

G.I. & LAPAROSCOPIC UPDATE

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AN APPROACH TO RECTAL BLEEDING

This symptom necessitates a careful history, abdominal and rectal examination and all patients should undergo, at least, a sigmoidoscopy.

HISTORY

THE PATIENT SHOULD BE QUESTIONED ABOUT THE characteristics of the blood loss. Is it bright or dark red? Is it mixed or separate from the stool? Is there associated mucous? Does the blood drip after defecation?

Altered blood, especially mixed with mucous, suggests a tumour or colitis. Bright red dripping after defecation is consistent with haemorrhoids. Associated tenesmus is a sinister symptom. Acute pain during the passage of the faecal bolus, associated with drops of bright red bleeding, suggests an anal fissure.

EXAMINATION

PALLOR, JAUNDICE AND LOSS OF WEIGHT ARE important points on general examination. Abdominal examination focuses on the liver and a palpable mass most commonly in the right or left iliac fossae. Inspection of the anus is important prior to digitation. The patient must be asked to strain, which will demonstrate rectal prolapse or perineal descent. Surprisingly, many patients with prolapse do not quite realise what is going on until the clinician discusses it with them.

The anus should then be opened to allow inspection of the anterior and posterior aspects to exclude a fissure. Skin tags are noted. Digitation must be done with care to distinguish hard faeces from tumour.

Management of major lower gastrointestinal haemorrhage

- Resuscitation
- History
- Anorectal examination
- Proctosigmoidoscopy
- Colonoscopy (endoscopic treatment)
- Isotope scanning or arteriography (if the bleeding continues)
- Laparotomy; on table colonoscopy
- Resection

Proctoscopy yields very little information except to assess haemorrhoids. Rigid sigmoidoscopy requires practice, but allows diagnosis of proctocolitis, polyps (which are frequently impalpable) or a tumour in the rectosigmoid region.

SPECIAL INVESTIGATIONS

EXCEPT FOR YOUNG PATIENTS WITH A FISSURE OR obvious haemorrhoids, most patients will require either a flexible sigmoidoscopy, colonoscopy or barium enema. The decision to examine the colon endoscopically or radiologically will depend on facilities and both methods have a failure rate and are operator dependant. Primary colonoscopy allows "one stop" biopsy and polyp snaring. Tumours in areas of diverticular disease are

frequently difficult to diagnose on barium enema. In an ideal world, all patients would undergo colonoscopy with visualization of the caecum.

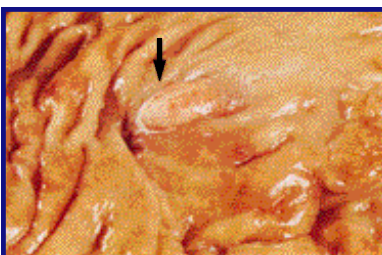
ANGIO-DYPLASIA AND DIVERTICULAR DISEASE

THESE CONDITIONS MAY PRESENT WITH PROFUSE rectal bleeding. Typically, the patient is elderly and passes a large amount of altered blood quite rapidly. However, one must not ignore the possibility of massive fresh rectal bleeding in a shocked patient resulting from a penetrating duodenal ulcer. Rare causes include a Meckel's diverticulum which may contain ectopic gastric mucosa with peptic ulceration, and an aorto-duodenal fistula.

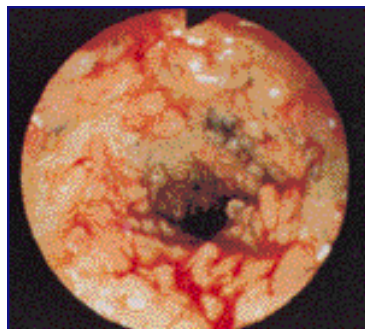
Patients with profuse rectal bleeding require immediate admission, resuscitation and well-timed and carefully chosen investigations.

Take home message:

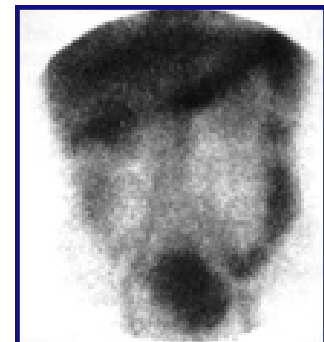
Rectal examination and sigmoidoscopy should always be undertaken in any patient with rectal bleeding, regardless of age.



Caecal diverticulum in a patient with colonic bleeding. Barium has been injected into the blood vessels after resection to show the site of bleeding. It can be seen extravasating from the diverticulum (arrow)



Severe ulcerative colitis.



