Chapter Connection

13th Issue - January 2011

Chapter Board 2010-2011 - Dr I. Swaminathan, A/Prof Cheah Wei Keat, Dr Chia Kok Hoong, Dr Vijayan Appasamy , Dr Chan Hsiang Sui, Prof Pierce Chow, Dr Foo Chek Siang, A/Prof Jimmy So and Dr Tan Kok Yang

Chapter Connection **is a newsletter specially brought to you by the Chapter of General Surgeons under the purview of the College of Surgeons, Singapore. The Board of the Chapter of General Surgeons is well represented with members from different institutions and this would mean that you could find the latest happenings of the general surgery community of these institutions in this newsletter. This newsletter is published quarterly and will be distributed to the Members of the Chapter of General Surgeons. On the goodwill of the Chapter Board, this quarterly newsletter will also be distributed at no cost to the Trainees and Fellows of General Surgery in various public hospitals.**

Message from Chapter Chairman

Dear surgical colleagues,

It gives us great pleasure to roll out the first electronic issue of *Chapter Connection*. Besides being environmentally friendly and help save costs, it also allows for more colourful content and more pages, since cost is not a problem.

As I look back at the January 2010 issue, I cannot help but marvel at how quickly our fortunes have turned around. The year has indeed been a very good year for the economy, with double digit growth. Confidence has picked up, and as expected, many more specialists have left for private practice, effectively reversing the trend of the past year.

Residency training has strated for General Surgery, and many more surgical specialties are expected to follow suit this year. We need to think through policies and ensure that a good foundation is in place for these young surgeons-to-be. We need more teachers and consultants to supervise the residents, since their training is more intensive.

Your Chapter will be heavily involved in academic activities, and we expect to get busier this year. The Surgeons-in-Training Committee will be brought in to help in some of these. Our regular activities, especially the Exit Exam Preparatory Course, will continue with improvements based on your feedback. We will also participate in the Singapore Trauma 2011 conference by sponsoring the best poster and best free paper prizes. Do come forward and give us your suggestions in order to help us serve your needs.

Merry Christmas and Happy New Year!

Warm regards,
Dr Swaminathan I.
Chairman, Chapter of General Surgeons
College of Surgeons, Singapore

Wishing everyone
Happy Holidays on:

1 Jan 2011 (Sat) – New Year's Day
3-4 Feb 2011 (Thu-Fri) – Chinese New Year

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Contribution of any interesting news & articles from Chapter Members are welcome for consideration to publish in *Chapter Connection*.

LATEST NEWS!!

We are pleased to inform the following academic promotions of our members:

Associate Professor Pierce Chow to full Professor with Duke-NUS Graduate Medical School from 1 September 2010.

Clinical Associate Professor Wong Wai Keong to full Clinical Professor with Yong Loo Lin School of Medicine from 14 June 2010.

45th Singapore-Malaysia Congress of Medicine – 21 to 23 July 2011

The Academies of Medicine Singapore and Malaysia are jointly organising the 45th Singapore-Malaysia Congress of Medicine from 21-23 July 2011 at Suntec Singapore. The Singapore-Malaysia Congress of Medicine (SMCM) is a biennial meeting bringing together academicians, specialists and medical professionals from Singapore, Malaysia and around the region, to address important and major healthcare issues and trends, debate on emerging challenges, share clinical experiences, and establish vibrant network for research collaboration in the interest of advancing the art and science of medicine. The theme of the 45th SMCM is Integration, Innovation & Holistic Care. Members are welcome to contact the 45th SMCM 2011 Secretariat at Tel: 65937868 or email: smcm@ams.edu.sg on any of the following:

- Members who are interested to organise any scientific session(s) at the 45th SMCM
- Members who are interested to submit abstracts online. Closing deadline is 30 April 2011
- Members who would like to register for the congress
- Members with any enquiries pertaining to the congress

Please access the congress website at www.smcm-ams.com for more information.

4th Exit Examination Preparatory Course – 28 June to 2 July 2011

With postive feedback received from the Advanced Surgical Trainees (ASTs) who had participated in the past three preparatory courses, the Chapter will continue its effort in organising the 4th preparatory course for the benefit of the ASTs in preparing for their exit examination. The 4th preparatory course will see a more stringent outline of the course structure by streamlining the core modules in line with the expertise at each of the host institution. ASTs can expect more case studies and clinical case discussions that would help to evaluate their level of knowledge and skills and find out deficiency. Course details will be announced once finalised.

