The Victorian Surgical Consultative Council

April 2014

Dear Colleague,

Welcome to the April VSCC Surgical Bulletin for 2014. An edition is presented twice yearly, now by email in accord with many surgeons’ suggestions, and with the Department of Health’s aims.

You are now welcome to notify clinical events and “near misses” to the VSCC by simple email, with brief summary, cause and a suggestion for prevention. They are received confidentially and with the assurance that such communications are de-identified for our discussion and are protected in legislation. Gynaecological Surgeons now take part too. After a pilot study, VSCC is extending to all organisers of Morbidity and Mortality meetings an offer to receive any educative messages from their audits, for de-identifying and promulgation.

VSCC’s “Intern Manual - Immediate Management of Surgical Emergencies”, 4th Edition, was issued to all new Interns via HEAL (formerly VMPF), to help patient and Intern survival.

Here we offer Clinical Practice Guides recently revised or developed by VSCC from your reports, events and outcome studies, and these also appear on the VSCC website:
- Upper GI bleeding
- Sepsis following colorectal surgery
- Patients who self-discharge or refuse treatment
- Support for surgeons following an adverse event or near-miss
- Gastrostomy tube emergency replacement with balloon tube

Here also is a summary of “Surgical Emergencies and Shared Care”, our successful February seminar presented by VSCC, VASM and VMIA at the Department of Health. The speakers’ varied themes are of particular interest, based on what audit of clinical outcomes can achieve.

Surgical Outcomes Information (SOII) from administrative data is used to study complications following selected procedures in public and private hospitals across the State. A recent 2-year study of carotid endarterectomies showed 99.55% survival, with low rates of haemorrhage (1.23%) and stroke (2.1%). Coding of admission data is a basis for funding rather than measuring clinical outcomes, and we depend on treating clinicians to validate hospitals’ coding. No statistically significant outlying performance was identified among the 29 hospitals involved.

Happily, reduction of incorrect side/site operations appears sustained, following State-wide uptake of Time Out checking. Surgical hospitals have widely adopted the VSCC PostOperative Orders checklist, which should improve completeness of these orders and their accessibility throughout the admission. However, note these ALERTS:
- nasogastric tubes are not being used as they should be in ileus or bowel obstruction,
- aspiration of gastric contents at induction of anaesthetic contributes to bad outcomes, and
- fluency at open operating remains vital in the endosurgical and minimal access era.

Please take a few minutes to remind your team about achieving safe care of surgical patients.

Yours sincerely,

PETER L. FIELD, FRACS
CHAIRMAN,
THE VICTORIAN SURGICAL CONSULTATIVE COUNCIL
INDEX

CLINICAL PRACTICE GUIDES - APRIL 2014

1 Upper GI bleeding .....3
2 Sepsis following colorectal surgery .....5
3 Patients who self-discharge or refuse treatment .....6
4 Support for surgeons following an adverse event or near-miss .....7
5 Gastrostomy Tube Emergency Replacement with balloon tube .....8

VSCC/ VASM/ VMIA SEMINAR - FEBRUARY 2014

6 Surgical Emergencies and Shared Care - Seminar program .....10
7 Surgical Emergencies and Shared Care - summary of Seminar .....11

SURGICAL OUTCOMES STUDY (SOII) – APRIL 2014

8 Carotid Endarterectomy Study – Summary .....16
9 Carotid Endarterectomy – Mortality and Complications .....17

VSCC FORM 1

This is for use when reporting morbidity, a case, event or “near miss” to VSCC .....20
Reports can also be sent as a simple email, for de-identification, and will be acknowledged.
(Note: Deaths are reported directly to VASM, and an electronic Fellows interface is now available)

VSCC CONTACT DETAILS:

VSCC email address: vscc@health.vic.gov.au
VSCC postal address: GPO Box 4923, Melbourne VIC 3001
Telephone: +61 3 9096 2701
Fax: + 61 3 9096 2700
UPPER GI BLEEDING (non variceal) - MANAGEMENT

Bleeding from the upper gastrointestinal tract may be due to ulceration of the stomach, duodenum or oesophageal mucosa. Other causes included tumours of the foregut, varices, AV malformation and Mallory-Weiss Tears. Varices typically present in patients with known liver disease, and are not directly dealt with in this publication.

Patients may present with haematemesis, melaena, or bright PR bleeding. Blood loss leads to a reduced circulating blood volume and haemodynamic instability. Patients presenting with signs of upper GI bleeding need to be treated urgently, firstly receiving resuscitation, and then definitive treatment to stop the bleeding.

Discussion of recent cases and deaths at VSCC revealed concerns about:
1. Inadequate resuscitation
2. Timing of endoscopy – failing to recognise the need for urgent endoscopy
3. Poor recognition of the signs that should initiate surgical intervention
4. Lack of coordination between medical and surgical team members.

Ideally patients will be managed by a dedicated team consisting of emergency staff, gastroenterologists, surgeons and interventional radiology and ICU staff working together to manage patients according to a locally agreed protocol for haematemesis and melaena (H&M). It is possible that not all team members will be involved in a particular patients care, however, ideally all members should be made aware of an admission.

Resuscitation should be commenced by emergency staff. They should initiate the local H&M protocol as soon as possible. An ICU referral may also be appropriate at this time. Monitoring of the haemodynamic status of the patient should continue throughout treatment.

The first investigation normally indicated when a patient presents with signs of upper GI bleeding is an upper GI endoscopy to examine the oesophagus, stomach and duodenum. The endoscopy must be performed urgently if the patient is unstable with a Blatchford Score >41 (appendix 1).

If a site of bleeding is identified, this can usually be managed endoscopically with a combination of coagulative therapies and clipping. Failure to completely control bleeding should initiate an urgent surgical review.