Isotope labelled red blood cell scan in a patient with caecal angiodysplasia. Showing extravasation into the caecum which has then outlined the colon.

ANAL FISSURE - AVOIDING SURGERY

AN ANAL FISSURE IS AN ULCER WITHIN THE anal canal. An acute fissure is superficial, where a chronic one is characterised by exposure of the underlying white sphincter fibres, and a sentinel skin tag.

SYMPTOMS

The patient complains of bright red drops of blood on the loo paper and extreme pain with the passage of the fecal bolus - "passing razor blades or ground glass".

ETIOLOGY

Etiology is probably a combination of trauma and ischaemia. Patients with fissure often have a hypertonic high pressure internal sphincter.

This has been shown to be associated with impaired oxygen perfusion. There is a clear association between recovery, restoration of perfusion and reduction in pressure.

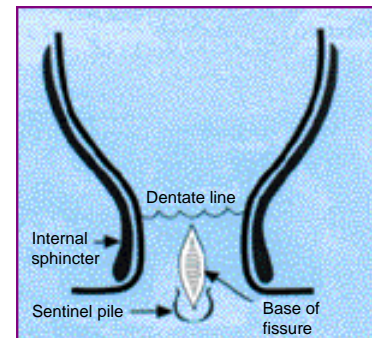
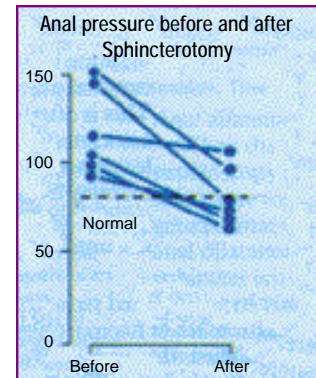
SURGERY

In the past this was invariably a manual dilation of the anus under a general anesthetic. Lord's procedure was subdivided into a 2x2, 3x3, and 4x4, depending on how many fingers of each hand were used to stretch the anus! Whilst this was successful it resulted in significant long term incontinence.

NON-SURGICAL

The current gold standard is the lateral anal sphincterotomy, but this may be associated with incontinence for flatus (10-20%), slight soiling (5-10%) and fecal incontinence (<5%).

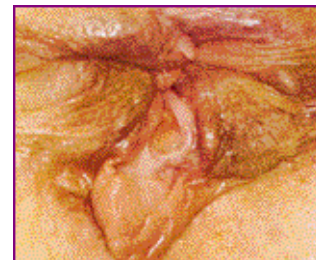
"Pharmacological sphincterotomy" offers an alternative approach. Nitric oxide has recently been identified as the chemical messenger of internal sphincter relaxation. Thus application of nitric oxide donors will induce relaxation. Glycerile trinitrate (GTN) and isosorbide mononitrate (ISMO) have been applied topically to the anal canal with success. A proportion of patients find that their symptoms are improved and their fissures heal, but there is a definite failure rate and recurrence rate. No preparation is available commercially, but using a recipe borrowed from Oxford and Edinburgh, our practice has had encouraging success with this approach. Patient selection is important and with a few exceptions, women should undergo a trial of "pharmacological sphincterotomy" in the first instance. The internal sphincter is shorter and weaker in women, and has frequently been further attenuated by child birth, rendering them particularly susceptible to incontinence.



Take home message

The management of anal fissure has three components :

1. *Stool softeners and improved toileting*
2. *Sphincterotomy (surgical or pharmacological)*
3. *Delayed digital sigmoidoscopic examination is mandatory.*



Chronic fissure and skin tag

POST-INFECTIVE IRRITABLE BOWEL SYNDROME

INFECTIOUS DIARRHOEAL ILLNESSES ARE extremely common and although most viral forms are shortlived, as many as 25% of patients suffer from post-infective bowel dysfunction following bacterial enteritis.

PATHOGENESIS

This includes disturbed colonic flora, persistent low grade inflammation, or increased gut permeability. Alterations in mucosal and muscular innervation may lead to increased visceral hypersensitivity, a consistent feature in IBS.

Bacterial causes include *Campylobacter*, *Salmonella* and *Shigella*, and these account for about 15% of diarrhoeal illness.

SYMPTOMS

In some patients symptoms are prolonged, 25% with ongoing bowel disturbance, six months after initial illness. The main fea-

tures are loose, frequent stools, urgency and bloating, with 10% meeting the strict Rome criteria for IBS. Although men and woman are equally likely to report infection, women are three times as likely to develop persis-



tent bowel dysfunction or IBS. Another important risk factor is the severity of the original illness. Other studies have indicated that psychological features such as anxiety and adverse life events in the preceding six months are also risk factors in developing IBS after gastro-enteritis. Ten to fifteen percent of patients with IBS relate the onset of their

symptoms to an acute dysenteric illness.