Surgeons-In-Training Committee

We are pleased to announce the following members in the Surgeons-In-Training Committee as at 1 January 2011 representing various hospitals:

Dr Claramae Chia (SGH) - Chairperson
Dr Sharon Koh (NUH) - Secretary
Dr Rakesh Bhasin (CGH)
Dr Terence Huey (TTSH)
Dr Desmond Ooi (KTPH)
Dr Vishal Shelat (TTSH)
Dr Tan Wee Boon (NUH)
Dr Veronique Tan (SGH)
Dr Germaine Xu (KTPH)

The Surgeons-In-Training Committee is tasked to contribute in various areas of Chapter activities, and they will be led by Dr Vijayan Appasamy (Advisor) and Dr Ranjiv Sivanandan (co-Advisor).

A Newsletter brought to you by the Chapter of General Surgeons, College of Surgeons, Singapore.

Successful Surgical Treatment of Symptomatic Internal Iliac Artery Aneurysm

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ABSTRACT

Internal iliac artery aneurysms (IIAA) are an uncommon subgroup of aortoiliac aneurysm disease. They tend to present late, and are associated with high mortality if managed conservatively. Open surgery is associated with significant morbidity and mortality, especially when performed for ruptures. We describe the successful treatment of a ruptured internal iliac artery aneurysm.

INTRODUCTION

Isolated internal iliac artery aneurysms (IIAA) are extremely rare. As a result of their depth in the pelvis, presentation is usually delayed – with symptoms from rupture, fistulation, expansion or compression of adjacent structures. With the increasing availability of advanced imaging, more of these cases are being detected incidentally.

There have been no randomised trials relating to management of IIAAs. A variety of techniques have been described, mainly in case reports, including open surgery (exclusion, aneurysmorrhaphy, resection, bypass) and endovascular repair.

CASE REPORT

We present a 55 year old Chinese gentleman who was admitted to the Orthopaedic department complaining of right hip pain of 1 month's duration. This was associated with limited hip extension, numbness and weakness of his right lower limb, and difficulty ambulating. His medical history included hypertension and dyslipidaemia.

Physical examination revealed a positive psoas sign on the right and diminished motor power and sensation of the right lower limb. Peripheral pulses were well felt and equal.

His inflammatory markers were elevated, with leukocytosis of 21.8 x 10^3/uL, ESR 120 and CRP 254.9 mg/L. He also had acute renal impairment, with serum Creatinine 187 µmol/L. Computed Tomography (CT) scan revealed a large 8.5 x 5.9 x 7.8cm focal dilatation arising from the anterolateral wall of the right internal iliac artery with marked wall thickening, suggestive of a mycotic saccular aneurysm. There was compression on the adjacent structures:

- mid right ureter, causing moderate right hydronephrosis and hydroureter proximally, with delayed enhancement and contrast excretion of the right kidney;
- right iliac vessels, with a filling defect in the dilated right external iliac vein, likely representing a thrombus.

Preoperative planning was performed with the involvement of the Urologic and Anaesthetic teams. Patient was hydrated intravenously, blood products were arranged for standby, and intraoperative blood-salvage equipment was planned for.

The patient underwent elective cystoscopy with right DJ stent insertion, followed by open repair of his right internal iliac mycotic aneurysm. A lower midline laparotomy was performed. The right common iliac artery and its branches were dissected and slung. Proximal and distal control of the right internal iliac artery was secured. The origin of the right internal iliac artery was then transected and overrun with Prolene 4/0. This was repeated for the distal end. The aneurysm sac was then entered and back-bleeding was controlled with Prolene 4/0 haemostatic stitches. A Blake drain was inserted to provide drainage of the aneurysm sac and the aorta reperitonealised prior to abdominal closure.

Intraoperative cultures of the aneurysm wall isolated *Staphylococcus aureus*. Blood cultures were negative. Postoperatively, his hip pain resolved and hip extension improved. His neurological deficits also improved. He was kept on long-term intravenous Cloxacillin and subsequently discharged with warfarin for his deep vein thrombosis.

