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SIGMOID VOLVULUS IN KWAZULU-NATAL TEACHING HOSPITALS

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INTRODUCTION: Sigmoid volvulus demonstrates geographical variation. The condition is more common in developing countries especially in Africa where it affects young African male patients.

AIM: To establish the aetiological trends, to document the site and to assess outcomes of management in patients with sigmoid volvulus.

METHODS: Prospective study of patients presenting with sigmoid volvulus at the KwaZulu Natal Teaching Hospitals. Initial management included sigmoidoscopic decompression and preparation for elective surgery. Indications for emergency surgery were failure of dilation at sigmoidoscope, evidence of bowel ischaemia at sigmoidoscopy and the presence of peritonitis. Data collected included demographics, clinical presentation, operative findings and outcome. For a period of 7 years (2001-2007)

RESULTS: 117 patients of average age 40.6 ± 17.1 years have been enrolled (60.1% of whom were male and the rest were African. Management was by emergency surgery (95%), elective surgery (1%), laparotomy (5%) or autopsy (2%). In patients undergoing emergency laparostomy the level of the twist was at the pelvic floor in all. 42 patients had gaseous bowel and 65 patients had viable bowel. Sigmoid necrosis was accompanied by many anastomosis; (7%) and Hartmann’s procedure (16%). Complication and mortality rates were 14% and 7% respectively. Mean time to re-operative surgery was 24h and 1% respectively (p<0.05).and for primary anastomosis and Hartmann’s procedure 15% and 25% respectively (p<0.05). Mortality rates for gaseous and viable bowel were 30% and 1.4% (p<0.05). Hospital stay was 3.7 ± 2.7 days.

CONCLUSION: The aetiological pattern of sigmoid-volvulus mimetizes that in the West in that it affects predominantly young African males. The level of the twist is at the pelvic brim. The type of surgery, the type of anastomosis and the viability of the bowel did not influence outcome in this series.

THE SPECTRUM OF ADULT INTUSSUSCEPTION

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INTRODUCTION: Intussusception is uncommon in the adults and is usually of a more sinister nature than in the paediatric population. This review looks at the spectrum of presentation and pathology in adult intussusception.

METHODS: We approached the private and public sectors in both Durban and Pietermaritzburg and requested information regarding any patients they had presented with intussusception. This is a retrospective (from 2004) and prospective (from 2006) survey.

RESULTS: Twenty-three patients were identified with seventy-three intussusceptions, one patient, presented with two sites of intussusception. The gender mix was comprised of seventeen males and six females. The average age of presentation was 53. A pre-operative diagnosis was made in 8% of the 19 CT scans diagnosed 8 and the remaining 2 were diagnosed at colonscopy and ultrasound respectively. The rest were diagnosed in the operating theatre. The lead points were adenocarcinoma (4), amoebic colitis (2), Gastric intestinal stromal tumour (2), lymphoma (1), lymphoma (1) (6): inflammatory myofibroblastic tumour (1), No lead point could be identified in 2 cases and the lead points in the remaining six were unable to be determined due to necrosis. The anatomical descriptions of the intussusceptions were into the jejunum (5), ileum (13) and ileo-colon (9) and colo-colon (11). Resection was performed in twenty, two barium enemas were performed but no palpable lead point being reduced, a laparotomy then performed. The overall patient survival time from presentation to resection.

CONCLUSION: Adult intussusception is rare and is usually secondary to a lead point. One third present with subacute symptoms and CT scans is their preferred diagnostic modality. Resectional surgery is the mainstay of treatment.

AN ANALYSIS OF GASTROINTESTINAL STROMAL TUMOURS AT PRETORIA ACADEMIC HOSPITALS (2001–2008)

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INTRODUCTION: Gastrointestinal stromal tumors (GIST) are the second most common mesenchymal tumors of the gastrointestinal tract. They occur in the stomach most frequently. Tumour size and mitotic index predict behavior. Primary resection, with wide margins, is the treatment of choice, but has a high recurrence rate. The tyrosine kinase inhibitor, Imatinib mesylate, offers promise as adjuvant chemotherapy for these tumours.

AIM: To analyse the presentation and management of patients with GIST at Pretoria Academic Hospitals.

METHODS: Retrospective review of cases diagnosed with GIST at our hospitals from April 1999 to September 2007. Information was obtained from the Anatomical Pathology laboratory records and hospital patient records. Patient demographics, symptomatology, tumour size and management were noted.

RESULTS: A total of 39 cases were found. Their ages ranged between 15 and 69 years. Male to female ratio was 2:1. The stomach was the anatomic site most frequently affected. All patients with complete records presented with fatigue and weight loss. The largest resected tumour measured 30 x 15 x 15 cm. No cases diagnosed were 0 KIpositive.

CONCLUSION: Although the cells of Cajal (cell from which GIST originate) are mainly found in the GI tract, one of our cases presented with an extra-gastrointestinal GIST. In other studies the second most common mesenchymal tumor was the renal mesenchymal. It is not surprising that it was not included.

HISTOPATHOLOGICAL STUDY OF APPENDICECTOMY SPECIMEN AT PRETORIA ACADEMIC HOSPITAL COMPLEX

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INTRODUCTION: Acute appendicitis is a common condition. Appendicectomy done on clinical grounds is associated with a normal histological findings of up to 25%. Recurred tumours and appendiceal adenocarcinoma are often diagnosed on appendic specimen removed for acute appendicitis.

AIM: To determine the incidence of normal histological findings in specimens submitted for histopathological examination at Pretoria Academic Hospital complex.

METHOD: Retrospective study of histology records of post appendicectomy from National Health Laboratory Services from 1999 to 2009. Analyzed were patients demographics and histology. Histological findings were divided into 4 groups: positive, negative, incidental and others.

RESULTS: Total number reviewed was 983 appendic specimens. 433 (44%) were males and 550 (56%) were females. Positive findings were 541 (55%), negative 186 (19%), incidental 83 (9%) and others 73 (7%).

CONCLUSION: Incidental and other findings were Gastrointestinal tumors: Lymphoma, Tuberculosis, Schistosomiasis, Yersinia, Cystadenoma, Fibrous obliteration and Parasit cell metaplasia. Incidental finding refers to appendicectomy done during other operations. Other group include any histological finding without inflammation.

CONCLUSION: Negative finding of 19% is comparable with other series and is higher in females.
ABSTRACTS

SELF-EXPANDING METAL STENT (SEMS) AS A PRIMARY MODALITY OF TREATMENT FOR MULTIGRAIN GASTRIC OUTLET OBSTRUCTION IN CAPSULAR TUMOUR

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AIM-To prospectively evaluate the use of SEMS as a primary intervention for relieving malignant gastric outlet obstruction in a resource limited environment in South Africa.

BACKGROUND-Gastro-oesophageal obstruction secondary to advanced malignancy is often a difficult symptom to palliate. Surgical bypass is frequently inappropriate or contraindicated due to advanced disease or co-morbidity. Primary stenting using metal or plastic internal stents (PIS) facilitates feeding and improves hydration but does not resolve the underlying cancer. SEMS enables patients with limited life expectancy to be independent of parenteral nutrition and facilitates early discharge.

METHOD: Data was collected prospectively until May 2005. All patients were referred for SEMS placement. Stenting was performed with the intention of relieving obstruction, feeding and enabling oral intake, and to enable a prolonged period of remission prior to the start of chemotherapy.

RESULTS: REMEDIAL PROCEDURE: SEMS required rescue stenting for relapse.

CONCLUSION: SEMS are indicated for patients with limited life expectancy or those who are not suitable candidates for surgical resection. SEMS have a higher success rate and are less painful than PIS.

DOUGLAS JOINT REVISITED

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INTRODUCTION: Current management decisions are vital in trauma and may need to be made urgently but will be informed. In the setting of hypovolaemia from massive bleeding and potential injuries in two body cavities and the possibility of thoracic injury the source of haemorrhage may not be easy. This situation has been described as one of double jeopardy.

METHOD: A prospective trauma database is maintained by the emergency surgical consultant of the Fraternal Birth Hospital. A computer protocol has been written for the identification of patients with a fracture to the pelvis, a thoracic injury, or a combination of the two. A computer algorithm identifies patients with a possible pelvic fracture and a possible thoracic injury. Patients with a fracture to the pelvis and a thoracic injury are identified and the management of patients with these injuries is described.

RESULTS: Of the 77 patients identified, 71 were female and 6 were male. The ages ranged from 14 to 82 years. The median age was 37 years. The mechanism of injury was motor vehicle accident (32), motorcycle accident (13), pedestrian accident (13). 23 patients died on arrival (30.2%). 28 patients died in hospital (36.3%). The median time to death from injury was 4.2 days. 13 patients (17%) died of hypovolaemic shock. 5 patients died of multi-system trauma (6.7%). 1 patient died of an unrelated cancer. The causes of death were chest trauma (6), neurological trauma (4), thoracolumbar compression fracture (1), and pelvic fracture (1). 43 patients were treated with a pelvic surgical approach. 23 patients were treated with thoracic surgical approach. 5 patients were treated with combined thoracic and pelvic surgical approach.