A patient should be considered at high risk of requiring surgery whenever any of the following are present: Transfusion need >5 Units, Forrest I-IIa2, Rockall score >8‡, rebleeding post-endoscopy, posterior duodenal location of the ulcer, significant co-morbid illness or failure to control endoscopically. These patients should be urgently reviewed by the surgical team.

Embolisation may be an appropriate therapy for an upper GI bleed but should only be considered after endoscopy and surgical review.

The use of proton pump inhibitors (PPI) prior to endoscopic intervention has been demonstrated in a Cochrane review (2010) to reduce the number of proportion of patients with stigmata of recent haemorrhage at index endoscopy and reduces the need for endoscopic intervention however it does not change mortality, re-bleeding rates or need for surgical intervention7. Continuous infusion of either PPI or H2RA post procedure significantly improved re-bleed rates (RR 0.4)8. Use of PPI is therefore recommended to commence pre procedure and continue as an infusion following endoscopic therapy, although a recent Cochrane review suggests that no particular regime is better than another9.

Helicobacter is the most common cause for ulcer disease in our community and treatment should be considered once the patient is stabilised.

Continued on page 2.....

VSCC Guidelines / Practice Statements are intended to provide some broad statements of principle to facilitate the improvement and safety of surgical practice. They are not legally binding, nor do they provide a comprehensive analysis of every situation.
References


Appendix 1

**Blatchford Score**

<table>
<thead>
<tr>
<th>Risk marker</th>
<th>Score component value</th>
<th>Risk marker</th>
<th>Score component value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood urea nitrogen mg/dL (mmol/L)</td>
<td></td>
<td>Systolic BP mm/Hg</td>
<td></td>
</tr>
<tr>
<td>≥ 6.5 and &lt; 8</td>
<td>2</td>
<td>100 to 109</td>
<td></td>
</tr>
<tr>
<td>≥ 8 and &lt; 10.0</td>
<td>3</td>
<td>90 to 99</td>
<td></td>
</tr>
<tr>
<td>≥ 10 and &lt; 25</td>
<td>4</td>
<td>&lt; 90</td>
<td></td>
</tr>
<tr>
<td>≥ 25</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haemoglobin in men g/L</td>
<td></td>
<td>Other markers</td>
<td></td>
</tr>
<tr>
<td>≥ 120 and &lt; 130</td>
<td>1</td>
<td>Pulse ≥ 100/min</td>
<td></td>
</tr>
<tr>
<td>≥ 100 and &lt; 120</td>
<td>3</td>
<td>Presentation with melena</td>
<td></td>
</tr>
<tr>
<td>&lt; 100</td>
<td>6</td>
<td>Presentation with syncope</td>
<td></td>
</tr>
<tr>
<td>Haemoglobin in women g/L</td>
<td></td>
<td>Chronic liver disease</td>
<td></td>
</tr>
<tr>
<td>≥ 100 and &lt; 120</td>
<td>1</td>
<td>Cardiac failure</td>
<td></td>
</tr>
<tr>
<td>&lt; 100</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Appendix 2

**Forrest Classification of endoscopic ulcer appearance**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Features</th>
<th>Risk of bleeding recurrence</th>
<th>Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA</td>
<td>Arterial Spurting</td>
<td>95-100%</td>
<td>11%</td>
</tr>
<tr>
<td>IB</td>
<td>Active Oozing</td>
<td>55%</td>
<td></td>
</tr>
<tr>
<td>IIA</td>
<td>Ulcer non-bleeding visible vessel</td>
<td>43%</td>
<td></td>
</tr>
<tr>
<td>IIB</td>
<td>Ulcer adherent clot</td>
<td>22%</td>
<td></td>
</tr>
<tr>
<td>IIC</td>
<td>Ulcer red spot</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>Ulcer clean base</td>
<td>2%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Appendix 3

**Rockall Score**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Score 0</th>
<th>Score 1</th>
<th>Score 2</th>
<th>Score 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>&lt; 60</td>
<td>60-79</td>
<td>&gt; 80</td>
<td></td>
</tr>
<tr>
<td>Shock</td>
<td>No shock</td>
<td>Pulse &gt; 100</td>
<td>Systolic BP &lt; 100</td>
<td>Renal failure, liver failure, metastatic cancer</td>
</tr>
<tr>
<td>Co-morbidity</td>
<td>Nil major</td>
<td>CCF, IHD Major co-morbidity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diagnosis</td>
<td>Mallory-Weiss</td>
<td>All other diagnoses</td>
<td>GI malignancy</td>
<td></td>
</tr>
<tr>
<td>Evidence of bleeding</td>
<td>None</td>
<td>Blood found in upper GIT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*VSCC Guidelines / Practice Statements are intended to provide some broad statements of principle to facilitate the improvement and safety of surgical practice. They are not legally binding, nor do they provide a comprehensive analysis of every situation.*
SEPSIS FOLLOWING COLORECTAL SURGERY

Anastomotic leak is a serious and potentially fatal complication following bowel anastomosis. (The aetiology is usually ischaemia of the bowel margin or technical failure)

Anastomotic leak may present with obvious signs of peritonitis and the need for emergency laparotomy is obvious.

At the other end of the spectrum, a minor anastomotic leak may produce no ill effects and the leak is only detected by radiological studies or by direct digital or endoscopic examination of the low rectal anastomosis. In general, the sub-clinical anastomotic leak requires observation only.

Often in patients with intra-abdominal sepsis, clinical symptoms and signs may be confusing and misleading, particularly in the elderly, the debilitated patient, the patient on steroids and the immunosuppressed patient.