DISCUSSION

Epidemiology

Iliac artery aneurysms co-exist with aortic aneurysms in around 10-20% of cases.[1] However, solitary internal iliac artery aneurysms (IIAA) are extremely rare, with a prevalence of around 0.3-0.4% of all intra-abdominal aneurysms.[2-5] IIAAs occur predominantly in elderly males, with a 6:1 male to female sex ratio and mean age at presentation from 65-70 years.[6-9]

Aetiology

The vast majority of IIAAs are atherosclerotic aneurysms. In a collected series of 82 IIAAs, Brin and Busuttil reported 80% of cases to be degenerative or non-specific in nature.[10] Other causes include infection, trauma and disorders of the arterial wall.

Mycotic aneurysms of the internal iliac artery have been reported and *Staphylococcus aureus*, *Klebsiella spp.*, *Pseudomonas spp.*, *Salmonella spp.*, *Escherichia coli*, *Treponoma pallidum* and *Mycobacterium* have all been implicated as causal pathogens.[11-14]

IIAA pseudoaneurysms secondary to trauma have been described after pelvic fractures and penetrating pelvic injuries.[15] Iatrogenic trauma during childbirth (forcep deliveries, caesarean section)[11, 16-17] and orthopaedic surgeries (lumbar spine surgery, hip replacement surgery, pelvic surgery)[18-19] have also been reported in the literature.

Connective tissue disorders such as Marfan and Ehlers-Danlos syndrome, Kawasaki disease, Takayasu's arteritis, Behcet's disease, cystic medial necrosis and fibromuscular dysplasia have all been reported as rare causes.[19-21]

Presentation

Most IIAA patients are either asymptomatic or present with nonspecific complaints, due to the deep location of IIAAs within the pelvis. The percentage of IIAAs asymptomatic at diagnosis ranges from 9% to 78%.[5-7, 22] A review article by Dix et al listed a myriad of presenting complaints – abdominal pain, urinary symptoms, lumbosacral pain, hip or buttock pain, rectal bleeding or constipation.[22]

Rupture and fistulation

25-40% of IIAA patients present with rupture.[22-23] These are generally contained in the retroperitoneal space, and occur less frequently into the peritoneal cavity. Intraperitoneal rupture can manifest as painful abdominal distension and progress rapidly to haemorrhagic shock and death. IIAAs can also rupture into adjacent pelvic viscera, including the rectum, bladder and common iliac vein.[24-27] There have even been a case report of an IIAA rupture presenting as a rectus sheath haematoma.[28]

Expansion and compression of adjacent structures

IIAAs can expand and compress on adjacent structures including the urogenital system, the lumbosacral nervous system, the obturator nerve, the iliac venous system, and the gastrointestinal tract.

Urological symptoms are common and reported to occur in 54% of cases.[29] Compression of the urinary bladder results in difficulty micturition. Acute urinary retention, microscopic haematuria and pulsatile micturition have been reported as complications of IIAAs.[30] The ureter can be compressed against the pelvic brim or displaced anteriorly by the IIAA, resulting in obstruction. Ureteric colic, hydrouretonephrosis, pyelonephritis and renal failure can occur secondary to ureteric obstruction.[5, 22]

Neurological symptoms result from direct compression of the lumbosacral plexus. Patients may present with neuropathy of the sciatic, femoral or obturator nerves. The L5 and S1 nerve roots are especially prone to compression as they lie directly behind the internal iliac arteries. Neurological symptoms may also be a result of nerve turnk ischaemia resulting from thrombosis of the IIAA. Rectal compression is rare but has been reported as a cause of constipation.[31] Compression of the iliac veins can result in venous stasis and subsequent ilio-femoral thombosis.[32]

Treatment

There has been a trend towards a more aggressive approach to the management of IIAAs. Earlier authors have advocated conservative management for smaller IIAAs, but there has been no data to validate these recommendations. Other studies have also failed to demonstrate a direct correlation between the size of the aneurysm and the risk of rupture. The natural history of these aneurysms is one of continued expansion and eventual rupture. With reported rupture rates of 33% to 38% and a significant mortality rate of 58%, elective intervention is indicated in patients who are fit.[10, 33] This is further reinforced by the operative mortality rates for elective and emergency surgery – the mortality rate of elective cases is 0% in most modern series, whereas it remains significant for those presenting with rupture.