MANAGEMENT

This requires exclusion of other intestinal diseases such as malignancy or inflammatory bowel disease. Stool cultures are usually negative but should be checked. Empirical courses of antibiotics are rarely helpful, and management is usually symptomatic, as for patients with IBS.

Take home message:

25% of patients develop IBS symptoms after bacterial enteritis. Campylobacter and Salmonella are common culprits. Symptoms persist beyond 6 months in nearly 1/3 of patients. Stool cultures and anti-biotics rarely help, and management is same as for IBS

GASTRO-OESOPHAGUS REFLUX DISEASE (GORD)

GORD IS ONE OF THE MOST COMMON CHRONIC DISORDERS OF MODERN HUMANS.

Forty five percent of adult Americans develop symptoms, principally heartburn, at least once a month. Ten percent have symptoms daily. Nearly half of the symptomatic subjects develop lesions within the oesophagus that can only be visualized by endoscopy. Most commonly these are erosions which progress in 5-20% to complications including bleeding, stricture and the development of **Barrett's oesophagus**.

CLINICAL FEATURES

Although the most common presentation is heartburn and acid regurgitation, GORD can present in atypical ways, including asthma, laryngitis, chronic cough or atypical non-cardiac chest pain. Intractable nausea is an increasingly recognised atypical presentation.

The role of *Helicobacter pylori* has been extensively investigated, and there is no evidence that H Pylori plays a role in the patho-

genesis of GORD or it's complications. It may paradoxically protect against GORD.

THERAPY

When symptoms are mild or infrequent, lifestyle modification and the occasional use of an antacid will suffice. With increasing severity, a Proton Pump Inhibitor (PPI) should be considered. This is expensive medication, and a pre-treatment endoscopy is advisable to avoid inappropriate prescribing. Barium meal does not reliably demonstrate mucosal ulceration in the distal oesophagus. Side effects and intolerance of PPIs is reported in approximately 10% of patients.

LAPAROSCOPIC ANTI-REFLUX SURGERY

Of all laparoscopic operations this offers the patient the greatest advantages over the equivalent open procedure. The technically difficult open operation (chest or abdomen) has been replaced by one with much lower morbidity, a 1-3 night hospital stay, and far greater patient (and surgeon) acceptability. It should be considered in any patient who

requires regular PPI medication, and age is not a contra-indication.

Dr Baigrie spent a year in Australia studying GORD and anti-reflux surgery. Over 100 operations have been performed in our practice since it was introduced two years ago. Only two operations have required completion open.

All patients are subjected to ongoing clinical follow up and, to date, no patient has required surgical revision. A hundred percent of patients are reflux-free and in those practice who have been followed for more than a year, there is no patient with troublesome dysphagia.

Take home message

*An increasing incidence of GORD.
Significant complications. (Stricture/
Barretts)
Scope before treatment with PPI.
Laparoscopic surgery for PPI dependent patients.*

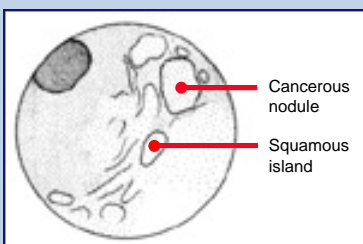
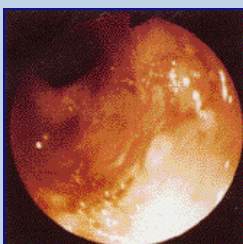
BARRETT'S OESOPHAGUS

This is a pre-malignant condition in which the normal squamous epithelium of the distal oesophagus is replaced by a variable length of intestinal metaplasia. This complication of chronic gastro-oesophageal reflux disease has been reported to occur in at least 10% of patients. The majority of oesophageal adenocarcinomas arise in areas of Barrett's metaplasia. There has been a recent increase in the incidence of adenocarcinoma of the oesophagus and gastric cardia. However, this incidence is not clearly defined.

Previously, definitions of Barrett's oesophagus required a length of 3cm of columnar mucosa. However, dysplasia and cancer have been associated with Short Segment Barrett's Oesophagus (SSBE) - less than 3cm.

The diagnosis and accurate assessment of this condition requires experienced endoscopic examination and biopsy. Long term surveillance is controversial in SSBE, but strongly advised with more extensive disease. When high grade dysplasia is present, consideration should be given to prophylactic oesophagectomy. In these cases, it is not uncommon to find foci of invasive cancer already present.

Malignant change in Barrett's oesophagus



Our team of endoscopy sisters.