CONCLUSION: The effect of hemorrhage on survival in patients with pelvic and thoracic trauma is significant, but not lethal. The overall survival rate of patients with pelvic and thoracic trauma is 37.5%.

EVALUATION FOLLOWING ABDOMINAL ST WOUNDS: AN ANALYSIS OF 66 CASES

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INTRODUCTION: To determine the incidence of infection of an abdominal stab wound requiring laparotomy after an abdominal stab wound with exploration.

METHODS: Data was collected retrospectively over a six-year period on all patients who presented to our level 1 trauma centre with an abdominal stab wound and evacuation of the peritoneum. This included those who were explored intraoperatively without the need for further intervention.

RESULTS: A total of 379 patients with abdominal stab wounds were admitted. Of these, there were 210 (56%) with exploration and evacuation of the peritoneum. Thirty-three patients were explored intraoperatively without the need for further intervention.

CONCLUSION: The above incidence above is not a true reflection of the real incidence of stab wounds.

LAPAROSCOPIC ASSESSMENT OF LEFT UPPER QUADRANT STAB WOUNDS

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INTRODUCTION: Patients with stab wounds to the left upper quadrant may present with peritonitis or abdominal wall defects. These patients may present with a history of abdominal stab wounds, left upper quadrant pain, and peritonitis. The majority of these patients require hospitalization and evaluation of their abdominal wall.

METHODS: A prospective study was performed at Addington Hospital, Durban and the Pelvic and Intestinal Surgery Unit between June 2005 and April 2006. Patients with left upper quadrant stab wounds were included between May 2005 and March 2007. Patients with ruptured viscus or severe abdominal injuries were excluded.

RESULTS: A total of 25 patients were included in the study. Of those, 17 patients were explored laparoscopically, and 8 patients were explored laparotomically. The diagnosis of peritonitis or abdominal stab wounds was made in 23 patients. The remaining two patients were explored laparoscopically, and one had a distal ileocolonic fistula and the other had an abdominal stab wound with entry into the peritoneum.

CONCLUSION: Laparoscopic assessment of left upper quadrant stab wounds may be a good method for the evaluation of left upper quadrant stab wounds.
ABSTRACTS

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THE SPECTRUM OF DIAPHRAGMATIC INJURY AT A BUSY SURGICAL SERVICE

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INTRODUCTION: The diaphragm may be injured by penetrating or blunt trauma. If not recognised and managed appropriately, a significant and often fatal outcome may result. It may be difficult to diagnose diaphragmatic injury. This prospective study reviews our experience with diaphragmatic injury in a busy general surgical service with a heavy trauma burden.

METHODLOGY: A prospective trauma database is maintained by the general surgical service of the Palmerston North metropolitan complex. All patients who sustained a diaphragmatic injury between September 2001 and September 2007 were included in this study.

RESULTS: A total of 20 patients had diaphragmatic injury confirmed at laparotomy or laparoscopy. The average age was 29 years. The mechanism of injury was stab (24) gunshot wound (10) choking (1) and blunt trauma (2). There were seven deaths in this group. Four patients required a subsequent thoracotomy to deal with lung sepsis and two patients required a thoracoscopic approach to deal with residual collection. A total of five diaphragmatic injuries were diagnosed at laparoscopy. The indication for laparoscopy was primary stab or soft abdomen in all cases. Of these, two injuries were repaired at open technique and one was repaired laparoscopically. A total of nine patients presented with an acute diaphragmatic hernia. The average age was 29. The mechanism of injury was stab (5) gunshot (1) and blunt trauma (3). The hernia contents were colon (5), stomach (2), spleen (1). The operative approach was a laparotomy (8) and a thoracotomy (1). A single patient reported re-operation as his repair broke down and he was re-intubated. In three cases there had been inappropriate incorporation of the left chest. There were two post-operative perforations caused by chest drain placement and the third drain had passed through the diaphragmatic defect into the abdominal cavity. One of these patients required a delayed thoracotomy to deal with chronic suprarenal pus. A total of six patients presented with a chronic diaphragmatic hernia of longer than six months duration. The average age was 29.9. The mechanism of injury was stab (6) blunt trauma (2) and gunshot wound (1). The average stay from injury to presentation was 3.9 years. The contents were colon (2) and stomach (3). All were dealt with laparoscopically.

CONCLUSION: At tertiary centres, diaphragmatic hernias are usually recognized and dealt with appropriately. Failure to follow principles may result in a diaphragmatic injury being overlooked, resulting in a diaphragmatic injury which is often late and frequently difficult to diagnose or radiologically. Direct video-cystoscopic inspection of the diaphragm is indicated for all patients with penetrating trauma to the left upper quadrant who do not have an indication for laparoscopy. The presentation of diaphragmatic hernia can be acute after trauma or delayed. Most diaphragmatic hernias can be dealt with via a transabdominal route.

MORPHOLOGICAL CHANGES ASSOCIATED WITH REGENERATION OF RENAL TUBULES AFTER ISCHEMIC INJURY

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AIM: To examine the morphological changes associated with regeneration of the renal tubules after an ischemic injury.

METHOD: Long Evans rats weighing 250-300g were subjected to a renal ischemia and reperfusion of the right kidney. The right renal artery and vein were clamped for 90 minutes. Groups of animals were sacrificed at 0, 24, 48, 72 and 96 hours postoperatively. Blood was taken for renal function tests and both kidneys removed for histological examination (mild ischemia). Immunohistochemical analysis (mRNA, PCR, Western blot).

RESULTS: There was a 50-60% increase in serum urea and creatinine at 24 hours followed by a steady decline to normal levels by 96 hours. There was a significant increase in the micturition index in the right kidney from 0 minutes to 0, 9 and 12 hours to 22 minutes to 48 hours. Furthermore the micturition index increased and remained baseline levels by 96 hours (22 minutes). Interestingly there was a small increase in the micturition index in the left kidney at 48 and 72 hours postoperatively.

CONCLUSION: These studies show that the regenerative response starts at 24 hours after an ischemic injury, reaches a peak at about 48 hours, and is almost complete by 96 hours.

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EFFECT OF ERADICATION OF HELICOBACTER PYLORI ON BLOOD PRESSURE IN BLACK SOUTH AFRICANS WITH HYPERTENSION

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BACKGROUND: The Medical Research Council and network evaluated the effect of eradicating high blood pressure (hypertension) is $200,000. Hypertension is the leading cause of stroke, kidney and heart failure as well as other related cardiovascular illness (e.g. coronary heart disease). For an as yet unidentified reason more blacks of African ancestry are affected by hypertension and have more severe disease (hypertension-related kidney disease, stroke, etc.). A possible explanation is the bacterium Helicobacter pylori (which is endemic in the Black South African community) is playing a causal role in the pathogenesis of hypertension. In those patients it is known to interfere with intense CO2, acidosis (a determinant of homocysteine (Hcy) concentrations) and decrease L-arginine (the nitric oxide precursor). It has not been determined if eradication of H. pylori would decrease blood pressure in black South African patients with hypertension.

METHODS: Consecutive adult Black South Africans (n=37) with severe H pylori (by 40% and breath test, 1C13-CBT) and mean arterial blood pressure (measured) after the end of eradication therapy (n=22) were randomized to placebo (n=15). Patients were followed for 6 weeks after treatment, measuring blood pressure and biochemical markers. Eradication was confirmed at the 6-week follow-up point. Antacids in blood samples from the fasted patients were analyzed by HPLC/GCMS.

RESULTS: Overall, eight weeks after completion of treatment, 66% of patients treated with eradication therapy remained H pylori positive in gastric biopsy samples and were randomized to placebo with placebo treatment, but 19% remained infected. However, successful eradication of H pylori resulted in mean arterial SBP/DBP decreases of H pylori positive patients were not different in patients taking placebo. However, a successful eradication of H pylori resulted in mean arterial SBP/DBP decreases of 5-6mmHg in black patients, whereas smoking BP was essentially unchanged (+1.2mmHg Hg; -0.8mmHg respectively). No blood pressure or biochemical therapy was more or less than 200 IU. Successful eradication of H pylori was associated with a more pronounced reduction in blood pressure and more pronounced L-arginine concentrations in patients with hypertension and positive response to treatment in the presence of the l-arginine-vasodilator L-arginine (n=38).

CONCLUSIONS: The study implicates H pylori in the pathogenesis of hypertension. The 50% eradication rate requires the sample size need to be increased in future studies. L-arginine concentrations were elevated in patients with hypertension and correlated positively with blood pressure and plasma profile concentrations.

A COMPARISON OF RESPIRATORY MUCINS IN ASTHMA AND COPD

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INTRODUCTION: Airway mucous hypersecretion is the main cause of morbidity and mortality in respiratory diseases such as asthma and chronic obstructive pulmonary disease. It is the leading cause of death in South Africa. Mucus is a viscid, sticky viscoelastic gel-like substance which contains the epithelial layer of gastrointestinal, respiratory and allergic tissues. Mucins are secreted by goblet cells and are a major component of airway mucus. Mucins are high molecular weight, heavily glycosylated glycoproteins that comprise approximately 2% of mucus and cause the mucus to be thick and tenacious. Mucins are divided into two main categories namely, secreted gel-forming, secreted gel-forming and secreted gel-forming.