In this less obvious situation, that is in the absence of peritonitis, when anastomotic leak occurs, there may be fever, malaise, paralytic ileus, chest infection and a general failure to thrive. Abdominal symptoms may be minimal, although distension and mild tenderness are common. These signs may be misinterpreted as being due to the effects of ileus rather than anastomosis leak.

Following bowel resection, when a patient is not progressing well, it is mandatory to rule out the diagnosis of intra-abdominal sepsis due to anastomotic leak. Whilst other problems such as chest infection, urinary tract infection and wound infection are common and may appear to be responsible for the clinical deterioration of the patient, it is prudent to investigate simultaneously for intra-abdominal sepsis, as delay in appropriate treatment can have serious and even fatal consequences.

Decisions should not be left to junior staff. The Surgeon who performed the operation, or in the case of an operation undertaken by a Fellow, the Senior Surgeon responsible should be informed early of any deterioration in the patient’s clinical status.

Prompt clinical review followed immediately by appropriate investigations, particularly CT Scan of the abdomen and pelvis with water soluble rectal contrast is required. (Free gas is usually present post initial laparotomy. A negative CT scan does not rule out the possibility of anastomotic leak). General support, intravenous fluids, antibiotics and Intensive Care are often necessary, but they are no substitute for early re-operation.

In the clinical deterioration of any patient following intestinal resection and anastomosis, it is mandatory to rule out anastomotic leak.
PATIENTS WHO SELF DISCHARGE OR REFUSE TREATMENT

The VSCC has cases for review where a patient has refused to remain in hospital for treatment, discharged themselves on their own volition, and subsequently died.

One example, briefly, involves a male, who may have been a narcotic addict, admitted to hospital with a severe infection. After a short time in hospital as an in-patient, he discharged himself. He returned two days later with an overwhelming septicaemia and died.

Cases where patients refuse recommended treatment, or self-discharge, raise both professional and legal issues. Doctors may not force retention of patients in hospital for vital medical treatment, although it may seem, at an altruistic level, a good idea. Forced retention, either physically or pharmacologically, against the wishes of a competent patient, would be unlawful.

What are the doctor’s obligations? What can be done?

A competent patient is entitled to make decisions about their own medical treatment. The threshold for referral for formal psychiatric/ psychological assessment of competence should be very low.

Just as a patient is entitled to be told of the material risks of the treatment proposed, it is important that the doctor convey the material risks of not having the treatment. A patient who refuses recommended treatment, or seeks to discharge themselves from hospital, should be warned and advised of the risks they face in doing so. The patient should sign an appropriate discharge form (Refusal of Treatment Certificate), and detailed notes should be made by the doctor as to the advice provided by the doctor, and the decision made by the patient. The appropriate senior clinician/administrator should be notified of the situation. If the patient refuses to sign the discharge form or if other concerns exist, the detailed notes should be countersigned by the senior clinician/administrator.

Despite the patient insisting on discharging themself, against medical advice, the patient must still be given appropriate medications and instructions, including instructions for return for review.
SUPPORT FOR SURGEONS FOLLOWING AN ADVERSE EVENT OR NEAR MISS

Unfortunately most surgeons during their career experience an adverse event occurring in patients under their care which may also become the subject of complaints or medico legal claims. These events are always a significant source of distress for the surgeon concerned.

Common experiences include guilt, stress, anger and a deep sense of shame. If these effects are not addressed the surgeon’s performance may be adversely affected and can lead to more serious consequences such as substance abuse, physical illness, mental illness, interpersonal conflict at work and abandoning medicine.

Immediate social support is encouraged as a means of coping with the stressful experience. Options available include seeking help from:
- Head of unit,
- Mentor,
- Trusted colleague,
- Australian Medical Association Victoria Peer Support Service,
- Victorian Doctors’ Health Program,
- Royal Australasian College of Surgeons, relevant Specialty Society,
- Medical Indemnity Organisation to which the surgeon belongs, or
- Hospital Chaplain.

Surveys, however, show that willingness to seek support is quite low with barriers including lack of time, uncertainty or difficulty with access, concerns about lack of confidentiality, negative impact on career and stigma.

The most popular, potential source of support which far outnumbers traditional mechanisms such as employee assistance programs is a one-on-one peer support program.

Surgeons are encouraged to plan their approach to dealing with a serious adverse event well in advance and particularly to formulate their support network.

As surgeons we should be mindful of the needs of our peers and in the event of becoming aware of a major adverse event offer advice to our colleagues as soon as possible as to the importance of seeking help and the appropriate mechanisms to achieve advice and support.

iii Yue-Yung Hu, MD, MPH; Megan L. Fix, MD; Nathanael D. Hevelone, MPH; Stuart R. Lipsitz, ScD; Caprice C. Greenberg, MD, MPH; Joel S. Weissman, PhD; Jo Shapiro, MD. Physicians’ Needs in Coping With Emotional Stressors, The Case for Peer Support. March 2012.
GASTROSTOMY TUBE EMERGENCY REPLACEMENT WITH BALLOON TUBE

If an existing Gastrostomy tube has fallen out, or been accidentally pulled out, the stoma will close quickly, often in the space of a few hours. The appropriate clinician should be contacted immediately and they may delegate the reinsertion of the tube. It is important that a tube is reinserted as soon as possible to prevent the stoma closing. If a Gastrostomy tube is not available a urinary catheter can be used.

How long has the Gastrostomy been in situ?
If this is less than 6 weeks a mature track may not have formed and the risks of inadvertently placing the replacement tube in the peritoneal cavity are high. A mature track can take many weeks to form in a malnourished patient. If there is a mature gastrostomy track, reinsertion of a balloon tube can be attempted. If the tract is less than 6 weeks old, consider re-insertion under image control in the Radiology Department.