(From left) Debbie Jones, Polly Harkness and Sharon Waldeck.



Bob Baigrie assisted by Garron Caine and Sister Sandy Sampson, performing a laparoscopic Nissen Fundoplication.

OPERATIONS that made history

In Vienna, Theodor Billroth was keeping his assistants busy in the laboratories studying the technique of gastric resection in the dog. They were able to demonstrate that gastric juice would not dissolve the scar tissue in the healing anastomosis.



In January 1881 Billroth saw a 43 year old woman, Therese Heller, with a malignant pyloric obstruction. She was bedridden and extremely wasted with a thin rapid pulse, continuous vomiting, and a palpable tumour in the epigastrium. She was able to retain only small amounts of sour milk, and was close to death.

Billroth planned the operation in great detail, washing out the stomach with fourteen litres of lukewarm water and administering pep-tone enemas. On January 29, 1881, the historic operation was performed. It took only a few minutes to expose the mass through the wasted abdominal wall; an unpleasant nodular infiltrating carcinoma of the pylorus. It's size made it difficult to deliver, and care was taken by Billroth to ligate the blood vessels along the stomach. A great anxiety was whether the stump of the stomach would reach the duodenum, but the cut ends could indeed be brought together, with some fifty sutures of silk.

The operation lasted one and a half hours - the whole time passing in complete silence! The following day teaspoons of sour milk were given. There was little pain and by the end of the week the patients condition was excellent. She survived 4 months.



The specimen is on display in the Josephinum Museum in Vienna. The shaft of a feather just passes through the stenosis.

Colorectal liver metastases

HEPATIC METASTASES FROM A COLORECTAL primary are relatively common - but may be the only site of spread.

Thus patients can be screened for liver metastases postoperatively (ultrasound + CEA) which may prove to be resectable. Five year survival for untreated liver mets is rare. After resection it increases to 25%-33%. However only 10% of patients are suitable for liver resection: no residual local disease, liver mets amenable to resection, non-cirrhotic liver, and patient fitness.

"Curative" resection requires at least a 1cm margin of normal parenchyma around the metastasis, which may require removal of half the liver (hemi-hepatectomy). Thus the surgical trauma ranges from little more than that of a cholecystectomy to a 6-hour operation with considerable morbidity. Sophisticated tools such as an Argon Beam Coagulator and intraoperative ultrasound probe (purchase of which is under

consideration at The Kingsbury Hospital) facilitate the speed and accuracy of surgery. Palliative techniques using cryotherapy, sclerosis with alcohol are being actively researched but remain unproven.



CTscan of liver mets.

Take home message:

Screen suitable patients after colorectal resection. If hepatic mets are the only site of spread, consider resection.

"PILES" ARE IMPORTANT!

HAEMORRHOIDS (OR PILES) ORIGINATE FROM anal cushions. Cushions have a rich arterial supply which leads directly into distensible venous spaces. They are normal structures, which have an important role in faecal continence. The rectum acts as a reservoir and might contain Faeces, Fluid or Flatus (The 3 F's). The cushions help seal the upper anal canal thus ensuring "perfect continence".

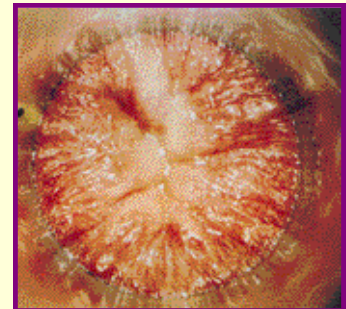
Subconsciously, for example in the car, the upper anal canal will open by slight relaxation of the internal sphincter exposing the lining mucosa. This contains receptors that report back to the brain that there is, for example, only flatus present. Thus the driver of the car might choose to relax the whole sphincter and pass wind! If the receptors report fluid, he/she will voluntarily contract the external sphincter to ensure continence until the next service station.

HOW DO THEY BECOME "PILES?"

Constipation and straining disrupt the supporting framework of the cushions, causing them to become congested, dilated and

displaced. In some patients this is aggravated by a tight internal sphincter, which leads to high intra-anal pressure and congestion of the cushions during a bowel action.

Their management will be described in the next **Update**



The proctoscopic appearance of normal anal cushions.

Take home message:

Anal cushions are important and should be treated with respect, i.e. a soft fibre-rich diet.

Look for us on the web

Caine and Partners now has it's own website at <http://www.surgcare.co.za>

This website is currently under construction but when completed will have all the previous editions of both Vascular Update and G.I. Update as well as lots of useful and interesting information on many aspects of our surgical practice. For any comments on G.I. Update or any other queries e-mail us at surgeons@surgcare.co.za