METHODS: Lung samples were collected in 6/2006. Mucin analysis in patients with asthma and COPD from hospital visits in Cape Town. Four MUC2, MUC3 and MUC5A were identified in both asthmatics and COPDs. However, MUC2 is a mucin that only present in the airway system and not in the upper respiratory tract (the presence of MUC1, MUC4 and MUC5B). The PAS reactive fraction was further examined to quantify the presence of the MUC5A, MUC5B and MUC2. MUC2, MUC5A and MUC5B were found in both asthmatics and COPD. However, MUC2 is a mucin that only present in the airway system and not in the upper respiratory tract. Mucins are divided into two main categories namely, secreted gel-forming and secreted gel-forming.

RESULTS: The presence of MUC2 gel forming mucin in asthmatic disease could explain the viscosity of the mucus in these conditions.

ARGININE UPTAKE BY HUMAN EPISTROMAL CELLS

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INTRODUCTION: Total homocysteine (f/Hcy) concentrations are a risk factor for cardiovascular disease (CVD), stroke, hypertension) but recent large studies have failed to show benefit of homocysteine reduction on CVD endpoints. Arginine is a semiessential amino acid and involved in a variety of biological processes including protein synthesis and creatinine metabolic pathways. It also has the potential of nitric oxide (NO), the molecule mediating arterial vasodilation and immune defense. It plays a role in long-term memory and tissue injuries and protects against inflammation. Although arginine and homocysteine (GSH) share a common transport mechanism, the kinetics of this interaction has not been studied. We hypothesise that arginine is the rate factor for CVD disease and that it is a surrogate marker of histamine and creatinine concentration. The aim of this study was to determine the effect of homocysteine on arginine uptake in transformed endothelial cells.

METHODS: 040,000 EC50 cells were grown to confluence in 5% cell culture plates. The cells were washed with 10% and growth medium replaced with arginine-free medium and incubated for 24 hours. The medium was removed and incubated with saline buffer containing labeled arginine with/without unlabeled arginine and homocysteine for 30 sec. The reaction was stopped and 490 arginine uptake by the cells determined by a 6-aminolillin counter.

RESULTS: After concentrations of homocysteine uptake of arginine was inhibited. The affinity for arginine (CVD) was essentially unchanged but the level of homocysteine concentrations (0.125mM) was higher than homocysteine concentrations (≤20mM) inhibition was typical of competitive inhibition (Kd values were similar). At arginine concentrations (600mM), arginine uptake was increased but the affinity for arginine decreased (Kd values were different). The kinetics of arginine uptake in the presence of high homocysteine (25mM) appears complex.

CONCLUSIONS: Homocysteine competed for uptake of L-arginine and this appears to be mediated by more than one transporter as demonstrated by the kinetics changing depending on concentration of arginine used in the uptake studies. The study may have implications in cardiovascular, inflammatory diseases and disease.

EFFECT OF ANTI-HYPERTENSIVE DRUGS ON VASOACTIVITY IN RATS

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INTRODUCTION: Arginine plays a pivotal role in various nitric oxide-mediated events in the arterial wall as an enzyme in arginine synthesis. Arginine is the main substrate for NO synthesis in the endothelium. However, arginine may be an important source of NO synthesis in the endothelium. In the endothelial cells, arginine is synthesized by the enzyme nitric oxide synthase (NOS). Arginine has been used as a positive control for the measurement of NO production.

METHODS: 040,000 Cells were placed on well of 9 well cell culture plates in complete growth medium. After 24 hour incubation period, cells were washed twice with 10% PBS and cell viability was measured by Trypan blue exclusion. After 24 hour incubation period, the cells were washed twice with 10% PBS and cell viability was measured using a Trypan blue exclusion. After 24 hour incubation period, the cells were washed twice with 10% PBS and cell viability was measured using a Trypan blue exclusion. After 24 hour incubation period, the cells were washed twice with 10% PBS and cell viability was measured using a Trypan blue exclusion.

RESULTS: The results showed that NO production was increased in cells treated with NOS inhibitors (70%) and NO production was increased in cells treated with NOS inhibitors.

DISCUSSION: The effect of NO production on blood pressure was not observed in this study. The effect of NO production on blood pressure was not observed in this study.
PROTEOMIC ANALYSIS OF THE M. 45-50K GLYCOCONJUGATE ISOLATED FROM PURIFIED CANCER MUCIN Shows IT TO BE ALA-ALA-GLYCOCONJUGATE (GROSOMUCOID)

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BACKGROUND: In our previous biochemical and immunohistological studies for the expression of the M. 45-50K glycoprotein, we demonstrated that normal mucosa showed a proportionally lower cell envelopes, whereas no significant mucin accumulation was observed in a polynuclear cell and gastric cancer cell expression inversely.

AIM: The aim of this study was to generate a 2DCo-Immunoprecipitation map of the M. 45-50K glycoprotein with a polynuclear cell and to identify their N-glycosylation specificity.

METHODS: The mucins were isolated from acrile counts suspensions obtained from adenomas, neoplastic specimens retrieved for cancer. Mucins were purified by dialysis gradient's ultra- centrifugation in C51 and analyzed by isoelectronic focusing (IEF) on 2D-polycyramide gels. Gels were stained with Coomassie Brilliant blue and Ponceau Acidic Black stain's identity. Identification was using N-TALCO mass spectrometry.

CONCLUSION: We successfully used proteomics as an approach to provide advantages in the analysis of the M. 45-50K glycoprotein. GROSOMUCOID is a glycoprotein known to suppress the invasion and metastasis of cancer cells in the mouse gastric cancer model in vivo. It is expressed by polynuclear cells in human gastric cancer patients with carcinomas of the stomach, and is also expressed by polynuclear cells in normal tissue.

PARTIAL PURIFICATION OF A CHROMOMUCIN CONTAINING COMPUND FROM THE LIVER

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INTRODUCTION: Studies have shown that chromosomes are an essential element that binds the immune system to the inflammatory response and plays a key role in the inflammatory response and regulatory function of the immune system. The chromatin-containing ‘glucose tolerance factor’ partially isolated from human liver was originally described in 1954 and a low molecular weight carbohydrate, chromomucoid, has since been isolated from the liver and has been found in urine. The reported isolation procedure is not consistent with the isolation of CHP to be followed by chromatin separation techniques. However, techniques involving the possible exclusion are usually necessary to isolate the in a biological activity of normal molecule. Further, our preliminary results, using the addition of CHP, revealed the possibility of a novel drug to be suitable in determining future cell death as the major contributor.

METHODS: CHP or pig liver was digested and homogenized in a Waring blender together with saline and CHC as chromatin substitution with ALT (20g/L) as a tracer to follow CHP incorporation into the homogenate. The homogenate was centrifuged to remove cells debris. Increasing amounts of pepsin and hydrochloric acid (HCl) solution were added to the supernatant to precipitate proteins. The proteins were isolated in TE buffer and both protein (lowery method) and radiolabeled incorporation protein was also separated by polyacrylamide gel electrophoresis (PAGE) and for 75% and 95% control liver gels.

RESULTS: On 17% nonreducing gels marked bands for all high in higher molecular weight precursors of the protein bands were observed. The incorporation protein was precipitated at least at 10% (w/v) PEG. The results were confirmed on the 75% control gels.

DISCUSSION: The method used for the isolation and purification techniques in that CHP was added as the liver. Instead of CHP to follow incorporation of CHP into proteins, PEG was used to precipitate protein which is commonly used to isolate soluble cell-bound proteins.

CONCLUSIONS: The results confirm a number of important experiments as CHP incorporation associated with a high molecular weight fraction which may be membrane bound. The possibility that CHP is loosely bound to proteins, as expected to be incorporated (complexed) to proteins need to be elucidated.

NPV 2: PERFUSION BENEFEIT CIRCUITARY NPV IN HUMANS

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AIMS: A previous study demonstrated that negative pressure wound therapy (NPWT) increased tissue perfusion. It was shown that NPWT had an effect on blood flow in humans and how different suction pressures influence this.

METHODS: Ten healthy volunteers were recruited into the study and randomly assigned to receive suction pressures of either 250 mmHg or 50 mmHg. With both hands placed in craniocaudal NFPW dressing, suction was applied to one hand. Perfusion of both hands was then analysed simultaneously using radioisotope perfusion imaging. After allowing one minute of perfusion, the suction was turned off on the contralateral hand (on the same volunteer), this time using the contralateral hand as the test hand. A total of 20 seconds was counted. Data were analyzed using repeated measures of ANOVA.

RESULTS: Thirty suction pressures of 200 mmHg, there was a highly significant mean reduction in pulsation of 40% (SD 11.5%, p<0.0005). In the hands that received suction pressures of 250 mmHg there was also a highly significant mean reduction in pulsation of 50% (SD 10.8%, p<0.0005). The reduction in perfusion of the group with suction applied on the contralateral hand (on the same volunteer), this time using the contralateral hand as the test hand. A total of 20 seconds was counted. Data were analyzed using repeated measures of ANOVA.

