First randomized controlled trial that compares laparoscopic sigmoid resection (LSR) to open sigmoid resection (OSR) for symptomatic diverticulitis of the sigmoid colon.

RESULT: There were fewer major complications in LSR group (leak, abscess, bleeding, relook, PE, MI), with a 19.2% conversion rate.

2: *Etzioni DA. Diverticulitis in the United States: 1998-2005: changing patterns of disease and treatment. Ann Surg Feb 2009.*

Consensus regarding the treatment of diverticulitis has evolved, with increasing use of primary anastomosis for acute diverticulitis, and nonoperative treatment of recurrent mild/moderate diverticulitis. They analyzed whether these changes were reflected in patterns of practice in the USA

RESULT: Multivariate analysis found no evidence that primary anastomosis was being used more commonly. They also discovered that more surgery was being done, and postulated that this was a result of the availability of laparoscopy.

3: *Yeung SE. Colorectal surgery patients prefer simple solid foods to clear fluids as the first postoperative meal. Dis Colon Rectum. Sep 2009.*

Randomized controlled trials have established that there is no benefit in withholding oral food and fluids from postoperative colorectal surgery patients. The aim of their survey was to determine food preferences for the first postoperative meal and to compare these with a traditional clear-fluid diet.

RESULT: Postoperative colorectal surgery patients prefer to receive simple solid foods rather than a clear-fluid diet as their first postoperative meal.

4: *Dematteo RP. Adjuvant imatinib mesylate after resection of localised, primary gastrointestinal stromal tumour: a randomised, double-blind, placebo-controlled trial. Lancet Mar 2009.*

Their postulate was that adjuvant imatinib would improve recurrence-free survival compared with placebo after resection of localised, primary GIST. Eligible patients had complete gross resection of their primary GIST (> 3 cm in size and KIT positive) and were randomized into imatinib or placebo groups thereafter.

RESULT: Adjuvant imatinib therapy is safe and seems to improve recurrence-free survival compared with placebo after the resection of primary GIST.

5: *Sebag-Montefiore D. Preoperative radiotherapy versus selective postoperative chemoradiotherapy in patients with rectal cancer: a multicentre, randomised trial. Lancet Mar 2009.*

Preoperative or postoperative radiotherapy reduces the risk of local recurrence in patients with operable rectal cancer. This study compared short-course preoperative radiotherapy versus initial surgery with selective postoperative chemoradiotherapy.

RESULT: their findings provide convincing and consistent evidence that in patients with operable rectal cancer, short-course preoperative radiotherapy is an effective treatment to reduce local recurrence.

6: Tan WS. Meta-analysis of defunctioning stomas in low anterior resection for rectal cancer. BJS May 2009.

Defunctioning stomas are frequently created to minimize the impact of any subsequent anastomotic leak following low rectal anastomosis. Their review evaluates the need for routine stoma formation.

RESULT: A defunctioning stoma decreases clinical anastomotic leak rate and reoperation rate. It is recommended after low anterior resection for rectal cancer.

7: Dai YY. Treatment of oesophageal anastomotic leaks by temporary stenting with self-expanding plastic stents. Aug BJS 2009.

The aim of this study was to assess temporary self-expanding plastic stents in the treatment of postoperative esophageal leaks.

RESULT: In combination with effective drainage, self-expanding plastic stents are an option for the treatment of esophageal anastomotic leaks, and may reduce leak-related morbidity and mortality.

8: Shaheen NJ. Radiofrequency ablation in Barrett's esophagus with dysplasia. NEJM May 2009.

They assessed whether endoscopic radiofrequency ablation could eradicate dysplastic Barrett's esophagus and decrease the rate of neoplastic progression.

RESULT: in patients with dysplastic Barrett's esophagus, radiofrequency ablation was associated with a high rate of complete eradication of both dysplasia and intestinal metaplasia and a reduced risk of disease progression.

9: Poultides GA. Outcome of primary tumor in patients with synchronous stage IV colorectal cancer receiving combination chemotherapy without surgery as initial treatment. J Clin Oncol. Jul 2009.

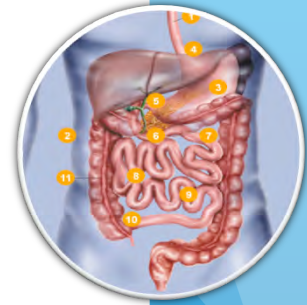
The purpose of this study was to describe the frequency of interventions necessary to palliate the asymptomatic primary tumor in patients who present with synchronous, stage IV colorectal cancer and who receive up-front modern combination chemotherapy without prophylactic surgery.