Assessment of the removed tube and length of the track.
If the removed tube is available:

a. What French gauge is the tube?

b. From the position of the external retaining piece on the tube or the change in texture or colour of an older tube it should be possible to estimate the length of the track.

Tube reinsertion
1. Place the patient supine with the bed tilted head up.
2. Clean the external site with saline.
3. Lubricate the track with local anaesthetic gel.
4. Gently insert the tube through the track (Do not use any force). The track is often not perpendicular to the skin and if the tube will not pass easily into the stomach the direction of the track can be reassessed using a much narrower urinary catheter. Do not force it in. It should go easily into the track for at least 4-5cms or at least the length of the track as assessed on the removed Gastrostomy tube. For example, if the retaining piece on the old tube is at 3cms the new catheter should be easy to insert to about 4 or 5 cms.
5. Once the direction of the track has been identified insert an appropriate size replacement tube using gentle pressure in the direction of the track.
6. If the stoma has started to close you may need to use a narrower tube to keep the stoma patent in the short term.

If the track needs dilatation this should only be done by appropriately trained medical or surgical staff.

Inflation of the tube
Once the tube has been passed into the stomach it should rotate freely. The tube should be advanced at least 2 to 3cms further in than the position of the displaced tube.

1. Inflate balloon with water according to the instructions. Inflation should not cause pain.
2. Gently pull the tube back until there is resistance (when the internal balloon comes up against the stomach wall). The tube should still rotate freely.

3. Secure the tube in this position either with the external retaining piece on a Gastrostomy tube or with tape to the skin if a temporary urinary catheter is used. Externally fixing the tube prevents the internal balloon being pulled into the pylorus or duodenum. If this happens it can result in gastric secretions or feeds being vomited or leaking around the tube and/or gastric outlet obstruction.

4. Record the length of the tube at the skin level (there are markings on the tube). This will help ensure the tube has not migrated.

Check tube position
If there has been any difficulty reinserting the tube, particularly in patients who cannot communicate well, the correct position should be checked with a Gastrografin study or gastroscopy. Water or a test feed should be instilled into the stomach before the patient leaves the hospital.

Because of problems retaining a urinary catheter in the correct position a urinary catheter is not appropriate for long term use as a Gastrostomy tube. If a urinary catheter has been used arrangements should be made for this to be changed to a Gastrostomy tube as soon as possible.
Surgical Emergencies and Shared Care

Wednesday 19th February 2014, 12.30 p.m. to 5.00 p.m.
Free registration, RSVP 31 January 2014

A Seminar presented jointly by
The Victorian Surgical Consultative Council, Victorian Audit of Surgical Mortality, Victorian Managed Insurance Authority and the Victorian Department of Health

The Auditorium, 50 Lonsdale Street, Melbourne

Video-conferencing is available by prior arrangement

12.30 – Registration / Light Lunch

Surgical Emergencies

Chair: Mr Peter Field

1.15 - Introduction - Clinical audit of care and outcomes - The challenges
Mr Peter Field, Chairman, VSCC

1.25 - Laparoscopic Injuries – how can we do better?
Mr Barry Beiles, Clinical Director, VASM

1.40 - Upper GI Bleeding - Prophylaxis and response
A/Prof Wendy Brown, Alfred Health

1.55 - Biliary and pancreatic emergencies
A/Prof Richard Cade, Eastern Health

2.10 - Streamlining emergency care: Consultant-led
Prof Rodney Judson, Director of Trauma, Melbourne Health

2.25 - Questions and panel discussion

3.00 – Refreshment

Shared Care

Chair: Mr Barry Beiles

3.25 - Counts and Drains - ins and outs - Shared responsibility
Prof Ian McInnes, Peninsula Health

3.40 - Patient Treatment Co-ordination
Ms Nola Poulter, Emergency Department Care Coordinator, Ballarat Health

3.55 – Multidisciplinary care of surgical patients - The POST program
Prof David Story, Chair of Anaesthesia, The University of Melbourne

4.10 - Claims and Challenges in emergency and shared care
Ms Anna MacLeod, Claims Manager, VMIA

4.25 - Questions and panel discussion overall

5.00 – Close

Aim: To increase medical, surgical and nursing staff awareness of (a) current problem areas in the care of surgical emergencies, as revealed in clinical audit, and (b) the risks and challenges posed by shared care, and how surgeons and trainees may improve the safety of patient care in such settings. Presenters will offer case examples, research findings, solutions, and panel discussions and question time.

Registrants: may include interns and HMOs; surgeons rural and urban; nurse managers and educators; anaesthetists, intensive care and emergency staff; administrators; CEOs; quality & safety officers

Register online: http://www.vmia.vic.gov.au

To book video conferencing email VSCC@health.vic.gov.au by 31 January 2014.

VSCC enquiries: 03 9096 2701

CME/CPD approval by Royal Australasian College of Surgeons - one point per hour [maximum 3 points]
February 2014 Seminar: Surgical Emergencies and Shared Care

This is a summary of the Seminar/Webinar held in Melbourne on 19th February, 2014, presented jointly by the Victorian Surgical Consultative Council (VSCC, Victorian Dept. of Health), Victorian Audit of Surgical Mortality (VASM, Royal Australasian College of Surgeons), the Victorian Managed Insurance Authority (VMIA) and the Victorian Department of Health.

The presentations, panel discussion, de-identified case scenarios and question time raised medical, surgical and nursing staff awareness of (a) current problem areas in the care of surgical emergencies, as revealed in clinical audit, and (b) the risks and challenges posed by shared care, and how surgeons and trainees may improve the safety of patient care in such settings. Eight distinguished contributors offered a variety of topics, case examples, research findings, solutions, and took part in panel discussions and question time.