CONCLUSION: The study could not be completed. NPWT dressing was significantly reduced when applied, regardless of whether suction pressures of 250 mmHg or 50 mmHg are used. There is a significantly greater reduction in pulsation at suction pressures of 400 mmHg, compared to 250 mmHg. This implies that conventional NPWT should be used with extreme caution, if at all, on tissues with compromised perfusion. This finding represents a paradigm shift in our understanding of the mechanism of action of NPWT.

NON HEART BEATING ORGAN DONATION AT GROOTE SCHUUR HOSPITAL

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BACKGROUND: A non heart beating kidney donation programme was started in January 2006 at Groote Schuur Hospital. The current model of donation after cardiac death (DCD) in SA was initiated in patients with irreversible brain damage and a Glasgow Coma Scale under 5. The objective of the non hear beating policy is to address this group of patients as potential donors.

METHOD: Non consent is given for organ donation, the patient is stabilised while the surgeon who is on duty, if the patient’s cardiac arrest within a 2 hour time span, the patient is taken to theatre immediately after death and the organs are removed. Consent for donation is not offered in SA in live in situ cases for motor vehicle accidents in 2 cases. Consent for donation was given in 6 cases. Of these 6 cases, did not arrest in the 2 hour time span; 1 patient had an unexpected cardiac arrest before exhumation, but was successfully resuscitated in theatre within 30 min to 1 hr, and 5 patients arrested within the 2 hour period after exhumation.

CONCLUSION: Of the 6 kidneys transplanted, 2 kidneys could not be used because they were from an AB blood group donor and they were not suitable recipients available. Six kidneys were transplanted with an average cold ischemic time of 12 hours. Five patients required dialysis in the first week, 4 in the second week, 2 in the third week and none in the fourth week post transplantation. Renograms were done on 5 patients in the first week, 2 in the second week and 3 in the third week. Four of the patients required a hospitalisation for 2 days and 2 of them patients had subsequent treatment with pulsed methylprednisolone. One patient had a minor wound dehiscence as well as a post-operative Klebsiella pneumonia. Four patients were discharged on day 17, one on day 29 and one on day 62 after recovery complications with sepsis and pneumonia. All patients had functioning grafts on discharge.

UROLOGIC STRUCTURES IN PLATELET AGGREGATES OF HIV PATIENTS: A SCANNING ELECTRON MICROSCOPY STUDY

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INTRODUCTION: Thrombocytopenia in which occurs in about 40% of patients with HIV infection may be caused by increased peripheral platelet destruction, a defect in platelet production or a combination of these. The aim of this study was to compare the morphology of the thin-blood platelet aggregates in plasma platelets (HPA) data prepared from HIV patients with those of controls. The platelet aggregates were studied using a Zeiss Ultra 55 field scanning electron microscope.

RESULTS AND CONCLUSION: The ultra structural changes seen in the HIV infected patients via a vitreous material platelet aggregates with the thin-lipped protrusions resulting from damaged organelles bulging through a disrupted membrane, are reminiscent of the apoptotic changes or programmed cell death as described by Wylle et al (1986). Further research on the effect of the virus on thrombopoiesis and the effect of HIV on the production of protein in the qualitative study only shows changes in ultrastructure. However the situation allowed anatomic conception of the thin-blood platelet aggregates, as seen with scanning electron microscopy, provided of some evidence for the devastations cytotoxic effects of the virus.

THE RELATIONSHIP BETWEEN HIV STAGE, HAART, NUTRITIONAL STATUS AND OUTCOME

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INTRODUCTION: The relationship between HIV stage, nutritional status, HAART and outcomes in a high prevalence South African cohort is poorly defined. Assessment of this relationship was undertaken.

METHODS AND MATERIALS: An observational cohort study over a 6 month period on ART naïve patients over 18 years of age was performed. Patients attending the HIV/HAART clinic had a nutritional assessment performed. The consistent of anthropometric assessment BMI and upper arm circumference (UAAC) were used; their ratio was used to assess the imbalance assessment of body composition. A measurements were performed by the principal investigator. Inclusion criteria; CD4 count below 200, AIDS events and a loss less than 10% within 3 months. The CD4 count was 220 cell/mm3.

RESULTS: At 125 eligible patients 90 were females and 35 males. Median age 35 years. (Range 20-60), 113 were African, 4 were Coloured and 2 were Asian. The mean CD4 count was 263 cell/mm3. A total of 36 patients (29%) had a loss greater than 10% within 3 months of ART. The mean BMI was 24.9, (range 13.4 - 30.5)

CONCLUSION: In patients with a CD4 count of <350 cell/mm3 who had a mean BMI of 24.9 and a mean CD4 count of <200 cell/mm3 that had a mean BMI of 23.2 the mean BMI of 24.9 and a mean CD4 count of >200 cell/mm3 that had a mean BMI of 25.9 (p<0.001). Body composition (BMI and upper arm circumference) and their ratio were used to assess the nutritional assessment of body composition. A measurements were performed by the principal investigator. Inclusion criteria; CD4 count below 200, AIDS events and a loss less than 10% within 3 months. The mean BMI was 24.9, (range 13.4 - 30.5)
The Management of the Retained Knife Blade at a Major Trauma Centre

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Abstract

Introduction: Retained knife wounds remain a common form of injury. The management of these injuries remains controversial and has been subject to intense debate.

Methods: A retrospective review of patients with retained blade injuries treated at Groote Schuur Hospital from January 1996 to December 1997 was undertaken. The medical records were analyzed for demographic data, mechanisms of injury, associated injuries, treatment, neurosurgical management, duration of hospital stay, complications and outcomes.

Results: Thirty-three patients with retained blade injuries were identified (22 males and 11 females with mean age of 25.6 years). The mean time between injury and presentation was 6.2 days. Of the 33 patients, 22 (66.7%) presented within 24 hours of injury, 5 (15.2%) between 24 and 48 hours, 4 (12.1%) between 48 and 96 hours, 1 (3.0%) between 96 and 144 hours, and 1 (3.0%) after 144 hours. The commonest site of injury was the abdomen (54.5%), followed by the thorax (30.4%), head (15.2%) and extremities (15.2%). Associated injuries included head injuries (24.2%), thoracic injuries (15.2%), abdominal injuries (12.1%), and extremity fractures (12.1%). The majority of patients (81.8%) were treated conservatively. Only one patient required surgical intervention. The patient was a 23-year-old male who sustained a retained blade injury to the chest. He was referred to the Emergency Department with a history of sudden onset of dyspnoea.

Conclusion: Retained blade injuries remain a common form of injury. The management of these injuries remains controversial and has been subject to intense debate. Further research is needed to determine the optimal management of these injuries.

The Retained Weapon: A Retrospective Review

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Introduction: Retained weapons are a common cause of injuries. The management of these injuries remains controversial and has been subject to intense debate.

Methods: A retrospective review of patients with retained weapon injuries treated at Groote Schuur Hospital from January 1996 to December 1997 was undertaken. The medical records were analyzed for demographic data, mechanisms of injury, treatment, neurosurgical management, duration of hospital stay, complications and outcomes.

Results: Forty patients with retained weapon injuries were identified (31 males and 9 females with mean age of 24.5 years). The mean time between injury and presentation was 6.5 days. Of the 40 patients, 24 (60.0%) presented within 24 hours of injury, 7 (17.5%) between 24 and 48 hours, 3 (7.5%) between 48 and 96 hours, 2 (5.0%) between 96 and 144 hours, and 2 (5.0%) after 144 hours. The commonest site of injury was the abdomen (50.0%), followed by the thorax (32.5%), head (7.5%) and extremities (5.0%). Associated injuries included head injuries (45.0%), thoracic injuries (32.5%), abdominal injuries (7.5%), and extremity fractures (7.5%). The majority of patients (80.0%) were treated conservatively. Only one patient required surgical intervention. The patient was a 23-year-old male who sustained a retained weapon injury to the chest. He was referred to the Emergency Department with a history of sudden onset of dyspnoea.

Conclusion: Retained weapon injuries remain a common form of injury. The management of these injuries remains controversial and has been subject to intense debate. Further research is needed to determine the optimal management of these injuries.
ULTRASOUND VASCULAR RESISTIVE INDEX AS A PREDICTOR OF NEOPLASMS IN THYROID NODULES

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INTRODUCTION: The purpose of this study was to work out whether the ultrasound resistance index (RI) is useful for distinguishing benign from neoplastic thyroid nodules.

METHODS: Twenty-nine solitary thyroid nodules were subsequently histologically proven diagnoses were studied to determine RI. RI was defined as RI = Systolic peak velocity — diastolic peak velocity / Systolic peak velocity.

RESULTS: Twenty-nine patients with a mean age of 42 years (Range 24-77) and a M: F ratio of 1:2.8 were studied prospectively. The histological results were multinodular (18), follicular adenoma (9), follicular carcinoma (9), follicular adenoma with calcifications (2), papillary carcinoma (1), and metastatic squamous cell carcinoma (1). Of the 29 RI x SD for multi-nodular goiter was 0.81 ± 0.11 compared to 0.4 ± 0.1 in neoplastic solitary thyroid nodules. The trend of the benign nodules had RIs ≥ 0.5 whereas in 10 out of 14 neoplasms had RIs were < 0.6. The specificity for benign was 87% with a low sensitivity, whereas specificity for neoplastic nodules were 31% with a very sensitivity and (P < 0.001).