Surgical repair

Open surgery poses a challenge due to the depth of the operative field and the risk of bleeding from the pelvic vasculature. Despite the advances in endovascular therapy, there may still be certain scenarios whereby open surgery remains the preferred mode of intervention – young patients, patients with renal impairment, bilateral involvement.[34]

General principles include preoperative planning and patient optimisation, adequate exposure and illumination for intraoperative visualisation, exclusion of the aneurysm from the circulation, control of collateral bleeding, and the use of blood salvage techniques. Surgical options include proximal ligation, alone or in combination with distal ligation, obliterative endoanneurysmorrhaphy, and graft interposition. Ureteric injury is more prevalent due to the location of these lesions. Elective ureteric stenting prior to repair may improve renal function and aid identification of the ureter at the time of surgery. Occasionally, ureterolysis or ureteric re-implantation into the bladder may be required.[35]

Endovascular repair

Endovascular intervention has grown in popularity since the 1980s. Coil embolisation, endoluminal stenting, and combinations of these techniques have been reported with promising results. Studies have shown superior early results and comparable outcome at mid-term follow-up.[34]

SUMMARY

We describe a case of IIAA presenting as a result of its complications. After preoperative optimisation and planning, open surgery was performed successfully for him with satisfactory perioperative outcome.

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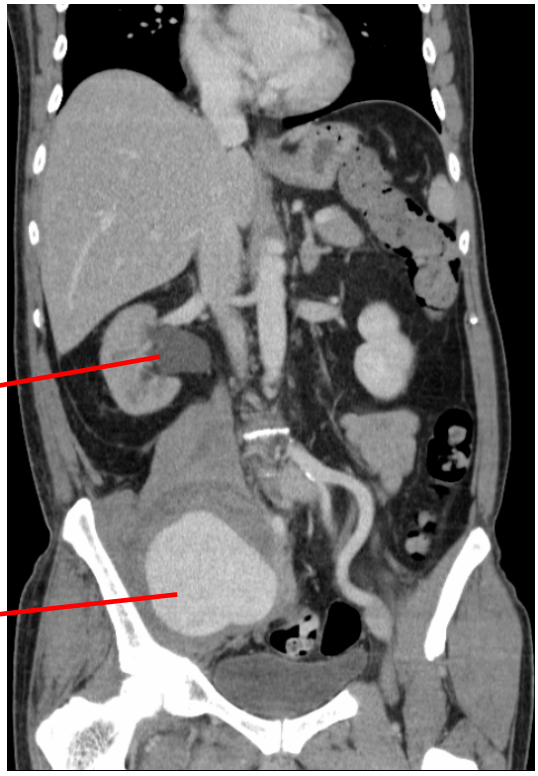
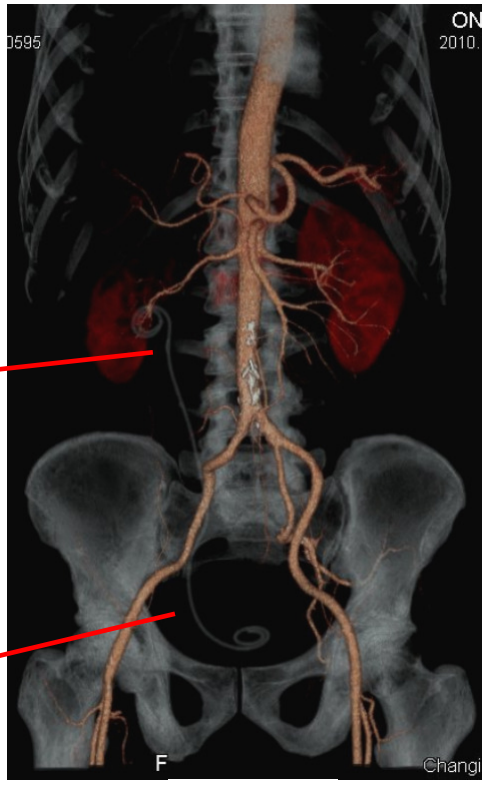


PRE-OP



POST-OP

POST-OP – IMPROVEMENT IN RIGHT-SIDED PSOAS IRRITATION [ABLE TO EXTEND HIP JOINT]

☺ ***A Note of Thanks to Dr Foo Chek Siang and Dr James Ngu for contributing this article.***

Contribution of any interesting news & articles from Chapter Members are welcome for consideration to publish in this quarterly newsletter. Please send it to the College Secretariat at css@ams.edu.sg.

Transverse Colon Volvulus and Associated Chilaiditi's Syndrome Causing Acute Respiratory Distress: Case Report

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ABSTRACT

Chilaiditi described radiographic finding of colonic interposition at hepatodiaphragmatic plane in 1910 [1]. When a patient presents with this anatomic anomaly and has associated gastrointestinal symptoms, the condition is called Chilaiditi's syndrome. All the transverse colon volvulus with chilaiditi's syndrome presented with varying degrees of obstructive symptoms. We report the first case of Chilaiditi syndrome associated with transverse colon volvulus presenting with acute respiratory distress.

INTRODUCTION

Demetrius Chilaiditi depicted three incidental radiological findings of colonic interposition at hepatodiaphragmatic plane and described this as Chilaiditi's sign[1,2]. In 1986, Orangio et al reported the first case of transverse colon volvulus associated with Chilaiditi's syndrome [3]. Subsequently Plorde JJ et al (1996)[4], Kurt Y et al (2004)[5] and Kazuhide Matsushima (2006)[6] reported a case of transverse colon volvullus associated with Chilaiditi's syndrome. However, these patients presented with abdominal pain and distention associated with absolute constipation[7]. We present the first reported case of transverse colon volvulus and Chilaiditi's syndrome associated with acute respiratory distress.

CASE REPORT

A 44-yr-old chinese male was brought to the Accident and Emergency Department with acute respiratory distress. He was an inmate of a mental hospital for chronic schizophrenia. He had a history of sigmoid colon volvulus and had underwent laparoscopic sigmoid colectomy 5 years ago. At the Accident and Emergency Department, he was found to be tachypnoeic with marked reduction of breath sounds at the right hemithorax. His abdomen was found to be markedly distended and tense. Endotracheal intubation and assisted respiratory support was performed.

Abdominal radiographs revealed a distended loop of large bowel located beneath an elevated right hemidiaphragm associated with upward compression of the right lung, There was also caudal displacement of the liver (hepatodiaphragmatic colonic interposition). Chest x-rays revealed that the colon had filled the whole right hemithorax, causing collapse of the right lung. There was also mediastinal displacement to the left with collapse of the left lung. [Fig.1]

The patient was stabilized with positive pressure ventilation. Colonoscopic decompression of transverse colon volvulus was performed but colonic decompression was inadequate. There were also endoscopic features of colonic ischaemia and gangrenous mucosa. Emergency laparotomy was then performed.

At laparotomy, a doubly twisted volvulus of the transverse colon was found. The twisted transverse colon was massively dilated and gangrenous. This dilated colon was interposed between the right hemidiapharagm and the right lobe of the liver. Total colectomy with ileorectal anastomosis was performed. [Fig. 2]

The patient improved rapidly and was discharged on the seventh postoperative day.

DISCUSSION

Chilaiditi's syndrome presents with abdomical symptoms of varying degree associated with hepatodiaphragmatic colonic interposition. According to the one report of 137 patients with colonic volvulus seen at Mayo clinic, the incidence of transverse colon volvulus was approximately 3 percent. Cases of transverse colon volvulus were reported occasionally but it is far less common than that of sigmoid and caecal volvulus. Factors that predispose to volvulus are increased colonic mobility and a site of axial colonic rotation. Chronic constipation is the most common cause of colonic elongation and redundancy, which leads to increased colonic mobility. In most series most of the volvulus occurred in those who are institutionalized and debilitated with neurologic and psychiatric conditions such as Parkinson's disease and schizophrenia. The majority of the patients with volvulus present with abodominal pain nausea, abdominal distension and constipation. Vomiting is less common. The presentation of acute respiratory distress due to transverse colon volvulus has never been reported. In our case, the acute massive dilatation of the colon that became interposed between the liver and the diaphragm resulting in collapse of the right lung and a mediastinal shift. This then resulted in acute respiratory distress.

The radiographic findings of transverse colon volvulus are not universally agreed upon and are often less specific than those for cecal and sigmoid volvuli. Suggestive for transverse colon volvulus are proximal colonic dilation with a prominent "bent inner tube" loop of colon with the apex pointing inferiorly (away from the torsion site, which may contain air-fluid levels on the upright radiograph. There is little to no distal bowel gas. If plain films are not diagnostic and the patient is stable without peritonitis, contrast enema or computerized tomogram may be considered [8]. Diagnostically, it is the method of choice to define the level of obstruction. Classically, a contrast enema will show a "bird beak" deformity marking the distal aspect of the volvulus. However in this case report, the effected part and proximal intestine are hugely distended and so cannot see those findings.

Colonoscopic decompression of transverse colon volvulus has been performed rarely and generally is unsuccessful.

Types of surgical treatment should be chosen according to the condition of bowel. If the bowel is necrotic, the involved segment segment must be resected. Creation of a colostomy or primary anastomosis is mainly dependent on severity of volvulus, experience of surgeon who perfomed resection and general condition of the patient. Simple reduction of the volvulus leaves a potential for recurrence.

SUMMARY

Chilaiditi's syndrome is an uncommon clinical entity of symptomatic colonic interposition. Transverse colon volvulus is an even less frequent occurrence, which is most often symptomatic. In this case, one of the extreme presentation of transverse colon volvulus presented with respiratory distress. Emergency respiratory support and resuscitations must be performed promptly. Surgical decompression and resection of the involved segment is the treatment of choice for this transverse colon volvulus associated with Chilaiditi's syndrome and acute respiratory distress.

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Fig.1. Dilated transverse colon filling the entire right hemithorax. The right lung is compressed and collapsed. The mediastinum is displaced to the left.

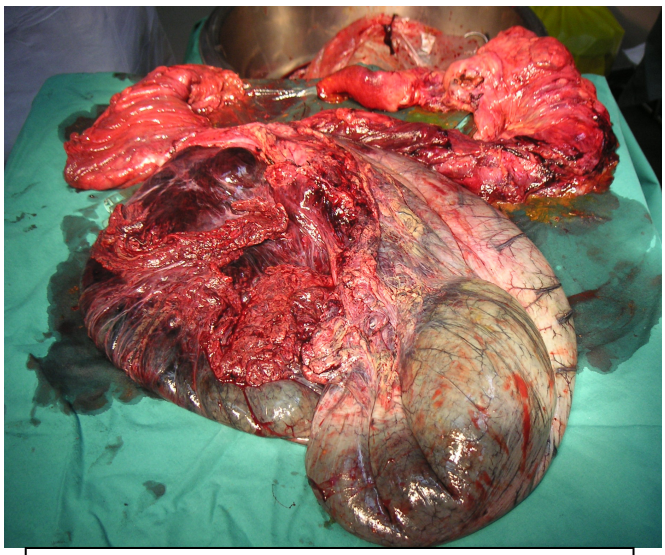

Fig.2. Resected specimen of the gangrenous transverse colon that had undergone volvulus.

☺ ***A Note of Thanks to Dr Tan Kok Yang for contributing this article.***

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News Bulletin

EVENT ANNOUNCEMENT

Updates on Colorectal Cancer & Gastroenterology International Symposium and Endoscopic Submucosal Dissection Workshop

Date: Saturday, 22 January 2011
Time: 0730hrs to 1630hrs
Venue: Learning Centre, Tower B
Khoo Teck Puat Hospital
Registration: Free for local participants
*Please refer to the event brochure at the College of Surgeons' website at www.css.edu.sg under "Other Medical Events" for more information.

CHAPTER CONNECTION AS THE COMMUNICATION MEDIUM

Have academic events and activities that you would like to invite the participation of your fellow peers and colleagues who are also members of the Chapter of General Surgeons? Have news on the latest happenings in the general surgery community to share with fellow surgeons? The Chapter Connection would be the ideal medium to transmit news and information on your behalf, since it is being circulated to all Chapter members and trainees / residents, including Fellows and Registrars.

Please submit your event announcements in MS Word, MS Powerpoint or JPEG format to the College Secretariat at css@ams.edu.sg if you are interested to share them in this newsletter.

CHAPTER SUPPORT FOR ACADEMIC AND PROFESSIONAL EVENTS

The Chapter welcomes any event proposals that call for the support of the Chapter either as a nominal sponsor or as an event organiser. The Chapter is happy to collaborate with any Chapter members and/or industry sponsors to work on the proposed event. Event proposal(s) can be submitted to the College Secretariat at css@ams.edu.sg for the Board of the Chapter of General Surgeons' review and discussion.

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