Some 190 registrants attended the Department of Health auditorium, 50 Lonsdale Street, Melbourne, including interns and HMOs; surgeons rural and urban; nurse managers and educators; intensivists; anaesthetists; emergency staff; administrators; health service and hospital CEOs, quality and safety officers. Eight regional centres participated via video- and tele-conferencing: Albury Wodonga Health (Albury), Bairnsdale Regional Health, Ballarat Health Services (Deakin University), Echuca (anaesthetist), Western District Hamilton, SA Audit of Perioperative Mortality (Adelaide), Northeast Health Wangaratta, and Albury Wodonga Health (Wodonga Campus).

The seminar program was approved by the College of Surgeons for 1 CME/CPD point per hour (maximum 3 points). Registant feedback rated 80-90% satisfaction with the program, and numerous suggestions for future seminar topics were received.

PROGRAM SUMMARY

1. Introduction – Clinical audit of care and outcomes - The challenges.

Mr Peter Field, Vascular Surgeon, Royal Melbourne and Epworth Hospitals, and VSCC Chairman, explained how surgeons’ clinical outcomes are audited in Victoria, by their peer surgeons in the same specialty. VASM is the detailed analysis of mortality during surgical and gynaecological care in Victoria’s public and private hospitals, and VSCC looks at morbidity, adverse events during care, and outcomes of specific operations across the State. Most surgical care in Victoria is being provided at a world-high standard. Further improvement in the safety of surgical patients is evident since the introductions of mandatory surgeon participation in audit, the “Time Out” checking procedure against wrong side/site operations, and a Statewide form for clear, accessible post-operative orders.

However, today we are here to learn and improve. Clinical audit and recent case reports show there are opportunities for better care in two major areas that this seminar will embrace. First are patients with surgical emergencies on arrival at the emergency department, or occurring during their hospital stay; and second are those...
patients whose care and responsibility are shared between several teams or specialties. There are other aspects of surgical care we know could be done better, such as recognising deterioration in a patient, achieving timely operations, communicating and handovers, making entries in the hospital record – we will touch on some of these. We will all take home new ideas and practical advice on improving the safety of our patients.

2. Laparoscopic injuries – how can we do better?

Mr Barry Beiles, Clinical Director of VASM, Vascular Surgeon at Western Health, is responsible since 2000 for the highly-regarded Melbourne Vascular Surgical Audit and its successor the bi-national ANZ Vascular Audit. He discussed the high media profile of major vascular and organ injuries at laparoscopy, which relate mainly to the initial establishment of pneumoperitoneum. They continue to bedevil gynaecological procedures, and a typical case was presented. Thin patients are at paradoxical particular risk if the abdominal wall is not elevated before entry, or the proximity of major retroperitoneal vessels is not appreciated. Respected Cochrane and ASERNIP-S reviews show neither entry technique (Veress needle or open cannulation) to be any freer of the complication. It’s not just the instrument that matters, it’s how it’s used.

Modern training of all laparoscopists involves understanding of the several entry techniques. There must also be learnt a rapid and well-rehearsed life-saving response to an exsanguinating injury: immediate long midline incision, initial pressure control of the bleeding, anaesthetist stabilisation of the circulation and transfusion, calling for experienced help if necessary, then aortic clamping to allow arterial suture, and firm venous packing till help arrives. Definitive control of fragile vein injury requires delicate suturing, or packing and closure for 24 hours.

The VSCC Guidelines, RANZCOG/AGES Statement 2012 and National Coronial Inquest data 2000-12 were referenced. An example from the VASM November 2013 Case Note Review Booklet was also recommended for further discussion on risk avoidance and response.


A/Prof Wendy Brown, Director, Monash University Centre for Obesity Research and Education, Upper GI, Bariatric and General Surgeon, Alfred Health, provided perspective on the causes of upper GI bleeding, and risk factors including the stress ulceration seen in up to 15% of ICU patients. Available prophylaxis has evolved from Sucralfate, through H2RA (Zantac) to PPIs (proton pump inhibitors eg Somac), and is now recommended in high-risk patients having major operations or critical care, and to minimise re-bleeds before and after therapeutic endoscopy.

Peptic ulcer disease (PUD) accounts for 28-59% of all episodes of UGI bleeding, with mortality rate of 10%. Hospitals will have protocols for emergency management, to include resuscitation, investigation, PPI before and after intervention, and endoscopic haemostasis is successful in >90% of patients. The gastroscopic appearances were shown, and predictors of re-bleeding (in 10-20%). The fewer surgical interventions now required are later, after more blood loss and in "difficult" ulcers, and surgeons may have less open gastric experience; mortality in these patients is up to 25%. Timing of surgery is critical to outcomes. Angiographic embolisation may be achieved after endoscopy and surgical consultation.

Surgery is thus considered in patients at high risk of re-bleeding – shocked on admission, ulcers >2cms diameter, with co-morbidities, needing >5 units blood transfusion, with repeat, recent or continued re-bleeding. Oversewing or gastric resection are used, not vagotomy and drainage. Helicobacter is the most common cause of ulcer disease and its treatment should be considered once the patient is stabilised. A GE team approach is required, endoscopy should never be overlooked and usually succeeds, otherwise the surgeon should be involved early and urgently.


A/Prof Richard Cade is VSCC Member, General/Upper GI Surgeon at Box Hill and St Vincent’s Hospitals, and Director of HPB/UGI/Bariatric and Thoracic Surgery at Eastern Health where he introduced ERCP in the 1980s. He discussed patients with complicated biliary disorders and pancreatitis especially when associated with uncontrolled sepsis, who are at significant risk of major morbidity if the condition is not recognised, investigated
and treated expeditiously. There have been numerous cases reported to VASM/VSCC where there has been a
delay in diagnosis, resuscitation, transfer or definitive treatment.