CONCLUSION: Vascular resistance as estimated by RI is increased in neoplastic thyroid nodules.

PRIMARY REPAIR OF TRACHEAL INJURIES: OUR EXPERIENCE AT SERENDIPITY HOSPITAL

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INTRODUCTION: Tracheal injuries pose a serious problem in airway management. The management of those injuries has traditionally been to repair the injury and then to do a tracheostomy. Our experience at Sebokeng Hospital has been that those injuries can be managed with primary repair.

AIM: The aim of this study is to present the role of primary repair in tracheal injuries.

METHOD: A retrospective review of patients presenting with tracheal injuries was undertaken. These patients presented between April 2007 and May 2008. A total of 11 patients were reviewed.

RESULTS: There was one patient that had a tracheostomy placed, but the trachea was repaired primarily without a tracheostomy. All patients did well with no complications after primary repair.

CONCLUSION: Primary repair of tracheal injuries is a viable and safe method of the management of those injuries.

CONTROL OF PRIMARY HYPERTERTHROIDISM IN EIGHTY-ONE PATIENTS WITH GRAVES’ DISEASE ATTENDING TREATMENT WITH PTI

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INTRODUCTION: Primary hyperthyroidism (PTU) remains the most common cause of PTU with more than 85% of Graves patients presenting with Graves ophthalmopathy. Therapeutic options include antithyroid medications, radioiodine therapy, and thyrerectomy. There is a small risk for development or progression of one of these signs following PTU therapy.

AIM: The aim of this study was to determine the effectiveness and time to control hyperthyroidism in patients with primary HTD following low dose radio ablation (RA) with F18, the number of patients requiring repeated dosages before suppression of thyroid function (PT) and tolerability of conventional management.

RESULTS: This is a retrospective study of patients treated for Graves' disease at the specialist thyroid clinic at Kaamfe Hospital. Patients demographics, presence of euthyroidism, TF levels, thyroid ultrasound scan and thyroid radionuclide scan uptake percentage at initial presentation were recorded on a special patient proforma. RA dosages and initial suppression of TF was also noted. The treatment outcome was determined by achievement of euthyroid state or euthyroid state on 5% or less thyroid hormone suppression.

RESULTS: Eighty-one patients (62 males, 16 females) with an age range of 12-90 years were treated between 2001 and 2008. Sixty (74.1%), 14 (17.4%), and 3 (3.7%) of these had clinical eye signs, no eye symptoms, and thyroid enlargement, respectively. Radionuclide uptake was the only treatment in thirty-nine patients (48.1%). Treatment success rate was 95.4% of patients treated with F18 had euthyroid state on initial treatment. RA was repeated in five patients (Table 1).

CONCLUSION: Exophthalmos is common in Graves' disease and radioactive uptake was higher. RA alone without glucocorticoids was effective in patients with ophthalmopathy and there was no worsening of eye signs. Radioactive treatment is feasible on an outpatient basis. Treatment with lower doses of F18 is effective in primary HTD and because of fear of long term risks of development of thyroid carcinoma, it is advisable especially in areas with poor patient follow-up.

LAPAROSCOPIC SPLENECTOMY: INITIAL EXPERIENCE AT OSN

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AIM: To review our experience with open laparoscopic splenectomy at Singapore Hospital.

METHOD: A prospective audit of 20 patients undergoing laparoscopic splenectomy performed by a single surgeon at Singapore Hospital from 2002 to 2008.

RESULTS: 30 laparoscopic splenectomies were performed. The most common indications for surgery were immune thrombocytopenia purpura (ITP), Other indications included Auto-immune Haemolytic Anaemia (AHA), Thrombocytopenic purpura (TP), Splenic Lymphoma (SL) and Splenic Tumours (S). There were 5 complications to open splenectomy. The average operating time of uncomplicated operations was 90 minutes. The average post-operative stay was 2.5 days (uncomplicated cases). 1 patient required an emergency laparotomy on day 15, for bleeding from the splenic artery. There were no deaths.

CONCLUSION: Laparoscopic splenectomy is a safe alternative to open splenectomy.

COMPARATIVE ANALYSIS OF ACUTE AND CHRONIC PANCREATITIS PATIENTS SEEN AT KALAHARI HOSPITAL

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INTRODUCTION: Chronic pancreatitis was considered a complication of acute pancreatitis. The two are now identified as separate disease entities. The clinical presentation in early stages is similar and may be difficult to be distinguished.

AIM: To compare clinical presentation of patients with acute and chronic pancreatitis admitted in Kalahari Hospital.

METHOD: Retrospective cross-sectional study from January 2005 to December 2006. Reviewed patient files, computer records, discharge summaries and laboratory records.

RESULTS: 20 cases of acute pancreatitis were recorded. 23% of patients had acute pancreatitis and diabetes. 22% of patients with chronic pancreatitis had diabetes. Average age in this group was 47 years with average IAP 411 and systolic 92. In 86% of cases the diagnosis of chronic pancreatitis was based on overt radiological changes.

CONCLUSION: The diagnosis of chronic pancreatitis is made late in our hospital and 14% of chronic pancreatitis patients were readmitted as acute pancreatitis. Average age in this group was 47 years with average IAP 411 and systolic 92. In 86% of cases the diagnosis of chronic pancreatitis was based on overt radiological changes.

MINIMALLY INVASIVE RETROPERITONEAL PANCREATIC NEOCRSECTOMY: AN EARLY EXPERIENCE

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INTRODUCTION: Minimally invasive pancreatic necrosectomy remains a dreaded complication of acute severe pancreatitis. A minimally invasive retroperitoneal surgical approach has proved a useful in avoiding the improved abdominal outcomes. This report presents an early experience with these procedures in South Africa.

PATIENTS AND METHODS: Between January 2005 and March 2004, consecutive patients with severe acute pancreatitis and infected necrosis were subjected to a minimally invasion necrosectomy (MINIP). All patients were treated by a minimally invasion necrosectomy (MINIP). All patients were treated by a minimally invasion necrosectomy (MINIP). All patients were treated by a minimally invasion necrosectomy (MINIP). All patients were treated by a minimally invasion necrosectomy (MINIP). All patients were treated by a minimally invasion necrosectomy (MINIP). All patients were treated by a minimally invasion necrosectomy (MINIP). All patients were treated by a minimally invasion necrosectomy (MINIP). All patients were treated by a minimally invasion necrosectomy (MINIP). All patients were treated by a minimally invasion necrosectomy (MINIP). All patients were treated by a minimally invasion necrosectomy (MINIP). All patients were treated by a minimally invasion necrosectomy (MINIP). All patients were treated by a minimally invasion necrosectomy (MINIP). All patients were treated by a minimally invasion necrosectomy (MINIP). All patients were treated by a minimally invasion necrosectomy (MINIP). All patients were treated by a minimally invasion necrosectomy (MINIP). All patients were treated by a minimally invasion necrosectomy (MINIP).

CONCLUSION: The success of laparoscopic necrosectomy in critically ill, fully orof consequence in treating infected pancreatic necrosis with minimal or no adverse outcomes.
ABSTRACTS

EXPERIENCE WITH ENDOCOSIC DRAINAGE OF PANCREATIC PSEUDOCYST IN A SINGLE UNIT

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INTRODUCTION: Endoscopic drainage of pseudocysts is feasible and has been found to be comparable to open surgical drainage. We performed an audit of our experience with this technique.

METHODS AND METHODS: Patients undergoing endoscopic drainage in a single unit were reviewed in the period 1998-2009. Demographic data were noted, presenting symptoms and mode of cyst drainage, complications following intervention and outcomes. Cystic duct drainage was performed using ERC or needle knife and papillotomy including without the aid of endoscope.

RESULTS: In the period 1998-2009, 41 patients underwent drainage procedures for pancreatic pseudocysts. There were 10 females and 30 male patients with an age range of 4-69 years. The aetiology of the pseudocysts was: Acute pancreatitis in 26, chronic pancreatitis in 1 and trauma in 5 patients. Pain was the presenting complaint in 17, gastric outlet obstruction in 6 and other ethnic procedures in 1 patient. The methods of cyst drainage are illustrated in the table. Endoscopic drainage was performed in 37 patients and successful in 34. In 3 patients this was complicated by perforation, infection and hemorrhage. Two (5%) of this group died.

Table: Drainage method n
Transpapillary 20
Transduodenal 2
Percutaneous 2
Transbiliary 1
Open surgery 2

There was no follow-up in 9 patients, and ranged from 1 month to 3.3 years in the others.

CONCLUSIONS: Endoscopic cyst drainage is the method of choice in our hands. Introduction of endoscopy may limit complications. Follow-up remains inadequate.

OUTCOME ANALYSIS OF PANCREATICODUODENECTOMIES AT GROOTE SCHUUR HOSPITAL: AN INITIAL ANALYSIS

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AIM: To review the outcome of non-traumatic related pancreaticoduodenectomies performed at Groote Schuur Hospital between 1989 and 2007.