RESULT: The results support the use of chemotherapy, without routine prophylactic resection, as the appropriate standard practice for patients with neither obstructed nor hemorrhaging primary colorectal tumors in the setting of metastatic disease.

10: Rojanasakul A. LIFT procedure: a simplified technique for fistula-in-ano. Tech Coloproctol. Sep 2009.

They describe a modified approach through the intersphincteric plane for the treatment of fistula-in-ano, known as LIFT (ligation of inter sphincteric fistula tract) procedure.

Essential steps of the procedure include incision at the intersphincteric groove, identification of the intersphincteric tract, ligation of intersphincteric tract close to the internal opening and removal of intersphincteric tract, scraping out all granulation tissue in the rest of the fistulous tract, and suturing of the defect at the external sphincter muscle.



This article is adapted from the original review done by Dr Douglas Stuppert presented at Surgical Controversies - University of Pretoria. Douglas has become one of South Africa's premier authorities on colonic stenting and has been an integral part of the Colo-rectal unit at Grootte Schuur Hospital. Sadly, he is leaving our institution and will be sorely missed as a teacher, mentor and friend to students, registrars and colleagues at the university of Cape Town.

Despite advances in surgery and peri-operative care, colonic obstruction continues to be a potentially lethal condition, with mortality rates for emergency surgery of up to 22% reported [Lo 1999]. Unrelieved colonic obstruction leads to predictable consequences. Fluid and electrolytes accumulate within the bowel, which may cause intravascular depletion and shock. Further distension with increasing intraluminal pressure may ultimately lead to ischaemia and even perforation. Once perforation occurs, the reported mortality rates worsen considerably. The immediate priorities in the treatment of colonic obstruction are, therefore, fluid resuscitation and relieving the obstruction. Removing the obstructing lesion and possibly later restoring intestinal continuity (if a stoma was fashioned) are obviously important, but do not need to be done with any urgency. This discussion will focus on the management of obstructing colon cancers, which are the commonest cause of large bowel obstruction, but the above treatment priorities apply regardless of the underlying pathology.

There is general agreement that the standard

treatment for obstructing lesions of the right colon is resection with primary anastomosis. This is usually safe and technically straightforward, and will not be considered further. There is ongoing controversy regarding the optimal strategy in the treatment of left sided malignant colonic obstruction, and unfortunately little evidence from randomized trials to support any approach. Until recently, the only options available were surgical, with three groups of operations described: single stage; two stage; and three stage procedures.[Deans et al 1994]

Staged procedures

Up until the 1970's, three stage procedures were considered the only safe operative strategy in left sided colon obstruction. At the first operation, a defunctioning loop colostomy is fashioned proximal to the obstructing tumour, which is left in situ. Some time later, once the patient's general condition has been optimised, and the bowel prepared, a second operation is performed at which the tumour is resected, and a primary anastomosis performed. The loop stoma is left in place to protect the anastomosis. Finally the

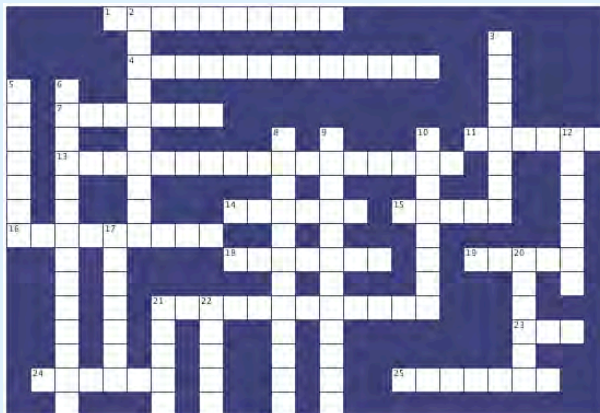
The GUT TWISTER Sassit's 1st Crossword Competition

Across

1. Colloquial term for Pseudomyxoma Peritonei
4. Imaging the small bowel mucosa
7. An explosive way to treat a fissure
11. John Wayne killed them critical care uses them to score
13. A lifetime of unhappiness if injured
14. Gynae's favourite to injure
15. Gives a new meaning to minimally invasive
16. Duodenal exclusion bariatric surgery improves _____ control
18. Sodium Hypochlorite kills her and her daughters
19. Coffee, smoking and h. pylori
21. It loves the terminal ileum of immunocompromised patients
23. The common wart, Anal squamous ca and Cervical Ca
24. Epigastric pain after an ETOH binge: blood test
25. or

Down

2. He is the best teacher
3. Pancreaticoduodenotomy
5. Haemorrhoids and Oesophageal Varices
6. Obscure lower git bleeding
8. Difficult to diagnose in the teen female
9. High fibre diet protects against _____
10. Surgical treatment option for rectal prolapse



12. It makes its own alkali micro-environment
17. Presentation of a right sided colonic carcinoma
20. A common disease amongst the Ashkenazi
21. The most left and anterior of all liver segments
22. It causes expressionless faces but also can be useful for fissure treatment

Prizes

Win your own copy of 'Mastery of Surgery'

Email your answers to theneedleholder@gmail.com by the 15 March 2010.

Judges decision final, Winner announced in the next issue.

stoma is closed. The advantage of this approach is that the first procedure is technically simple, quick and can be performed on an unstable patient (even under local anaesthetic if necessary).

In the two stage procedure, the tumour is resected at the first operation, the proximal colon brought out as a stoma, and the rectal stump oversewn (Hartmann's procedure). The stoma can be closed at a later date. One randomized trial of 121 patients [Kronberg 1995] compared three stage with two stage surgery. No differences in mortality or morbidity were detected between the two groups. Both strategies share the same problem that all patients require a stoma, and many patients (up to 40% in some series) will never have their stoma closed.

One stage procedures

In the one stage operations, the tumour is resected and a primary anastomosis performed at the first operation. The potential advantages of this approach are that the patient is spared a stoma, and only undergoes one operation. Concerns remain, however, regarding the safety of performing an anastomosis on obstructed bowel.

There have been no randomized trials comparing one stage procedures with staged operations. The best evidence available is a systematic review of the 15 published non- randomized trials on this subject. Overall these studies favoured the one stage approach. [Breitenstein et al 2007] This conclusion should be interpreted with caution, however, as 46 one would expect that the patients selected for one stage surgery may have been less ill, and the surgeons performing these procedures likely to be more experienced. There are two commonly employed operative strategies for one stage procedures: either segmental resection the colon followed by on- table lavage and colo- colic anastomosis; or else a subtotal colectomy and ileorectal or ileosigmoid anastomosis is performed.

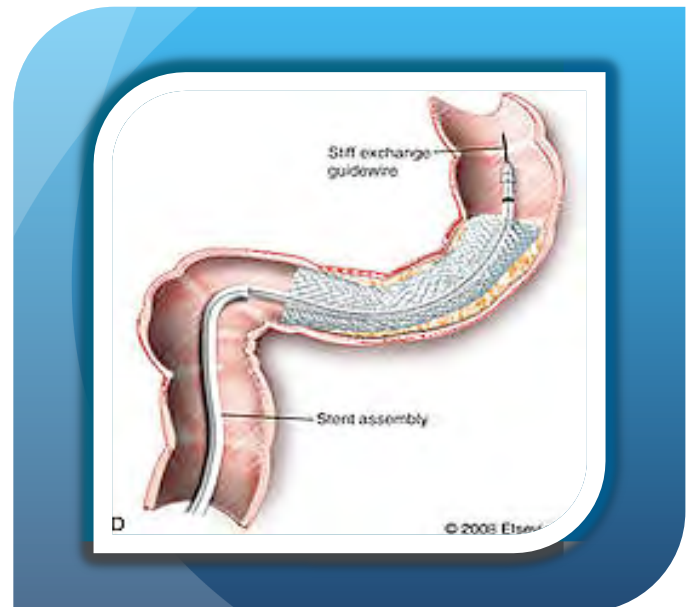
One randomised trial has compared these two approaches [SCOTIA study group 1995] and found them to be equivalently safe, but long- term bowel function was worse in the subtotal colectomy group. More recently, the necessity of on- table lavage has been questioned, and the one randomized trial to address this question found simple decompression to be as safe as lavage of the bowel [Lim et al 2005].

Colonic stenting

It is apparent that all the above operative approaches have major problems. It may be difficult to choose between the simpler staged operations that leave the patient with a stoma and single stage procedures that are technically demanding even to experienced colorectal surgeons and are physiologically demanding for patients who may be unstable. The recent advance of colonic stenting offers a means of achieving decompression of the bowel endoscopically without performing surgery. It is performed for two purposes- as a palliative procedure or as a 'bridge to surgery'.

Palliative stenting

About 25% of patients with obstructing colonic malignancies have incurable metastatic disease at the time of presentation. [Tekkis et al 2004] It is in this setting that the minimally invasive approach of colonic stenting would appear to have the most obvious benefit. Colonic resections in the presence of metastases carry a formidable mortality even in the elective setting (a large prospective study by the Association of Coloproctology of Great Britain and Ireland [Tekkis et al 2003] reported a 12% 30- day mortality after resection of Duke's D colorectal cancers overall).



Stenting allows palliation of the symptoms of obstruction while sparing the patient any surgery and avoiding a stoma. Two large systematic reviews colonic stenting have been published [Khot et al 2002, Sebastian et al 2004], the larger of which included 54 studies with 1198 patients.

The majority of patients in these series had stents placed for palliation rather than as a 'bridge to surgery. Overall, clinical success rates for colonic stenting are around 90%, with a low mortality rate (0.6%). The major complication that can occur is perforation, which occurs in 3-4% of patients. Other problems that may develop in the long term are stent migration (12%), re- obstruction (7%) and rarely tenesmus and anal pain. Two randomized trials have been performed comparing stenting to surgery. Both studies [Fiori et al 2004, Xinopoulos et al 2004] compared stenting with defunctioning colostomy in patients with non- resectable, obstructed left sided colonic malignancies. There were no differences in mortality or morbidity (although it must be stated that these studies were probably underpowered to detect such differences) but the stented patients benefited by shorter hospital stay and by avoiding a stoma. Xinopoulos et al also found stenting to be more cost- effective than surgery. Similarly, non- randomized comparative studies of palliative stenting vs. surgery [Carne et al 2004, Law et al 2003, Ptok et al 2006, Faragher et al 2008] have found stenting to carry a lower complication rates and shorter hospital stay than surgery, without any reduction in long- term survival. The majority of patients who undergo palliative stenting will die of metastatic disease before re- obstruction occurs, so stenting is a durable form of palliation, and most patients can avoid surgery and a stoma completely. If reobstruction due to tumour ingrowth or stent migration occur, the obstruction can usually be relieved with a second stent [Khot et al 2002, Faragher et al 2007]. 47

'Bridge to surgery'

Patients with curable malignant obstruction may also benefit from colonic stenting. The intention is to decompress the bowel as an emergency in order to allow the patient to be optimized, and to have an elective resection at a later date. This operation is performed on undilated bowel, allowing much easier surgery and hopefully reducing the likelihood of needing a stoma. There are no randomized trials addressing



this issue. Breitenstein et al [2007] summarized the results of the three non- randomized series comparing primary surgery with stenting as a bridge to surgery. Stents were placed successfully in 90% of cases, and the stented patients had lower mortality and morbidity rates and were more likely to have a primary anastomosis rather than a stoma. A large multicentre randomized trial is currently underway comparing primary surgery to emergency stenting and later surgery. Anecdotally, it seems clear that the surgery is technically much easier when performed after stenting and decompression than in the emergency setting.

Conclusion

Although data from randomized trials are lacking, the available evidence supports stenting as the primary treatment for left sided malignant colonic obstruction. Stenting has been found to be safe and successful the great majority of cases. In addition, it is cost- effective, and provides durable palliation in patients with incurable disease. In the 'bridge to surgery' group it allows technically easier surgery while reducing the need for stomas. It is my opinion that the debates around whether to perform staged or single stage surgery in these patients are now redundant, as the great majority can be operated on electively after endoscopic decompression. In our environment, where CT scans are not always available after hours, it is not always known whether patients have metastases at the time of presentation with bowel obstruction. I would argue, however, that this is not important, as the immediate treatment should be stenting and decompression, and one can investigate the patient for metastases later. If they are present, the patient requires no further surgery, and is referred for chemotherapy if indicated. In the absence of metastases, the patient is booked for an elective resection once his condition is optimized (typically after about a week). So the distinction of whether the stent is being placed for palliation or as a 'bridge to surgery' is often made after the procedure has been performed.

There are two clear contra- indications to colonic stenting: firstly if there is any sign of perforation; secondly if the tumour so low that the stent would impinge on the anus (this causes pain, incontinence and severe tenesmus). I

would argue that, in the absence of these contraindications, the best first- line treatment of all left- sided obstructing colorectal malignancies is stenting, and that emergency surgery is only indicated if endoscopic decompression is unavailable or has failed.

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