Urgent ultrasound (U/S) is important in acute cholecystitis. Percutaneous cholecystostomy is safe and effective in
frail patients. Common bile duct (CBD) stones may be symptomless, or complicated by cholangitis or
pancreatitis; they are detected on U/S, CT scan jaundice permitting, or best by MRCP. The optimum sequencing
of ERCP stone treatment and cholecystectomy was presented. ERCP techniques and stenting were shown.

Acute ascending cholangitis and pancreatitis are severe conditions prone to sepsis and rapid deterioration.
Cholangitis merits resuscitation, triple antibiotic, imaging and often urgent biliary decompression, which may
require transfer to an ERCP facility, or surgical drainage – reference the current VSCC Guidelines and 2013
Study of improved survival with ERCP. The features and management of bile duct leak were presented and its
eyear recognition and surgical response stressed. Severe pancreatitis merits initial fluid resuscitation and
ICU/HDU metabolic monitoring.

5. Streamlining Emergency Care: Consultant Led.

A/Prof Rodney Judson, General Head and Neck Surgeon, is Director of Trauma Service at The Royal
Melbourne Hospital, and a member of VSCC whose Surgical Outcomes Committee he chairs. He is also
Chairman of Victorian State Trauma Registry Outcomes Monitoring, and the Ministerial Trauma Coordination
Group.

He outlined the rationale for establishing a Consultant Led Emergency Service based on the high proportion
(50%) of emergencies in the general/trauma surgical workload, and the known high mortality associated with
emergency general surgical problems. Emergency management issues revealed by VASM data include
inappropriate operation, delayed treatment and preoperative care issues. Consultant-Led surgical services differ
from the traditional management of emergency surgery. The model of care as established at The Royal
Melbourne Hospital in 2011 stresses the importance of continuity and the importance of an accurate up to date
handover tool.

The Emergency General Surgical Service (EGS) has a Consultant rostered in-house 0700-1800 hrs, paid, active
in handovers, ward rounds of existing emergency and trauma patients, assessment of new ones, theatre, and
trauma calls. A Consultant is rostered on night call and backs-up Fellows. Follow-up is by twice-weekly
postoperative outpatient clinic or referral to subspecialty units, and a weekly audit meeting. Rather than a
dedicated emergency theatre, flexibility allows use of fallow theatre time, such that 50% of cases were operated
in-hours.

Effectiveness of the EGS Service was shown in improved <8hrs admission from ED (by 20%), reduced time to
operative intervention, reduced length of stay, and reduced surgical complications. Conditions treated in 2011-
2013 were shown, and despite increased emergency admissions (62%) and operations (41%), overall
complications reduced by 46%, and major complications by 50%.


Prof Ian McInnes, is a VSCC member, General and Thoracic Surgeon, past Senior Surgeon at Alfred Hospital,
and Advisor to Medical Indemnity Protection Society, with longstanding interests in education, patient safety, and
responsibility being shared by all members of the surgical team.

Counts in and out of the operation field follow well-established protocols. The risky situations are well-known:
emergencies, multiple specialties, change of operation; staff change, distraction and fatigue. Nursing protocols
and VSCC guidelines are referenced. “Sentinel Event” reports of retained packs and gauzes in Victorian
hospitals have diminished steadily since 2010.

Drain tubes are now the most frequently reported retained objects following operation. VSCC’s current
recommendations (2013) attempt to prevent these events. Securing all open and closed drain tubes to the skin is
safest. Sutures must not damage or fracture the drain. If a drain is withdrawn in stages (“shortened”) it must be
re-secured to the skin. If suction is disconnected from a closed drain, it drains openly into a bag or dressing, but
must remain secured to the skin. A drain which is modified or pinned may be less safe, and not proof against dislodgement outwards or into the patient.

The drain is inserted by the surgeon, but becomes a responsibility shared by each successive staff member attending the patient, to document the drain’s status, and its eventual total removal. The same applies to extra instruments or equipment introduced into an operation, an airway or an intravascular catheter. Have a clear policy and technique, and do not be distracted from them. Have an environment of communication and shared responsibility.

7. Patient treatment co-ordination and Risk Prediction - the LACE Tool.

Ms Nola Poulter, Emergency Department Care Co-ordinator, Ballarat Health Services, has worked in a variety of healthcare settings in oncology nursing, acute and community care across Victoria. In 2012 she was awarded a Ballarat Health scholarship to North America to study models of care to improve patient discharge from acute inpatient care.

The literature shows re-presentations and readmissions to acute hospital EDs within 30 days of discharge occur in some 3-11% of patients, 90% being unplanned, 80% relating to acute medical complications. The Toronto risk prediction program LACE (Length of stay, Acuity, Co-morbidities, and ED visits in past 6 months) was described. Using the tool, 202 Ballarat patient histories were scored at low risk (<10 points), or high risk of readmission (10-19 points) and thus likely to benefit from “Virtual Ward” (VW). This is a care-planning umbrella that incorporates silos or elements of “in hospital” care and provides them at home to prevent later re-admissions. The VW team comprises 24-hour physician access, home-based pharmacy, nurse practitioner access, allied health & nursing care co-ordinators, patient education & key learner, and patient discharge from VW when stable (4-6 weeks). Such risk prediction tools and VWs aim to help prevent rebound and thus improve health outcome by targeted pre-planning of care. References are provided.