METHODS: Retrospective analysis was performed. The pathology, post operative complications and mortality was reviewed. A sub-analysis compared the results of the three decades.

RESULTS: The median preoperative was 135/36 with a median age of 57 years. Of the 221 patients, 196 had a pylorus preserving pancreaticoduodenectomy and 25 a standard Whipple procedure.

<table>
<thead>
<tr>
<th>Pathology</th>
<th>N=221</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adenocarcinoma</td>
<td>48(21.6%)</td>
</tr>
<tr>
<td>Peritoneal spread</td>
<td>48(21.6%)</td>
</tr>
<tr>
<td>Chronic pancreatitis</td>
<td>41%</td>
</tr>
<tr>
<td>Cholangiocarcinoma</td>
<td>16%</td>
</tr>
<tr>
<td>Pancreatobiliary</td>
<td>12%</td>
</tr>
<tr>
<td>Duodenal ulcer</td>
<td>9%</td>
</tr>
<tr>
<td>Other</td>
<td>0%</td>
</tr>
</tbody>
</table>

The hospital mortality was 5.5% (n=12). The cause of death were bleeding (n=4), liver metastasis (n=1), multi-organ failure (n=4) and sepsis (n=1). The complications were: pancreatic fistula (n=31 (14.1%), bile leak (n=20%) delayed gastric emptying (n=25), septic complications (n=31) (13.6%), bleeding (n=10) and other (n=26). Re-operation was required in 17% for bleeding. There was no difference in the complication rates between the three decades. 86% (19) Patients had no complications.

CONCLUSION: Pancreaticoduodenectomy remains a major physiological insult with significant morbidity and mortality.

THE CHANGING PATTERN OF GALLSTONE DISEASE: ITS MANAGEMENT AND COMPLICATIONS IN A SINGEL INSTITUTION OVER A 20 YEAR PERIOD: A RETROSPECTIVE EVALUATION

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Abstract:

Background: Gallstone disease (GD) is a common public health problem with potential serious complications. This study is the evaluation of the changing patterns of GD, its management and complications over a 20 year period.

Patients and Methods: A retrospective study of all patients presenting with GD over a 20 year period was performed. Data collected was a consecutive series of all patients who reviewed from a computer database. Patients demographics, diagnosis, management, complications and outcome were noted.

Results: A total of 764 (F: 411, M: 153) with GD related conditions were noted mostly in the 41-50 year age group (33%). The number of gallstone cases has increased (0.7-1.5%) and that of common bile duct (CBD) stones decreased (4.6%). Patients with CBD stones were older than those with gallbladder (GB) stones. We found a slight decrease and increase in GB stones (60.3% to 19%) and GB stones (from 81% to 19% respectively). Gallstone acute pancreatitis (GAP) and acute cholecystitis (AC) occurred in 6.4% and 10% of patients respectively. Lipase (Lipase) elevation (LC) rate increased from 21.4% to 44% and CBD exploration decreased (6.25 to 2.6%). GAP was associated with white females (mean age 45 years). Two CBD stones (1.5) in the second decade were recorded. In hypoproteinemic, all females died from acute cholecystitis related complications. GAP and AC were the leading cause of death (Tables 1). The in-hospital mortality rate per respective decade was 1.1% and 1.4%

Conclusion: Increasing tendency of CBD stones and GAP was attributed to changing demographics but also an absolute increase in GB. We associated increasing tendency of CBD stones to wider use of LC. Men seem to suffer GAP complications later in the course of GD than their female counterpart. Gallstone disease occurred more frequently in older age group resulting in obstructive jaundice. This study confirms association between advanced age and death from GAP. We timed the downward trend in mortality to wide use of endoscopic and laparoscopic procedures.

NONOPERATIVE MANAGEMENT OF 82 LIVER GUNSHOT INJURIES

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Background: Nonoperative management (NOM) of liver gunshot injuries in to gain universal acceptance. The aim of this study was to assess the feasibility and safety of selective nonoperative management for liver gunshot injuries.

Patients and Methods: Prospective, protocol driven study, which included all liver gunshot injuries admitted to a level 1 trauma centre over a 4 year period. Patients with hematichymoperitoneum, shock, or those unresponsive to on-site resuscitation were explored laparoscopically. Risk for operation was determined prior to admission. Patients who were hemodynamically stable and had no signs of generalized peritonitis with either a missile trajectory favoring right upper quadrant and/or localized liver tenderness underwent CT scan evaluation to detect the presence of a liver injury. In the absence of CT scan findings suggestive of hollow viscus injury, the patients were observed with serial clinical examinations. Outcome parameters included survival, complications, need for delayed laparotomy, and length of hospital stay.

Results: During the study period, there were 194 patients with gunshot injuries to the liver. 129 (66%) patients underwent the criteria for immediate operation and 52 (32%) patients who were selected for nonoperative management of their liver injury. The mean injury severity score was 19.6 (range 4-43). The liver injury grading was grade I (43.2%), grade II (11.4%), grade III (26.3%), grade IV (24.2%) and grade V (0.1%). Associated injuries related to the same missile causing the liver injury were: 1.5 myocardial (16%), diaphragm (17%), liver (4.4%), right hemicolon (4%), sternal (2%) and combined (1%). Only two patients required a total of 6 packed cell transfusion. Complications included: died of abdominal sepsis (5), liver abscess (2), bile fistula (1), retained foreign body (3) and peritonitis (9). The mean hospital stay was 7.1 (range 3-65) days. There was no mortality.

Conclusion: The nonoperative management is appropriately selected patients with liver gunshot injuries is highly feasible, safe and effective, regardless of the severity of liver injury.

OUTCOMES OF HEPATIC RESECTION FOR COLORECTAL METASTASIS

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AIM: To determine outcomes of hepatic resection of single and multiple colorectal liver metastases (MRLM).

Patients and Methods: 107 patients (52 men, 46 women; mean age 60 years, range 18-79) underwent hepatic resections for MRLM between December 1997 and April 2009. Data was collected prospectively and 105 patients were followed up until May 2007.

Results: 50 patients had a single metastasis resected (Group A): 44 had 2 or 3 metastases (Group B) and 23 had 4 or more (Group C). Mean operative times was 254 min (range 135-400) in Group A, 274 min (range 150-400) in Group B, and 391 min (range 190-510) in Group C (n=0.005). There were no significant differences in the following parameters (p=0.63): intra-operative blood loss (p=0.63); blood transfusion (p=0.63); hospital stay (p=0.63). Patients died in hospital; 3 in A, 2 in B, and 1 in C (perioperative mortality 5.6%). 14 patients in Group A had postoperative complications (1 major, 5 minor) as opposed to 12 in Group B (5 major, 7 minor) and 7 in Group C (5 major, 2 minor). Survival did not differ significantly between the three groups (p=0.63). Actual 3 year survival was 22% in Group A (14 alive of 64 patients 3 years post surgery), 22% (4/18) in Group B and 14% (2/17) in Group C. 5 year survival was 18% in A, 13% in B, and 15% in C. The 10 year survival was 12% in Group A, 14% in Group B, and 8% in Group C.

Conclusion: The outcomes of liver resection for multiple colorectal metastasis is comparable to resection for single lesions.
OUTCOME IN 18 PATIENTS FOLLOWING PERCUTANEOUS TRANSMERIDIAN BILARY DRAINAGE PERFORMED OVER ONE YEAR AT CH BARAGWADH Hospital

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AIM: To determine outcome in patients following percutaneous transmierdian biliary drainage (PTCD) at CH Baragwanath Hospital.

METHODS: Retrospective analysis of prospectively collected data. All patients undergoing PTCD at CH Baragwanath from 1 May 2005 to 30 April 2007. Complete records were available for 28 patients. Mean follow-up: 15 months (range: 4-72 months).

RESULTS: Forty-three patients had a PTCD from 1 May 2005 to 30 April 2007. Complete records were available for 28 patients. Mean follow-up: 15 months (range: 4-72 months). The indication for PTCD was malignancy in 22, suspected malignancy in 6, benign lesion in 5 and indeterminate in 4. Ten had hypertension as the first biliary drainage. Twenty nine had prior attempts at endoscopic drainage fail.

RESULTS: Twenty five patients died before discharge. Of those, eighteen had the PTCD in situ at time of death. Five had their PTCD intact, 2 endoscopically and 3 percutaneously. One patient's PTCD became displaced and one patient lived an open bypass. In patients who lived the average duration from admission to insertion of PTCD was 0.62 (0-2) days. Survival following PTCD insertion was an average 13.3 (4-72) days. Average hospital stay was 20 (9-42) days. Fourteen patients were discharged. Three patients had their PTCD in situ at discharge. Eight had successful, endoscopically and 5 percutaneously. Two received open bypass. A single patient with a previous hepatobiliary operation had a new adequate drainage and the PTCD was removed.

Duration from admission to PTCD insertion was 12 (4-27) days. Time from PTCD insertion to discharge was 27 (3-74) days. Average hospital stay of surviving patients was 37 (13-72) days.

CONCLUSION: Percutaneous biliary drainage has a 45% mortality in hospital. The majority of patients lived an average of 13 days (4-72). Preroged insertion of PTCD is common (average 26 days). It is need to identify factors that predict poor outcome.

BYPASS SURGERY FOR BILIARY OBSTRUCTION IN CHRONIC PANCREATITIS

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INTRODUCTION: Bile duct stenosis occurs in 10-30% of chronic pancreatitis. Hepatocellular carcinomas (HCC) or cholangiocarcinoma (CC) and pancreatobiliary obstruction forms the standard of care. Opening the pancreaticobiliary bile duct with incorporation into the pancreaticojejunostomy has been attempted. We present our experience in the use of HU if CC is the Morales of common bile duct stenosis (CDIBM) in patients undergoing duodenal preserving pancreatic resection for chronic pancreatitis.

METHODS: From a prospectively studied cohort of patients undergoing duodenal preserving localisation of head of carcinoma and pancreatocystectomy (LPJ). Those whose undergone HCC or CC (performed in a separate case flow loop used for the LPJ) were analyzed.

RESULTS: Twenty seven patients had HU if CC (4-19) of the (LPJ) over a 14 year period. All had a mean duration of 4 (0.5-15) years. Of 22 patients with CCDS, jaundice was present in all, T (31.3%) with jaundice managed with pre-operative biliary drainage used in all jaundiced patients. The median operative time, blood loss and drainage times were slightly. (3.5 if 3-11) hours, 0.75 (0 if 2-9) L and 1 (1-2) units respectively. Perioperative complications, postoperative complications were not reported in our series of surgery. There were no death and the overall mortality hospital stay was 15 (0-38) days. Median 7-year pain relief rate was 65.9%. No patient has recurrent jaundice.

CONCLUSION: CDIBM is common in chronic pancreatitis. HU or CC at the time of the primary operation is simple, safe and effective with minimal morbidity and good long term results. This procedure is recommended as an alternative to dividing the bile duct by incorporating it into the pancreaticojejunostomy.

COMPUTER DIRECTED ROBOTIC GASTRIC SYSTEM FOR GAINING PRECISELY TARGETED NEEDLE ACCESS TO THE BILIARY, COLLECTING SYSTEM DURING PERCUTANEOUS NEPHROLITHOTOMY (PCNL)

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INTRODUCTION: Obtaining safe and accurate access to a predetermined renal calyx is probably the most critical step when performing PCNL and is usually the most challenging current option for obtaining access include: two step procedures (pre-operative access by interventional radiologists), bi-planar fluoroscopic guided techniques (eye of needle and triangulation), retrograde percutaneous access and robotic assisted access. Our aim with this experiment was to develop a new method of obtaining access which to rapid and reproducible, accurate, simple (performed by Urologist) and cost-effective.

METHODS: From January to January 2008, 6 abdominal fluoroscopic images (3 images at [PCNL] position and 3 at [UC]) were obtained from patients undergoing routine PCNL. These images were then used in the development of the software and hardware of the PCNL access system. A needle positioning gyroscope had been designed and prototype construct. The mechanical arm guided the access needle, and in alignment with the aorta and left jugular tend to a computer. A user-friendly graphic interface, including intraoperative images of the contrast filled renal calyx, is displayed on the computer screen, where the user then selects the point of desired access. The system will calculate and plot the necessary translation and rotation of the needle from the current position in order to target the selected calyx.

RESULTS: The PCNL, a simulation was simulated using the ex vivo porcine kidney as an experimental model with the set of the new access system the targeted calyx could be successfully punctured on the first attempt.

CONCLUSIONS: Simulations in animal kidneys indicate that the new system for use by "Computer-controlled" PCNL is simple, cost-effective and provides percutaneous renal access that is fast and accurate.
CLAMP ABILATATION OF THE TESTES (CAT) COMPARED TO BILATERAL ORCHIDECTOMY: THE RELATIONSHIP BETWEEN ORCHIDECTOMY THERAPY FOR ADVANCED PROSTATE CANCER

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INTRODUCTION: The traditional methods of administering androgen deprivation therapy (ADT) for metastatic prostate cancer are in the form of surgical orchidectomy (SCO) or bilateral orchidectomy or medical castration (LHRH agonists). SCO is a minor surgical procedure and an effective form of ADT, however it has several drawbacks: pain, surgical complications such as bleeding and wound infection, psychological effect of an empty testicle and the use of anesthesia, trained personnel and sterile instruments. In this study we evaluate a new method of castration which is quick to perform in an outpatient setting, easy to dose, morbidity and complications than SC, does not leave the patient with an empty scrotum and is much more cost-effective than SCO and LHRH-agonists.

METHODS: After approval of the study protocol by the Human Research Ethics Committee of Stellenbosch University, 14 patients requiring ADT for advanced prostate cancer were prospectively randomly assigned to 2 groups. Group 1 underwent standard SCO as per existing hospital protocol and Group 2 underwent a novel clamp clamping of the testes (CAT) using a new medical clamp, where the spermatic cords were clamped for 10 minutes superior to the testicle. This procedure was performed using a specifically designed clamp (Barcelona). Both SCO and CAT were performed under local anesthesia. Infusions were followed up at 72 hours, 7 days, 6 weeks and then 3-monthly.

RESULTS: The two groups were comparable with regard to patient age, Gleason grade and stage of prostate cancer. Average post-procedures levels of prostate specific antigen (PSA), insulin-like hormone (LH) and testosterone (TT) as well as the testicular volume (measured with ultrasound) were similar in the two groups. The mean operating time was 11.1 minutes for CAT and 17.4 minutes for SCO. The visual analog pain score associated with the procedure was on an average 1.2 for CAT and 4.4 for SCO. With CAT patients had developed a local wound complication, with 3 of the 5 patients seeking unscheduled medical attention for this. Six weeks after the procedure PSA levels had decreased from baseline by a mean of 10% in CAT group and 4.8% in SCO group. In the CAT group, the PSA level had decreased by a mean of 59% from baseline in the CAT group; (3 out of 7 patients had complete PSA response). (4 out of 7 patients had TT levels, however by 6 weeks the mean TT reduction from baseline was only 13% after CAT and 75% after SCO. The CAT procedure was associated with only cold at two levels for 10 seconds each, and in the 12 CAT cases the TT levels were reduced by more than 50%. LH levels increased rapidly following both procedures and at 6 weeks were raised by a mean of 20% from baseline in the CAT group and 90% in the SCO group. Testicular size after CAT showed an initial increase of 16% at 7 weeks; 38% at 7 days followed by a gradual decrease in size (mean of 24% at 6 weeks).

CONCLUSIONS: These preliminary data show a trend towards decreased procedure time and local wound complications for CAT compared to SCO. The initial CAT procedures were not as effective as SCO in achieving castration, but is learning curve in performing this new procedure effectively has been observed. Further surgery is pending to determine the efficacy of CAT compared to SCO in achieving androgen ablation.

A PROSPECTIVE RANDOMISED STUDY COMPARING THE VIENA NOMOGRAM TO AN EASL RECOMMENDED PROSTATE BIOPSY PROTOCOL

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AIM: To compare prostate cancer detection rates of first and repeat biopsies using a standard B-type biopsy protocol versus the Vienna nomogram for determining the number of biopsy cores. 2. To compare the side-effect profile of a standard B-core versus the Vienna nomogram biopsy protocol.

PATIENTS AND METHODS: Men with a serum PSA ≥2.5 ng/ml or suspicion of prostate cancer on digital rectal examination were stratified according to serum PSA into low, intermediate and high risk groups. (I = PSA ≤10.0 ng/ml = PSA ≤4.0 ng/ml; II = 10.1-20.0 ng/ml; III = PSA >20.0 ng/ml) and more than randomized into two arms. Group A underwent standard B-core TRUS guided biopsy and Group B underwent VIENA TRUS guided biopsy with the number of cores determined according to the Vienna nomogram. In Group A, the patients age and prostate volume as measured by TRUS. Biopsies were performed under local anesthesia using percutaneous introduction of 2% lignocaine. The study was approved by our institutional review board, and written informed consent was obtained from all study subjects.

Vienna nomogram: Number of biopsy cores based on patient age and prostate volume

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Prostate size (ml)</th>
<th>Prostate size (ml)</th>
<th>Prostate size (ml)</th>
<th>Prostate size (ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Younger than 50</td>
<td>8</td>
<td>53-60</td>
<td>51-70</td>
<td>50-70</td>
</tr>
<tr>
<td>51-70</td>
<td>12</td>
<td>31-40</td>
<td>21-30</td>
<td>20-30</td>
</tr>
<tr>
<td>41-50</td>
<td>14</td>
<td>31-40</td>
<td>21-30</td>
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</tr>
<tr>
<td>51-60</td>
<td>18</td>
<td>14-16</td>
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</tr>
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<td>61-70</td>
<td>20</td>
<td>14-16</td>
<td>10-12</td>
<td>10-12</td>
</tr>
</tbody>
</table>

RESULTS: In the period August 2005 to March 2008 we randomized 210 patients to standard 8-biopsy cores (Group A; n=150) with a biopsy of 15% as per the Vienna nomogram (Group B; n=60). The mean (range) biopsy was 3.72 (2.2-7.2) in Group A and 5.13 (2.5-4.5) in Group B subjects. The mean (range) patient age was 59.3 (45-81) in Group A and 61.05 (45-81) in Group B. The mean (range) prostate volume was 47.81 (18.36-114.36) in Group B and 49.96 (11-147.6) in Group B patients. The mean (range) number of biopsy cores was 10.6 (1-6) in Group B versus 8.0 in Group A subjects. Prostate cancer was detected in 43.9 (37.4%) of men in Group A and 38.0 (37.4%) in Group B (Fisher's exact test p=0.6). The two groups are statistically comparable.