8. Multi-disciplinary Perioperative Care of surgical patients - the POST program.

Prof David Story, Chair of Anaesthesia, University of Melbourne, heads the Anaesthesia, Perioperative & Pain Medicine Unit at Melbourne Medical School. He is part-time transplantation and cardiac anaesthetist at Austin Hospital. His research interests include strategies to reduce complications after surgery and anaesthesia; perioperative acid-base disorders; and the Post-Operative Surveillance Team (POST).

Recent Australian research found that for older surgical patients up to 20% have an important complication and 5% die within 30 days. One problem may be “failure to rescue”, where patients who develop complications and are inadequately managed have greater mortality. The key to rescue is a combination of surveillance and intervention (recognition and response).

This surveillance and intervention requires skills in several areas that no one medical craft group have: 1. Surgical site management; 2. General medicine applied to the postoperative period; 3. Pain Medicine; 4. Resuscitation; and 5. Rehabilitation. To supply all these skill areas requires collaborative work with the related areas of critical-care outreach and co-management.

Austin Health was funded by the Department of Health to test one model of postoperative care of higher risk patients, using a nursing and medical team who were based on the surgical ward. Ten high risk patients per day were reviewed daily, to 5 days post-op. Unrandomised, 194 POST patients were compared with 1185 controls (results referenced). While this service (POST) was very popular there was no demonstrated clear benefit using length of hospital stay as a primary end point. As part of a clinical governance cycle we think POST can be improved with a modified approach: more senior staff and a more formalised relationship with general medicine; and using different metrics including complications. The ward, not the unit, is central. Collaboration, communication and expansion of critical care skills into wards play an important part. With shared responsibility must come shared authority.
9. Surgical Claims and Challenges – Medical Indemnity Program.

Ms Anna MacLeod, Claims Manager, Victorian Managed Insurance Authority, has qualifications in nursing, science and law, with experience in public health sector clinical governance, medico-legal and medical defence roles. Her team processes all the medical indemnity claims for the State public health sector.

Claims recently are fewer, but of increasing complexity, with greater standards of care expected. Surgical adverse incidents occurred predominantly in emergency medicine, obstetrics, general surgery, and orthopaedics; followed by gynaecology. Dominant causes of surgical claims (305 over last 5 years) were post-operative complications, intra-operative complications, diagnosis, consent including failure to warn; followed by procedure failure, delay and post-op infection.

Factors that drive claims costs are: poor documentation/notes, consistent themes in surgery, flawed communication and management of an incident. Few significant claims involve errors of skill or judgment. Increasingly, underlying causes are systemic and multifactorial.

Among the avenues suggested for improved performance were: understanding the causes of litigated claims; team work; co-ordination of patient care; education / orientation / training; documentation; clinical guidelines; transparent reporting and learning culture; early and complete incident reporting; open disclosure; shared lessons from claims experience.

10. Panel discussions.

The two Panels answered questions and discussed some de-identified case scenarios. The full Seminar presentations, by kind permission of their authors, are available on the websites of VMIA, VSCC and VASM. The organisers wish to thank all contributors and participants, and we look forward to presenting another seminar topic to benefit the quality of care and safety of our surgical patients, in 2015.

VSCC February 2014
Carotid Endarterectomy - mortality and complication rate in Victorian Hospitals
1 July 2010 – 30 June 2012

Summary and Highlights

This is a Surgical Outcomes Information Initiative two-year study on behalf of the Victorian Surgical Consultative Council (VSCC), using Department of Health administrative data (VAED). The study identified **1544 patients undergoing carotid endarterectomy** in Victorian public and private hospitals. **The State average survival rate was 99.55%**. From the hospitals’ own discharge coding of diagnoses and procedures, the study included rates of mortality, haemorrhage needing return to theatre, and post-admission stroke. Elective and emergency admissions, symptomatic and asymptomatic lesions, were all included. Procedures on the intracranial circulation and carotid artery stenting were excluded. All hospitals were de-identified during the study.

There were seven post-operative deaths following endarterectomy (State average mortality 0.45%). There was no hospital with statistically significant outlying performance (Table 1 and accompanying plots). Some intracranial arterial procedures carried out by neuro-interventionists using endoluminal clot-retrieval techniques were discovered among the coded operations, and have been excluded.

The rate of haemorrhage requiring re-operation was 1.23%, with no significant difference between the genders of these 19 patients. There was no hospital with statistically significant outlying performance (Table 2 and accompanying plots). Some codings of post-operative haemorrhage proved on case record inspection by clinicians to be wound oozing, not requiring re-operation, and were excluded.

There were 33 cerebrovascular events complicating the 1544 endarterectomies. It was not possible to distinguish between transient, minor and severe strokes. Patients with strokes present on admission were excluded, however those who had strokes developing in hospital during vascular imaging or while awaiting the operation were included. The State average rate was 2.1%, with no significant difference between the genders, and no statistically significant outlying performance among the hospitals (Table 3 and accompanying plots).

There were 29 hospitals doing at least two procedures in this study, all de-identified. VSCC invites apparent outlier hospitals to validate their coding data, to review the patient records involved, and to inform the VSCC confidentially of their findings and any resulting actions. The VSCC may then be able to advise other hospitals and health services of the actions and recommendations obtained, with the aim of improving the already generally high standard of surgical care across Victoria. The study compares favourably with published world results and Vascular Surgery’s own outcomes audit.

Interestingly, in this study, several hospitals initially appeared as statistical outliers, however their surgical and coding staff, as requested, examined the individual case records and ICD codes that had been submitted to the Department of Health. Some patients had other than endarterectomy of the extracranial carotid artery, or had minor bruising or bleeding (not uncommon in this platelet-inhibited population) and not requiring return to theatre. Studies of VAED depend on accurate data input – a responsibility shared by surgeons and coders – and on sufficiently precise ICD codes and interrogation. This study serves as a reminder that many aspects are capable of improvement.