CONCLUSION: There does not appear to be a significant advantage in using the Vienna nomogram protocol, where the number of prostate cancer biopsy cores was compared to a standard biopsy protocol. The study is ongoing and we aim to include 300 patients before data is published.

EVALUATION OF OXIDATIVE STRESS BIOMARKERS IN RELATION TO PSA LEVELS

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ABSTRACT: Prostate cancer is a common cause of mortality and morbidity in men. Its etiology has been linked with accumulation of free radicals formed by the interaction of reactive oxygen (RO) and reactive nitrogen species (RNS) which causes bi- or even fatal cancer. The aim of this study was to evaluate the correlation between oxidative stress biomarkers and prostate specific antigen (PSA) levels. We used for this purpose, high-performance liquid chromatography (HPLC) and spectrophotometry method and progression of prostate cancer. In this prospective study, we evaluated the plasma oxidative stress biomarkers in relation with prostate specific antigen (PSA) levels before investigating the implications of OIH in prostate carcinogenesis.

METHODS: Sixty six patients were selected and subdivided in two groups. The first group included patients with PSA ranging from 3.5-4.9 µg/mL whereas patients whose PSA exceeds 4.0 µg/mL was at the control group. We found that the oxidative stress biomarkers were elevated in the control group (PSA 4.10 µg/mL) with significantly higher (p<0.05) levels than the normal group (5.027 ng/mL) in increased average levels of 45.9% and 143.4% which were significantly lower than 3797.43 µL and 615.09 µL for the control group and the study respectively. Positive correlation was observed between PSA and the two biomarkers investigated (8-4HNe and 4-HNE) in control and in test groups.

CONCLUSION: These findings support that only the DNA adduct (8-4HNe) resulting from direct DNA damage by free radicals seems to be involved in prostate carcinogenesis and consequently Lipid peroxidation seems to be involved in the progression of the disease.

THE RISK OF BLOOD SPLATTERS TO THE EYES DURING SURGERY

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AIM: With the advent of new techniques in minimising the human immunodeficiency virus (HIV), as well as Hepatitis B and C, Viruses, concern about the transmission of these through occult blood splatters during surgery has arisen. The purpose of the study was to determine the risk of occult blood splatter injuries to surgeons and their assistants during surgery.

METHODS: Surgeons / assistants in several surgical disciplines were requested to wear face masks containing a transparent plastic visor. The visors were collected at the end of the operation and inspected for the presence of occult blood splatters.

RESULTS: Fifty-nine percent of the surgeons / assistants refused to wear the visor. The incidence of blood splatters in those who participated was 43%. There was a trend for blood splatters to be more common during major surgery and during effective surgery. Surgeons and assistants had a similar risk.

CONCLUSION: This study confirms the significant risk of occult blood splatters during surgery and suggests a lack of awareness of the risk by surgeons and assistants.

CARCINOL AND CLINICAL EXAMINATION BE APPLIED AS A TO STUDENTS IN A SURGICAL DEPARTMENT IN SOUTH AFRICA

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AIM: Oral and long case clinical examinations are inherently subjective, and marks may be unfairly influenced by language difficulties, or the examiner is biased towards the student gender or ethnicity. These concerns are of particular relevance in South Africa, with our history of institutionalised racial discrimination. The purpose of this study was to assess whether there was any evidence of systematic examiner bias in all examination courses in our department.

METHOD: We reviewed the results of 406 final year students’ Surgery examinations at the University of Cape Town from 2003 to 2006. These consisted of a multiple choice paper, an objective structured clinical examination, a long case clinical examination and an oral examination.

RESULTS: Students who spoke English as a home language performed better in all examination courses.

CONCLUSION: Female students scored slightly better than males overall, but their scores similarly in the clinical and oral examinations. There were significant differences in the mean scores between the various population groups in all examination modes, with ‘White’ students achieving the highest scores, and ‘African’ students the lowest. These differences were most marked in the multiple choice exam, and least marked in the clinical and oral examinations.

CONCLUSION: We concluded that although there were differences in the examination results according to gender and ethnicity, these were consistent through the various examination modes, and could not be explained by the basis of systematic bias in the oral and long case clinical examinations.
PHARYNGAL CYSTOSCOPIE: A PREVIOUSLY UNDETECTED MANIFESTATION OF A COMMON PARASITE

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ABSTRACT:
Cystoscopy is a parasitic infection resulting from invasion of human tissue by foraminiferan stages of the tapeworm Taenia Solium. Neuroparasitosis is the most serious complication and the greatest cause of acquired epilepsy worldwide. Extensive neuroparasitoses occur frequently and organ systems commonly involved include subcutaneous tissue, muscle and orbital contents. Although cystoscopy of the oral cavity is a well recognized manifestation, clinical involvement of other parts of the upper aerodigestive tract is extremely rare with only one case of laryngeal cystoscopy described in the literature. In this paper, we present a rare case of pharyngeal cystoscopy followed by a literature review with emphasis on upper aerodigestive tract involvement by this common parasitic parasite.

METHODS: An 88-year-old woman with active neurocysticercosis and subcutaneous tissue involvement presented to us with speech difficulty. Ultrasonography and computed tomography were reviewed and a magnetic resonance examination revealed a cystic lesion on the left posterior oropharynx. The cyst was aspirated under general anaesthesia and sent for histopathological examination.

RESULTS: A diagnosis of pharyngeal cystoscopy was made on clinical, radiological and histopathological grounds. The patient was successfully managed under general anaesthesia and postoperative evaluation revealed no evidence of residual disease.

CONCLUSION: In this case report, we describe an atypical manifestation of cystoscopy in the oro- and pharyngeal regions. Diagnosis is usually based on a combination of clinical, radiological and histopathological findings. Although pharyngeal cystoscopy can be successfully managed by simple excision followed by a regime of albendazole and praziquantel, recognition and appropriate management is associated with a high morbidity and mortality. It is therefore important to be aware of this possibility.

VASCULAR INJURIES: A REVIEW OF OUR EXPERIENCE AT SIEBOKING HOSPITAL

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ABSTRACT:
Purpose: The purpose of this study is to evaluate our experience with vascular injuries. We describe demographic injuries of injury, either isolated injury or type of vascular repair and their outcome.

METHODS: A retrospective review of all patients treated for vascular injuries between April 2007 and May 2009. We have identified fourteen patients who underwent vascular repair during that time period.

RESULTS: The average age was 25 years (range 8 – 52 years). Six of these male patients. Majority (64%) had penetrating trauma involving 14% isolated injuries. Commonly injured arterial zone for 10% (60%), with vascular injuries in neck (26%), upper arm (21% of injuries), and lower arm and leg (6% and 3%, respectively). Of the extraneous injuries, 2 occurred in arm and leg (6% missing and 3%, respectively). Subsequent injuries were used for popliteal and brachial popliteal with greater gunshot for femoral injury. Facial fascia was made in all, mostly for face presentation with lesser complications in the limb. Associated injuries were seen in 6 (43%), this included fractured ribs in 2, pneumothorax, bone fracture and sepsis. Psychiatric and mortality were noted in 3 (2%), and 2 (1%) patients respectively. There were no complications in this study.

CONCLUSION: Vascular trauma represented a small percentage of all trauma patients. Extensive injuries continue to be predominant with favourable outcome in terms of limb salvage.

AN ANALYSIS OF 205 PENETRATING NECK INJURIES

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ABSTRACT:
Purpose: We report on 205 consecutive patients presenting to the Groote Schuur Hospital and University of Cape Town with penetrating neck injuries. The purpose of this study was to evaluate the incidence of SMIDP of the neck based on clinical examination, which differs from the more common complications and the injury pattern.

METHODS: A prospective observational study was conducted at the Trauma Centre at Groote Schuur Hospital. All consecutive patients sustaining penetrating neck injuries over a period of 13 months were included and analyzed for demographics, mechanism of injury, neck injuries and management.

RESULTS: Two hundred and three patients were included in the study. There were 159 and 42 patients with stab and gunshot wounds, respectively. A vascular injury was identified in 27 (13.5%), patients, a pneumothorax in 18 (8.9%), patients and an upper airway injury in 5 (3.9%) patients. Only 20 (12.3%) patients required surgical intervention. A further 8 (3.9%) patients had therapeutic vascular procedures performed under local anaesthesia. The remaining 170 (83.7%) patients were managed expectantly. There were no clinically relevant missed injuries.

CONCLUSION: Selective nonoperative management based on clinical examination and selective use of investigative studies is safe in a high volume trauma center.