VSCC Approved March 2014
Table 1: Mortality rate of patients who had carotid endarterectomy

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number of deaths</th>
<th>Number of cases</th>
<th>Mortality rate (%)</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>&lt;5</td>
<td>1,056</td>
<td>0.38</td>
<td>0.15 - 0.97</td>
</tr>
<tr>
<td>Female</td>
<td>&lt;5</td>
<td>488</td>
<td>0.61</td>
<td>0.21 - 1.79</td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td>1,544</td>
<td>0.45</td>
<td></td>
</tr>
</tbody>
</table>

Note: There is no significant difference between these two rates ($z = 0.65$, $p = 0.52$).

Figure 1: Caterpillar plot of the mortality rate of patients who had carotid artery surgery

Figure 2: Funnel plot of the mortality rate of patients who had carotid artery surgery
Table 2: Post-procedural haemorrhage needing return to theatre rate of patients who had carotid endarterectomy

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number of post-procedural haemorrhages</th>
<th>Number of cases</th>
<th>Post-procedural haemorrhage rate (%)</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>15</td>
<td>1,056</td>
<td>1.42</td>
<td>0.86 - 2.33</td>
</tr>
<tr>
<td>Female</td>
<td>&lt;5</td>
<td>488</td>
<td>0.82</td>
<td>0.32 - 2.09</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>1,544</td>
<td>1.23</td>
<td></td>
</tr>
</tbody>
</table>

Note: Haemorrhage (T81.0, T82.8) and 3384200 with prefix C

Note: There is no significant difference in these two rates (z = 0.99, p = 0.32).

Figure 3: Caterpillar plot of the post-procedural haemorrhage needing return to theatre rate of patients who had carotid artery surgery

Figure 4: Funnel plot of the post-procedural haemorrhage needing return to theatre rate of patients who had carotid artery surgery
Table 3: Post-admission stroke rate of patients who had carotid endarterectomy

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number of post-admission strokes</th>
<th>Number of cases</th>
<th>Post-admission stroke rate (%)</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>23</td>
<td>1,056</td>
<td>2.18</td>
<td>1.46 - 3.25</td>
</tr>
<tr>
<td>Female</td>
<td>12</td>
<td>488</td>
<td>2.46</td>
<td>1.41 - 4.25</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>1,544</td>
<td>2.27</td>
<td></td>
</tr>
</tbody>
</table>

Note: Stroke (I60.x or I61.x or I62.x or I63.x or I64, with prefix C)

Note: There is no significant difference between these two rates (z = 0.34, p = 0.73).

Figure 5: Caterpillar plot of the post-admission stroke rate of patients who had carotid artery surgery

Figure 6: Funnel plot of the post-admission stroke rate of patients who had carotid artery surgery
INSTRUCTIONS FOR REPORTING OF INCIDENTS OF SURGICAL MORBIDITY

Please complete and return to:
The Chairman
Surgical Consultative Council
GPO Box 4923
Melbourne 3001

Report forms may be accessed by contacting the Consultative Councils Secretariat on 9096 1382 or from the website www.health.vic.gov.au/vscc

Identifying information on this document is confidential to the Chairman of the Consultative Council. This enables the Chairman to contact the reporting clinician should additional information on a reported incident be required, and to provide feedback.

Subsequent review by the full Council is by case number only, as all identifying information is deleted prior to the full Council reviewing an individual case of surgical morbidity.

Surgical morbidity refers to injury in association with or as a result of surgery. The Council encourages reports of any significant morbidity.

PLEASE COMPLETE DETAILS REQUESTED IN THE REPORTING PROFORMA OVERLEAF.
CONFIDENTIAL INITIAL REPORT – FORM ONE

On receipt of this preliminary report a member of the Council may either contact you for further information or send you a more detailed form for completion (Form Two).

Date of Report:…………………… Case No (SCC use only):…………………………

IDENTIFYING INFORMATION IS CONFIDENTIAL TO COUNCIL CHAIRMAN

<table>
<thead>
<tr>
<th>Patient’s Name</th>
<th>Hospital/Health Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital UR No</td>
<td>Name of person reporting</td>
</tr>
</tbody>
</table>
| Contact phone number of person reporting | Qualification of person reporting (please circle one):
  | Consultant Registrar Other |

EVENT SUMMARY

<table>
<thead>
<tr>
<th>Date of Admission</th>
<th>Date of Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Recognition of Morbidity</td>
<td></td>
</tr>
</tbody>
</table>

Type of hospital: (circle appropriate category):
- Major teaching hospital
- Major suburban/regional hospital
- Country hospital
- Private hospital
- Other (please specify)

<table>
<thead>
<tr>
<th>Age of patient</th>
<th>Sex of patient</th>
</tr>
</thead>
</table>

ASA risk classification: (circle appropriate category):
- ASA 1 (A normal healthy patient)
- ASA 2 (A patient with mild systemic disease)
- ASA 3 (A patient with severe systemic disease)
- ASA 4 (A patient with severe systemic disease that is a constant threat to life)
- ASA 5 (A moribund patient who is not expected to survive without the operation)

Type of incident (circle appropriate categories):

<table>
<thead>
<tr>
<th>MORBIDITY</th>
<th>Pre-operative</th>
<th>Operative</th>
<th>Post-operative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature of procedure:</td>
<td>□ Elective □ Emergency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please specify procedure -</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Nature of event (tick appropriate box):
- □ Expected
- □ Unexpected

EVENT DETAILS (please provide a narrative summary of the incident – use back of form if more space is required):

Opinion as to cause of incident:

Recommendation for prevention of similar incident: