

RESUMES/ABSTRACTS

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1. ADULT CONGENITAL HEART SURGERY IN A GENERAL CARDIAC PRACTICE

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Background: In Argentina pediatric and adult heart surgery are performed almost exclusively by different teams leaving adults with congenital heart disease somehow in the middle. We used a multidisciplinary team approach. The aim of this study was to analyze our results for the first 8 years of this experience.

Patients and Methods: Between June 2005 and June 2013, 45 patients were operated on by our pediatric-adult cardiac surgery team. We performed a retrospective analysis of the data in our database.

Results: In this population the mean age was 36.4 years (range 15-74), and 69 % (31) were women. By far the two most common pathologies were ASDs accounting for 69% (31) of the cases, followed by VSDs 15% (7). There was also a miscellaneous array of different pathologies including patent ductus arteriosus, coarctation, and others. Associated valve disease was observed in 22%, the most common being tricuspid insufficiency in 7 cases, mitral valve disease in 6 and aortic valve disease in 1. There were 3 reoperations. Valve repair was the most common valve procedure and mini-sternotomy was the preferred approach in almost half of the patients 21 (47%). The mean perfusion time for the entire group was 55 min (range 20-120), with an aortic cross clamp of 35 min (range 11-95 min), and for the isolated ASD 35 and 19 min respectively. Mortality for the entire group was 2 patients.

Conclusions: The team approach solves two of the problems associated with these patients. First considering that one third of the cases are other pathologies than simple ASD, pediatric surgeons are more used to solving them, and secondly, almost a quarter of the patients presented with valve disease, which is the adult cardiac surgeons' territory.

2. AN UNUSUAL PRESENTATION OF CONGENITAL DIAPHRAGMATIC HERNIA: CASE REPORT AND LITERATURE REVIEW

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Congenital diaphragmatic hernia is a rare congenital anomaly. It causes severe respiratory distress in the newborn. The risk of mortality is very high when the diagnosis is missed, more so with an unusual presentation. An index of suspicion is needed for early diagnosis and intervention. Management involves initial stabilization and subsequent surgical repair of

the hernia. An 11 day old neonate presented to the neonatal unit of our Institution with a history of progressively worsening shortness of breath since birth. He was not cyanosed and was able to maintain O₂ saturation above 90% on room air. Bowel sounds were present in the right mid and lower lung zones. Chest x-ray revealed multiple cystic opacities in the lower half of the right hemithorax. This was confirmed on ultrasound to be herniation of bowel into the chest. Echocardiography showed there was no associated congenital cardiac anomaly. He was initially stabilized at the neonatal care unit and subsequently had a primary hernia repair. He did well post operatively. Congenital diaphragmatic hernia should be considered a differential in newborns with respiratory distress, more so with unusual radiological findings.

3. ANALYSIS OF CORONARY ARTERY SURGERY IN GHANA

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Background: It is well documented that coronary artery disease is uncommon in Africa. In the last decade, Africa has been going through the transition phase of the burden of disease, and as such the incidence of coronary artery disease is rising in keeping with westernization of most of the urban cities in Africa. Actually, some people still question the validity of the low incidence of coronary artery disease in African patients, where hypertension, dyslipidemia and obesity, the main risk factors for heart disease, are very common. Therefore, some believe that the limitations in providing reliable data concerning the incidence of coronary artery disease may be the reason for the supposed rarity of the disease in Africa. This paper assesses the results of coronary artery surgery performed at the National Cardiothoracic Centre in Accra.

Patients and Methods: We retrospectively analyzed all cases of coronary artery bypass graft (CABG) done here between 1995 and 2012. We defined our indication for surgery as coronary occlusion of more than 70%. The operation database and clinical records provided the necessary information.

Results: The study enlisted 44 patients. There were 39 males (88.63%) and 5 females (11.36%). The mean age was 58 ± 8yrs. The risk factors were hypertension (93.18%) hyperlipidemia (79.54%) and diabetes (25%). Smoking was only found in two Ghanaian patients and one foreigner. All patients underwent conventional on-pump bypass with St Thomas crystalloid cardioplegia. The mean ischemic time was 74.34 ± 13.21 minutes and total bypass time of 128.27 ± 23.52 minutes. The culprit vessel was the LAD; mean number of grafts was 2.5 ± 0.60. The mean ICU stay was 3.53 ± 0.87 days and the total hospital stay was 13.60 ± 2.30 days. Overall survival was 93.18%, 81.81% and 63.64% in the first, third and fifth years respectively.

Conclusion: The limitations in providing reliable data concerning the incidence and treatment of coronary artery disease may be the reason for the supposed rarity of coronary artery bypass graft in Africa. The few cases that underwent coronary artery bypass had comparable results with that reported in the literature.

4. ANOMALOUS ORIGIN OF THE LEFT COMMON CAROTID ARTERY

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The aortic arch and its branches have a complex embryological origin, and therefore congenital anomalies involving them are common. A common brachiocephalic trunk is the most frequent normal variant of aortic arch branching. We report the case of a 56-year-old female who was brought to our Institution with a history of sudden collapse associated with a pulsating right-sided neck swelling. Investigations ruled out aneurysmal dilatation. An abnormal branching pattern of the aortic arch branches was found instead. We highlight the anatomic variants of the aortic arch and discuss the embryological aberrations with emphasis on the significance of such variations for clinical practice.

5. BEATING HEART VALVE SURGERY

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Background: With a better understanding of the anatomy and the physiology of the heart, advanced methods and techniques can be developed to enable cardiac surgeons offer better services to their patients. And even though cardiac surgery is one of the fastest growing areas of Medicine due to the advancement of technology, there is still a group of patients with valve disease and low ejection fractions who are at high risk of inability to restart the heart after the cardiac arrest (which is required for the procedure). It is in line with this that the option of performing valve surgery without stopping the heart has been investigated. A descriptive observational prospective study was carried out.

Patients and Methods: The study enlisted a cohort of adult patients admitted with valvulopathy, ejection fraction less than 45%, and NYHA class III-IV admitted in Hospital Hermanos Ameijeiras, Havana from 2001 to 2006.

Results: A total of 27 patients were included in this study with a male predominance of 70%. This group had valve replacement on pump with continuous normothermic oxygenated blood perfusion through the coronary sinus. The total bypass was 75 ± 18.42 minutes, and clamp time of 65 ± 15.24 minutes. The cardiac ischaemic enzymes (Troponin I, CK-MB and

Lactic Acid) were normal peri-operatively, only elevated three hours post operatively. The complications of this technique are similar to the conventional technique. The ejection fraction improved above 45% in the first 15 days post-operatively in 7 patients (28%), at one month post-operatively in 16 patients (64%), at three months in 18 patients (75%), at six months (88%) and 80% after a year. The patient survival in this group was higher than those on medical treatment.

Conclusions: In our experience, valve replacement can effectively be done without stopping the heart in high risk patients with continuous oxygenated blood perfusion. The clamp time, bypass time and hospital stay is similar to conventional surgery. More than three-quarters of our patients improved in functional class and ejection fraction.

6. BIDIRECTIONAL GLENN SHUNT FOR UNIVENTRICULAR PHYSIOLOGIES AND NON CORRECTABLE PULMONARY ATRESIAS – CAN WE AVOID A FONTAN OPERATION IN SUCH SELECTED CASES?

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Background: A Fontan Operation in non-optimal situations carries a higher mortality and morbidity with much longer hospital stays and recurrent pleural effusions and chylothorax. We wanted to know if patients can remain well on Glenn shunt alone at 2 years follow-up without Fontan surgery.

Patients and Methods: We studied 32 cases of varying types of univentricular hearts (Single Ventricular Pulmonic stenosis – 11, tricuspid atresia – 8, L-TGA with VSD and PS or Single Ventricle, VSD straddling A-V valve or common A-V valve – 6, and Pulmonary Atresia with DORV or remote VSD's – 7 with suboptimal features for Fontan like high left ventricular end-diastolic pressure or mild increase in PA pressures (mean PA pressure 14-18 mm Hg) or mild A-V valve regurgitation or double SVC or IVC interruption for which a Bidirectional Glenn surgery was done successfully and patient followed up for a period of 2 years. Average age of patient was 5 years (range 9 months – 12 years), pre-op oxygen saturation varied from 71% to 80%. Bidirectional Glenn shunt was performed with aortic cross clamp – 4 patients, off bypass in 5 patients and with cardiopulmonary bypass in 17 patients. The operation mean time was 2 hours. Average ICU stay was 4 days. No mortality occurred.

Results: At the end of one year all the patients were doing well with good improvement in milestones, weight gain and improvement of oxygen saturation at an average of 5% in the whole group. All patients were studied with cardiac catheterization at end of two years and 5 patients underwent Fontan surgery. The rest of 27 patients were doing well at 24 months on Glenn shunt alone.

Conclusion:The bidirectional Glenn Shunt as a final surgery remains an attractive operation in patients who are at high risk for post-operative morbidity after the Fontan operation.

7. BLUNT CHEST TRAUMA IN A CHILD FROM AIR BAG DEPLOYMENT: A CASE REPORT

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The dashboard airbags in cars are one of the main reasons for preventing children from occupying the front seats. The airbag may be deployed even in low-speed collisions causing injury from the large volumes they occupy on deployment. An 18-month old girl presented in the emergency unit with progressive dyspnoea for 6 hours after a road traffic accident. She was on the mother's lap (who was not wearing a seat belt herself) horizontally when the car had a low-speed collision with a stationary car off the road. The mother propelled forward, hitting her head against the dashboard and sustaining a laceration on her forehead. The child sustained a blunt chest injury: bilateral haemothorax and lung contusion. He child was managed conservatively, with a good outcome.

8. BOVINE PERICARDIAL CONDUIT REPAIR IN PULMONARY ATRESIA – SINGLE CENTER EXPERIENCE

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Background: Unifocalization and then correction of pulmonary atresia for both confluent and non-confluent pulmonary arteries are extremely challenging in third world countries because of the high cost involved in multiple surgeries and the extra cost of valved-conduits. We report our experience with 50 cases of pulmonary atresia with confluent and non-confluent pulmonary arteries in which total repair was done after unifocalization and antegrade flow into PA's established using a RV-PA conduit fashioned with bovine pericardium.

Patients and Methods: Patients were followed up for an average period of 2 years. The age range was 2 – 20 yrs, 34 males, and 16 females. Twenty patients had a left BT shunt and 15 a right BT shunt. Out of these patients, 26 were studied with Echo Doppler and CT angiogram for pulmonary atresia and major aorto-pulmonary collaterals. The other 24 patients were subjected to cardiac catheterization to detect any evidence of pulmonary hypertension (especially patients with old BT shunts). The average bypass time was 3 hrs. Post ICU care required 8 days. Blood requirement was 1.3 units per patient.

Results: Post-operative ECHO Doppler on 2nd day showed an average conduit gradient of 25 mm Hg. Only 9 patients had significant RV dysfunction. Five patients remained in low cardiac output, of which 4 were put on ECMO support and of which 2 children

died after 7 -14 days (post ECMO implant). Two others died of other causes. The other 43 patients were well at end of one month. The cost analysis showed an average cost reduction of 40 % when compared to patients implanted with commercially available RV –PA conduits.

Conclusions: Unifocalization and ICR for pulmonary atresia of all types are safe and feasible at lower costs.

9. CABG: OFF PUMP, ARTERIAL GRAFTING AND COMPLETENESS OF REVASCULARIZATION IN 330 CONSECUTIVE CASES IN A LOW VOLUME CENTER

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Background: The aim of this study was to describe our results using a selective approach with off pump and arterial grafting in a low volume center (less than 500 cardiac cases a year) in Argentina.

Patients and Methods: An all comers study was conducted during a three-year period (June 2010-June 2013). All 332 patients were operated on by two surgeons with 10 years' experience at the beginning of the study. Prospective data was collected and retrospectively analyzed.

Results:The mean age was 62.9 years (37 – 84) and 85 % were male. The operative mortality was 4.81 % for the entire group and 2.2% (4/183) for elective cases. Off pump was electively done in 76.49% of the time, with a conversion rate of 3.61 %. Complete revascularization was achieved in 81.8% with no difference between on pump (off pump: 80.96 %; on pump 84.5 % p=ns). The most common reason for incomplete revascularization was ungraftable vessels. Arterial grafting to LAD was performed in 98.67 %. Multiple arterial grafting using radial, RIMA or GEA was done in 49.12 % and total arterial grafting in 21.59%.

Conclusions: Low mortality and complete revascularization is feasible using either off or on pump. Arterial grafting to LAD is almost always possible. The quality of the vessels is the main reason for incomplete revascularization in both groups.

10. CHALLENGES IN MANAGEMENT OF MALIGNANT PLEURAL EFFUSION AT THE NATIONAL CARDIOTHORACIC CENTRE, ACCRA, GHANA

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Background: Malignant pleural effusion (MPE) presenting with dyspnea is a common emergency. In managing these patients, some challenges are encountered and these compound their morbidity. This study was designed to identify these challenges and the effect on patients' morbidity.

Patients and Methods: A 5-year (2008-2012) retrospective analysis was done using the ward admission and discharge records and the patients' case notes.

Results: The total number of patients was 64. There were 14 (21.9%) males and 50 (78.1%) females. Twenty-two (42.2%) and 42 (57.8%) had serous and haemorrhagic effusions respectively. Breast cancer patients were 24 (37.5%). The rest were bronchogenic carcinoma 13 (20.3%), mediastinal lymphoma 7 (10.9%) and osteosarcoma 6 (9.4%). Endometrial and ovarian carcinomas were 4 (6.3%) each and other malignancies were 6 (9.4%). Thirty five (54.7%) patients underwent tetracycline pleurodesis. Pleurodesis was not performed in 29 (45.3%) due to trapped lung. The recurrence rate of tetracycline pleurodesis was 23.5%. Twenty (31.3%) had pleural fluid cytology with a sensitivity of 40%. Out of 57 patients discharged, 50 (87.7%) were lost to follow up. Twenty three (35.9%) were admitted for 3-4 weeks. Twenty (31.3%) were on admission for one week and the rest 20 (31.3%), for 8-13days. One (1.6%) patient was admitted for six weeks. Prophylaxis against chest infection and deep vein thrombosis (DVT) was administered in 60 (63.8%) and 46 (71.9%) patients respectively. Two (3.1%) and 14 (21.9) were treated for DVT and malaria respectively. Three (4.7%) patients became oxygen dependent due to metastatic lung disease. In-hospital mortality was 7 (10.9%).

Conclusion: The morbidity of patients with MPE was further compounded by prolonged hospital stay, predisposing them to DVT and malaria. Trapped lung made a significant number unsuitable for pleurodesis.

11. DEVELOPING PAEDIATRIC CARDIAC SURGERY IN AFRICA

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Background: The public health impact of congenital heart defects (CHD) in Africa is unknown. We sought ways in which the current services could be improved by investigating access to tertiary care for CHD.

Patients and method: Consecutive patients referred for evaluation and treatment of CHD at Ghana's National Cardiothoracic Centre between August 2011 and July 2012 were enlisted with retrospective analysis of their records. Extrapolation was used to estimate the birth prevalence of CHD in Ghana. Access was evaluated in terms of utilization of diagnostic and surgical services.

Results: We estimated an annual birth prevalence of 5,840 CHDs. Eight hundred-and-eighteen hospital patients (53.4% females) were enlisted; median age 2 years (2 days – 59 years). There were 329 infants diagnosed with CHD. Ventricular septal defects, atrial septal defects, and tetralogy of Fallot accounted for 617 (75.4%) cases. Surgical intervention was performed for 128 patients (including 6 infants) during the study period with an overall hospital mortality of 7%. The cost of open heart correction was at least 3.4 times that of closed heart correction but the affordability (5% vs. 39%; OR = 7.4, 95% CI 4.6 – 12.0; $p < 0.0001$) disproportionately favored closed heart correction because of lower cost.

Conclusion: Although surgical intervention for CHD has a good outcome, restricted access to diagnosis and treatment portends a poor outcome for the majority of individuals born with CHD. Our local experience is probably a reflection of the outlook for children born with CHD on the African continent. There is the need to demonstrate the public health impact of CHD through population studies to facilitate a change in public policy. Urgent steps are required to develop a technical consensus about the appropriate public health approach to enhance geographical and financial access to CHD services on the continent.

12. EXCISION OF A GIANT ANTERIOR CHEST WALL PLEXIFORM NEUROFIBROMA AND CHEST WALL RECONSTRUCTION WITH METHYLMETHACRYLATE AND VERTICAL RECTUS ABDOMINIS MUSCULOCUTANEOUS FLAP: CASE REPORT

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Plexiform neurofibromas (PNFs) are benign nerve tumours resulting from aberrant growth of cells of nerve sheath. PNFs are generally painless, slow growing neoplasms. Although most neoplasms are asymptomatic, they can be particularly debilitating due to their potential to grow to very large sizes. They have potential for transformation into highly malignant peripheral nerve sheath tumours which occur in approximately 5% of patients. They can affect most parts of the body. When they occur in the chest wall, they are amenable to excision. Following excision, a surgeon is faced with a large skeletal and soft tissue defect which poses functional and cosmetic challenges. We present a 24-year old farmer that presented with a giant anterior chest wall plexiform neurofibroma that was noticed since childhood. He had excision of the mass and skeletal reconstruction with methylmethacrylate sandwiched in prolene mesh and soft tissue coverage with vertical rectus abdominis musculocutaneous flap. We conclude that the use of methylmethacrylate and myocutaneous flaps give both good functional and cosmetic outcome following excision of large chest wall tumours.

13. EXPERIENCE IN THE CREATION OF LONG TERM VASCULAR ACCESS FOR DIALYSIS IN A NIGERIAN CITY

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Background: Reliable long term vascular access for the purpose of dialysis can be especially challenging in the third world. With the establishment of more dialysis centers and the general improvement in economic conditions in Nigeria, patients with chronic renal disease are surviving longer. Obtaining reliable long term vascular access is therefore very important to our patients. We report our institutional experience in creating long term vascular access.

Patients and methods: This study is an analysis of a prospectively maintained database of arterio-venous fistulae created as vascular access for haemodialysis. The study period was March 2008 to May 2013. The procedures were performed by 2 cardiothoracic surgeons in various hospitals in the Lagos Metropolis. The data analyzed included demographic characteristics, types of fistulae or grafts created, the challenges encountered and complications.

Results: There were a total of 69 fistulae created in 60 patients. The distribution of procedures was 41 radiocephalic fistulae (59.4%), 17 brachiocephalic fistulae (24.6%), 9 basilic /brachial vein transpositions (13.1%) and 2 brachioaxillary vein AV grafts (2.9%). Male to female distribution was 1.6:1. Ages ranged from 12 years to 80 years with an average age of 48.7 ± 16.7 years. 75% of the fistulae went on to maturity and were used for dialysis. Complications seen were wound infections in 2 patients (2.9%), post-operative seroma in 2 patients (2.9%), hematoma following cannulation in 1 patient (1.4%), pseudo aneurysm formation in 1 patient (1.4%) and severe postoperative bleeding in 3 patients (4.3%). Repeat procedures were required in 9 patients (13%). Tunneled dialysis catheters were inserted for temporary vascular access to allow fistulae to mature in 23 patients (38%).

Conclusions: Permanent vascular access for dialysis done by dedicated surgeons experienced in vascular anastomosis with the aid of adequate loupe magnification can enjoy favorable success rates even in developing countries. The patient should be sensitized to the possibility of more than one attempt at fistula creation and the surgeon should be aware of the different options available for Arterio -Venous fistula creation.

14. FACILITATED ANGIOPLASTY

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Background: Primary percutaneous coronary intervention (PCI) has become the optimal strategy for

the treatment of ST-segment elevation myocardial infarction (STEMI). However, primary PCI is offered less, and many of those that do are unable to offer primary PCI as an around-the-clock service. Primary PCI also is less widely available in many developing countries. Thus, fibrinolytic therapy continues to be administered to many patients with STEMI. Given the relatively low rates of successful reperfusion with fibrinolysis, revascularization is often required afterward, the indications for and outcomes are evaluated in this study.

Methods: We performed a prospective and randomized study with combined strategy of immediate thrombolysis in the emergency room or in the ambulance followed by angioplasty within 12 hours after thrombolysis.

Results: The study recruited patients admitted with acute coronary syndrome who were thrombolysed with streptokinase and with TIMI III flow. A total of 96 patients were included in the study. They were randomized in two groups: group A (58) patients had thrombolysis plus medical treatment while group B (38) patients had thrombolysis and PCI within 12 hours. The most dominant risk factor was hypertension, occurring in 63 patients (65.6%); the predominant area of infarct was the inferior wall (57.3%). Most patients had single vessel disease; the commonest culprit vessel was the right coronary artery. When referred for PCI, group A patients had patency of culprit vessel in 65% of cases whilst in group B, 94% patency was demonstrated. Re-infarction and unstable angina were more common in group A patients.

Conclusions and Recommendations: Primary PCI is superior to thrombolysis and medical therapy in terms of restoration of coronary perfusion in 30 days following acute myocardial infarction. Re-infarction and unstable angina occur less commonly after primary PCI. Where the service is available, primary PCI should be offered instead of thrombolysis and medical therapy.

15. IMPACT DU VIH/SIDA SUR L'EVOLUTION POST-OPERATOIRE DES SEQUELLES DE TUBERCULOSE PULMONAIRE

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Contexte: Cette étude vise à analyser les particularités démographiques, cliniques, radiologiques et évolutives des séquelles pulmonaires tuberculeuses (SPT) opérées chez les séropositifs (VIH⁺) versus séronégatifs (VIH⁻).

Patients et méthodes: Il s'agit d'une étude cas-témoins réalisée entre 2005 et 2012. Le cas (groupe I) a été défini comme une personne VIH⁺, ayant dans ses antécédents, une tuberculose pulmonaire (TP) traitée et déclarée guérie. Les témoins (groupe II) ont été appariés sur l'âge, le sexe, le statut sérologique VIH⁻, le diagnostic pré-opératoire de la STP, la mortalité, les complications post-opératoires (CPOP),

le séjour hospitalier, le suivi à moyen terme des STP opérées. L'analyse statistique a comparé la proportion de sujets exposés aux différents facteurs dans les 2 groupes.

Résultats: Les VIH⁺ dont l'âge était compris entre 40 et 50 ans (60%) présentaient plus de STP que les VIH⁻ (21,3%) [$p < 0,05$]. Les séropositifs étaient VIH1⁺ (n = 12; 60%), VIH1&2⁺ (n=4;20%) et VIH2⁺ (n=4;20%). Les VIH⁺ ne présentaient pas d'Aspergillome pulmonaire. Le séjour moyen hospitalier était de 13,1±10,2 jours et 16±9 jours respectivement chez VIH⁺ et VIH⁻ ($p = NS$). Le suivi moyen était de 4,035 ± 1,99 ans. Le taux de mortalité à court et moyen terme était nul. Le taux de CPOP était de 0% *versus* 21,1% (n=8) pour les VIH⁺ vs VIH⁻ ($p < 0,001$). Les CPOP immédiates étaient les bullages persistants chez 75% des immunodéprimés *versus* 10% des immunocompétents ($p < 0,05$). La survenue de CPOP immédiates des STP chez les VIH⁻ était statistiquement non significative chez les femmes ($P = 0,38\%$) que chez les hommes ($p = 0,252\%$). Les CPOP tardives étaient un syndrome restrictif pulmonaire (n=3), un pyothorax persistant (n=2) et une déformation du thorax (n=3). Le pyothorax opéré chez le VIH⁺ vs VIH⁻ entraînait des CPOP tardives ($p = 0,032$). L'analyse uni-variée montrait 2 facteurs indépendants qui influençaient directement la morbidité à moyen terme: l'hémoptyisie pré-opératoire et le bullage persistant.

15.IMPACT OF HIV/AIDS ON THE POSTOPERATIVE OUTCOME OF PULMONARY TUBERCULOSIS SEQUELLAE

Background: We analyzed the demographic, clinical, and radiological aspects and the outcome of the operated pulmonary tuberculosis sequellae (PTS) in seropositive (HIV⁺) and sero-negative (HIV⁻) patients.

Patients and Methods: Between 2005 and 2012, a case-controlled study was conducted. The study group (group I) consisted of seropositive (HIV⁺) patients treated for pulmonary tuberculosis (PT) and declared cured. The control group (group II) was compared in terms of age, sex, serum status negative (HIV⁻), preoperative diagnosis of PTS, the mortality, postoperative complications, hospital stay, and the medium-term follow-up of the operated PTS. The statistical analysis consisted in comparing the proportion of subjects exposed to the various factors in the 2 groups.

Results: The HIV⁺ (group 1) age range from 40 to 50 years (60%) presented more PTS than HIV⁻ (group 2) (21.3%) [$p < 0.05$]. The HIV seropositive were VIH1⁺ (n=12; 60%), VIH12⁺ (n=4;20%) and VIH2⁺ (n=4;20%). The HIV⁺ did not present a pulmonary aspergilloma. The mean hospital stay was 13.1±10.2 days and 16±9 days respectively for the HIV⁺ and HIV⁻ ($p = NS$). The mean follow-up was 4.035±1.99 years old. The short and medium-term mortality rate was nil. The rate of postoperative complications was 0% *versus* 21.1% (n=8) for patients HIV⁺ *versus* HIV⁻ ($p = 0.001$). The early postoperative complications of the PTS occurring on

the immunocompetent patient was not significant for women ($P = 0.38\%$) as well as men ($p = 0.252\%$). The early postoperative complications were persistent bullae in 75% of the immunosuppressed *versus* 10% of the immunocompetent ($p = 0.05$). The pyothorax operated in the HIV⁺ *versus* HIV⁻ led to complications ($p = 0.032$). The late postoperative complications were a pulmonary restrictive syndrome (n=3), a persistent pyothorax (n=2) and a distortion of the thorax (n=3). The uni-variable analysis showed 2 independent factors which directly influenced the medium-term morbidity: the preoperative hemoptysis and the persistent bullae.

16. INSUFFISANCE TRICUSPIDIENNE NEGLIGEE AU COURS DE LA CHIRURGIE VALVULAIRE MITRALE ET/OU MITRO-AORTIQUE

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Contexte: Cette étude vise à rapporter l'évolution des insuffisances tricuspidiennes fonctionnelles négligées (ITFN) au cours de la chirurgie valvulaire mitrale et/ou mitro-aortique.

Patients et Méthodes : Entre 1985 et 2002, nous avons réalisé une étude rétrospective de 30 patients ayant présenté une insuffisance tricuspidiennne (IT) minime ou modérée, négligée lors de la chirurgie des valvulopathies mitrales et/ou mitro-aortiques.

Résultats : Il s'agit de 24 femmes et de 6 hommes dont l'âge médian était de 18 ans (extrêmes : 8-56 ans). 81,5% des valvulopathies étaient d'étiologie rhumatismale. Les patients ont présenté en moyenne 1,67±1,5 épisodes de défaillance cardiaque globale dans les antécédents. La durée médiane de l'ancienneté de la maladie était de 5 ans. 60% des patients étaient au stade fonctionnel III de la NYHA. Les pathologies valvulaires associées étaient une insuffisance mitrale (IM) [n=4], un rétrécissement mitral (n=4), une maladie mitrale (n=16), une insuffisance mitro-aortique (n=3), une maladie mitro-aortique (n=3). L'index cardio-thoracique moyen était de 0,68±0,16. A l'Electrocardiogramme, 53,3% des patients étaient en rythme sinusal. La confirmation diagnostique a été apportée par l'échocardiographie-Döppler, le cathétérisme cardiaque couplé à l'angiocardigraphie. La chirurgie a consisté à un remplacement valvulaire mitral isolé (n=24), un remplacement valvulaire aortique avec une annuloplastie mitrale (n=3) et un double remplacement valvulaire mitro-aortique (n=3). La mortalité hospitalière était de 3,3% (n=1) due à un bas débit cardiaque. Nous avons suivi régulièrement 22 et 12 patients respectivement à 2 et 5 ans. A 2 ans, nous avons noté une détérioration précoce bioprothétique (n=1), une IM résiduelle (n=2) et une aggravation de l'IT (n=6); à 5 ans, celle-ci a également été observée dans 9 cas. Les facteurs de risques statistiquement significatifs de l'aggravation de l'ITFN ont été : le nombre d'épisodes de défaillance

cardiaque pré-opératoire ($p=0,045$), la chirurgie valvulaire mitro-aortique associée ($p=0,01$) et l'ITF modérée négligée ($p=0,03$).

16. NEGLECTED TRICUSPID INSUFFICIENCY (NTI) DURING MITRAL AND/OR MITRO-AORTIC VALVE SURGERY

Background: The aim of this study was to report the outcome of neglected Tricuspid Insufficiency (NTI) during mitral and/or aortic valve surgery.

Patients and Methods: Between 1985 and 2002 in a retrospective study of 30 patients with mild or moderate tricuspid insufficiency neglected during mitral and/or aortic valve surgery were selected.

Results: Twenty-four patients were female and six were males. Mean age was 18 years (ranged: 8 to 56 years). 81.5% of cardiac valve diseases recorded were rheumatic in origin. The average episode of global heart failure was 1.67 ± 1.5 . Mean duration of the history of the disease was 5 years. Sixty percent of the patients were in NYHA functional class III. Left cardiac valvular diseases associated with NTI were mitral valve regurgitation ($n=4$), mitral valve stenosis ($n=4$), mixed mitral valve disease ($n=16$), mitro-aortic valve insufficiency ($n=3$), mitro-aortic valve disease ($n=3$). At Chest radiograph, mean cardio-thoracic ratio was 0.68 ± 0.16 . Of the ECGs, 53.3% were in sinus rhythm. The diagnosis was confirmed by echocardiography-Doppler and cardiac catheterization plus angiography. The surgical procedures were isolated mitral valve replacement ($n=24$), aortic valve replacement with mitral valve annuloplasty ($n=3$) and double mitro-aortic valve replacement ($n=3$). Hospital mortality was 3.3% ($n=1$) due to cardiac failure. Twenty-two and 12 patients were followed-up respectively at 2 and 5 years. At 2 years, we noted premature bioprosthesis deterioration ($n=1$), mitral paraprosthetic leak ($n=2$) and increased NTI ($n=6$). At 5 year follow-up, 9 patients had increased NTI. The risk factors of increasing NTI were: episode of preoperative heart failure ($p=0.045$), combined mitro-aortic valve surgery ($p=0.01$) and moderate tricuspid regurgitation ($p=0.03$).

17. INTRACARDIAC REPAIR OF DOUBLE-OUTLET RIGHT VENTRICLE (DORV) IN WEST AFRICAN CHILDREN – UTILITY OF CT ANGIOGRAPHY (CTA) IN SURGICAL DECISION-MAKING

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Background: In double-outlet right ventricle (DORV), both great arteries arise entirely or predominantly from the morphologically right ventricle. Precise preoperative evaluation in DORV is fundamental to a good surgical outcome. The clinical utility of 64-slice cardiac CTA for children with DORV has not been investigated in West African children.

Methods: We investigated the utility of cardiac CTA in the anatomic diagnosis and surgical decision making

in DORV patients presenting for repair. Consecutive patients referred for surgical repair of DORV between October 2011 and June 2013 were enlisted. Relevant features from reports of clinical presentation, echocardiography, cardiac CTA (when applicable), and intra-operative findings of the surgical candidates were documented. Parameters of surgical importance included VSD size, VSD location relative to the semilunar valves, presence of sub-pulmonary or sub-aortic obstruction, tricuspid-pulmonary valve distance (TPD), great artery relationship, branch pulmonary artery confluence, and coronary artery anatomy.

Results: There were 33 patients (24 males) of mean age 6.5 ± 5.1 years and weight 19.1 ± 9.8 kg. Cardiac CTA was performed in 26 patients. The phenotypic features of DORV encountered were the tetralogy-type (15), the VSD-type (7), remote VSD-type (10), and the Taussig-Bing or TGA-type (1). Utility of CTA was shown for the following indications: inconclusive anatomical diagnosis, uncertain origin of a great artery, evaluation of branch pulmonary artery confluence, and preoperative planning concerning the feasibility of intraventricular repair. Intra-ventricular tunnel repair was accomplished in 11 patients (primarily in 7) with 2 hospital deaths (18.2%). Twelve systemic-pulmonary artery shunts were performed in 10 patients with no mortality; 4 of these subsequently underwent intra-ventricular tunnel repair. Three patients were inoperable on account of hypertensive pulmonary vascular disease. The remainder (13) need conduit repair not currently available locally.

Conclusion: The clinical utility of 64-slice cardiac CTA as an adjunct to echocardiographic evaluation for surgical repair of DORV is confirmed for 4 major indications. The decision to undertake intraventricular tunnel repair is greatly facilitated by cardiac CTA. The importance of conduits in the surgical armamentarium for DORV patients in the sub-region is evident.

18. TÉRATOME INTRA PÉRICARDIQUE DU NOUVEAU NÉ RÉVÉLÉ PAR UNE TAMPONNADE

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Le tératome intra péricardique est une tumeur primitive rare diagnostiquée durant la période néonatale ou dans l'enfance. La tumeur contient du tissu endodermique, mésodermique, neuro ectodermique et des cellules germinales. Cette tumeur est bénigne mais son volume et l'épanchement liquide peuvent entraîner une compression cardiaque. Un nouveau né de 15 jours avait présenté des signes de tamponnade et de défaillance cardiaque droite. L'échocardiographie transthoracique montrait un épanchement péricardique de grande abondance avec une compression des cavités cardiaques, ainsi qu'une tumeur hétérogène intra péricardique de 47 mm x 36 mm. L'échographie suspecte le diagnostic devant l'hétérogénéité de la masse associée à un épanchement péricardique. Devant l'urgence du tableau clinique, un drainage avec

biopsie péricardique par voie sous xyphoïdienne était réalisé. Un scanner thoraco abdominal réalisé dans les suites post opératoires montrait les délimitations de la masse et ses rapports avec le péricarde, le myocarde et les gros vaisseaux. Une exérèse complète par sternotomie médiane était réalisée et l'examen anatomopathologique avait confirmé le diagnostic de tératome suspecté devant l'imagerie et la vue opératoire. L'échographie bidimensionnelle est considérée comme le meilleur examen pour le diagnostic des tumeurs cardiaques primitives, mais le scanner ou l'imagerie par résonance magnétique (IRM) définit mieux les rapports de la tumeur avec les structures adjacentes.

18. INTRAPERICARDIAL TERATOMA IN A NEWBORN INFANT CAUSING CARDIAC TAMPONADE

Intrapericardial teratomas are rare primary cardiac tumors usually diagnosed in neonates and infants. They contain endodermic, mesodermic, and neuroectodermic germinal layers. Intrapericardial teratomas are usually benign tumors but may be life-threatening because of pericardial effusion and heart compression. A 15-day old boy presented with signs of heart failure and tamponade. Two-dimensional echocardiography revealed a complex intrapericardial mass (47 mm x 36 mm) with a large pericardial effusion compressing the heart. Echocardiography made diagnosis by showing an intra-pericardial heterogeneous mass compressing the heart. CT scan defined the relationship with great vessels, pericardium and myocardium. Complete surgical resection was performed without complication. Histology of the tumor confirmed the presumptive imaging diagnosis of teratoma. Twodimensionalechocardiography was a performed exam in primary cardiac tumors diagnosis, but tomodesitometry (CT scan) and magnetic resonance imaging (MRI) have advantages in large tumors assessing the relationship between the tumor and adjacent tissues

19. MALIGNANT TRANSFORMATION IN THE OESOPHAGUS 25 YEARS AFTER INITIAL TREATMENT FOR ACHALASIA: CASE REPORT

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Achalasia of the cardia is a pre-malignant condition. Though it is uncommon, it is known that malignant changes can occur several years after the treatment for achalasia. This is because the chronic food stasis in the oesophagus over the years affects mainly the distal and mid-oesophagus. This leads to irritation of the mucosa, which then leads to metaplasia, dysplasia and finally the carcinoma of the oesophagus. We present the case of a patient who was managed in this Centre, and developed a malignancy more than 2 decades after the initial treatment for achalasia. This 56 year old lady had modified Heller's operation 25 years ago (1 year after she developed symptoms of

achalasia). Ten years later, she presented with recurrence of the achalasia, complicated by a sigmoid oesophagus. She then had oesophagectomy with oesophagostomy (Ivor-Lewis). Fifteen years after the oesophagectomy, she presented with severe weight loss and difficulty in breathing. The CT scan showed a tumour in the remnant (intrathoracic) oesophagus infiltrating the trachea. There was no dysphagia. Oesophagoscopy confirmed the tumour, and the biopsy came out as squamous cell carcinoma of the oesophagus. She passed away within a few days before radiotherapy could be commenced. Since the food stasis does not usually affect the cervical oesophagus, it is often spared from the malignant change. Therefore when oesophagectomy is considered for recurrent achalasia or failed Heller's operation, we recommend that the whole of the thoracic oesophagus be removed, and the anastomosis done at the level of the cervical oesophagus (with the colon or the stomach). Long-term surveillance of achalasia patients is also strongly recommended.

20. LA PLASTIE MITRALE SUR VALVE RHUMATISMALE CHEZ L'ENFANT AU SENEGAL : A PROPOS DE 100 CAS

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Contexte: Evaluer les résultats à court et à moyen terme de la plastie mitrale chez l'enfant au Sénégal.

Patients et Méthodes: Il s'agit d'une étude rétrospective sur 8 ans (1999-2007), concernant 100 patients porteurs d'atteintes rhumatismales. L'âge moyen était de 12 +/- 5 ans (7-17 ans). La symptomatologie était dominée par la dyspnée. Les lésions valvulaires étaient complexes. La fonction myocardique des patients était conservée et le ventricule gauche dilaté. Des gestes (transfert et raccourcissement) étaient effectués sur les cordages (73) complétés par des commissurotomies (22) et des fermetures de fentes (17). Une annuloplastie était réalisée chez 84 malades.

Résultats: La morbidité était caractérisée par 4 plasties fuyantes. Le suivi moyen était de 5 ans, Il n'y avait pas de mortalité tardive. Les résultats étaient satisfaisants avec 84 patients présentant des fuites des fuites de grade I-II. La réduction du diamètre du ventricule gauche était statistiquement significative en systole ($p < 0,05$ 29,5+/-6,2 mm vs 33,07+/- 5,3 mm) et en diastole ($p < 0,05$ 47,1+/-8,6 mm vs 50,5+/-9,4 mm).

Conclusion: La plastie mitrale permet une stabilisation de la fonction myocardique et un remodelage significatif du ventricule gauche. Une analyse lésionnelle précise est déterminante. Les résultats à moyen terme sont encourageants.

20. MITRAL RHEUMATIC VALVE REPAIR IN CHILDREN IN SENEGAL: A REVIEW OF 100 CASES

Background: To evaluate the medium-term results of mitral valve repair in children in Senegal.

Patients and Methods: It was a retrospective study over 8 years (1999-2007); concerning 100 patients with an average age of 12 ± 5 years with rheumatic mitral lesions which had benefitted from a mitral valve repair. Dyspnea (26 stage IV and 74 stage III) was prevalent. The lesions were complex: anterior leaflet prolapse (62), posterior leaflet restriction (35), commissural fusion (30) and fusion of chordae (54). Transfers and shortenings were performed on the chordae (73) supplemented by commissurotomies (22), cleft closure (17) and an annulus repair.

Results: Morbidity was characterized by four cases of residual mitral regurgitation. Three patients had a residual BAV which spontaneously resolved at one year. The 2 others required reoperation. After an average follow-up of 5 years, one patient had a rheumatic fever recurrence. The results were satisfactory with residual mitral regurgitation graded I-II (84). Left ventricle reduction diameter was statistically significant in systole ($p < 0.05$; 29.5 ± 6.2 mm vs 33.07 ± 5.3 mm) and in diastole ($p < 0.05$; 47.1 ± 8.6 mm vs 50.5 ± 9.4 mm). Cardiac function improvement was not significant ($p = 0.99$; 63.3 ± 4.8 % vs 62 ± 6.4 %).

Conclusion: Mitral valve repair allows stabilization of function and a significant remodeling of the left ventricle. Obtaining good results is dependent on rigorous selection of patients and precise analysis. The medium-term results are encouraging.

21. MYXOME DE LA VALVE MITRALE POSTÉRIEURE : DEUX CAS OBSERVÉS À DAKAR

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Les auteurs présentent 2 cas de localisation atypique de myxome de l'oreillette gauche. Dans un cas la localisation de la tumeur sur la valve mitrale postérieure a entraîné un tableau d'insuffisance mitrale chez un homme âgé de 64 ans. Dans l'autre cas, c'est l'obstruction de l'orifice atrio-ventriculaire par la tumeur qui expliquait la symptomatologie de rétrécissement mitral observée chez une femme de 45 ans. La chirurgie sous circulation extracorporelle avec des voies d'abord différentes a permis l'exérèse complète de la tumeur. Dans un cas la continence de l'appareil valvulaire a été renforcée par une annuloplastie mitrale.

21. ATRIAL MYXOMA OF THE POSTERIOR MITRAL VALVE LEAFLET: TWO CASES OBSERVED IN DAKAR

The authors present 2 cases of atypical location of left atrial myxoma. In one case the location of the tumor on the posterior mitral valve led to mitral insufficiency in a 64 year-old man. In the other case the obstruction of the atrioventricular orifice by the tumor was the cause of symptoms of mitral stenosis observed in a 45 year-old woman. Surgery under cardiopulmonary bypass with different surgical approaches allowed complete removal of the tumor. In one case the competence of the mitral valve apparatus was reinforced by mitral annuloplasty.

22. NŒUD SINUSAL: ETUDE DESCRIPTIVE ET VASCULARISATION ARTERIELLE ET VEINEUSE CHEZ LE NOIR AFRICAIN

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Le but de cette étude était de décrire, sur 45 cœurs normaux d'adultes noirs africains, la topographie et la morphologie du nœud sinusal aux plans macroscopique et histologique, puis, d'en préciser sa vascularisation artérielle et veineuse. La méthode utilisée a été la technique d'injection-coloration des ostia et sinus coronaires suivie de l'étude histologique de la région du nœud sinusal au microscope optique binoculaire au faible grossissement ($\times 2,5$) puis au fort grossissement ($\times 40$). Cette étude a permis de conclure que le nœud sinusal était indiscernable à l'œil nu (97,7 % des cas), mais toujours identifié à l'histologie à la jonction auriculo-cave supérieure sous la forme d'un amas de cellules nodales. Sa vascularisation artérielle était assurée par l'artère du nœud sinusal qui provenait principalement de l'artère coronaire droite (60,6% des cas). Sa vascularisation veineuse n'était pas tributaire du sinus coronaire dans tous les cas.

22. SINO-ATRIAL NODE: DESCRIPTION, ARTERIAL STUDY AND VENOUS DRAINAGE OF HEART IN BLACK AFRICAIS

The purpose of this study was to describe, in 45 normal hearts of black African adults, firstly, the location and morphology of the sinoatrial node and secondly, its arterial supply and venous drainage. The injection-coloration of coronary arteries and coronary sinus was the method used. This injection-coloration method has been followed by a histological study of the sinoatrial node area. This study concluded that the sinus node is indistinguishable to the naked eye (97.7% of cases), but still identified histologically at the atrio-caval junction in the form of a cluster of nodal cells. Its arterial supply was ensured by the sinus node artery that comes mainly from the right coronary artery (60.6% of cases). Its venous drainage is not dependent on the coronary sinus in all cases.

23. PALLIATIVE PROCEDURES FOR CYANOTIC CONGENITAL HEART DISEASE IN ACCRA: A 20 – YEAR SINGLE CENTRE EXPERIENCE

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Background: Since the performance of the first Blalock-Taussig (BT) shunt by Alfred Blalock in 1944, many other palliative procedures have been described and performed for cyanotic congenital heart disease. These procedures offer good palliation for most of the children while they await their definitive procedures. The aim of this study was to analyze the types of palliative procedures, the diagnoses and the outcome over a 20-year period.

Patients and Methods: A retrospective study was done for all patients who had palliative procedures for cyanotic congenital heart disease from January 1992 to December 2011.

Results: Two hundred and sixty-four palliative procedures were performed, with 59% of them being in males. The modal age group was 0 – 4 years (49.2%), with a mean age of 6.9 ± 6.1 . Tetralogy of Fallot comprised 97.0%, tricuspid atresia 1.5%, DORV 1.1% and pentalogy of Fallot 0.4%. BT shunts comprised 92.2%, with the Waterston shunt forming the remaining 0.8%. All the BT shunts were modified, with 91.6% of them being done on the right. Morbidity was 11.8% (7.6% blocked shunts, bleeding requiring re-exploration 4.2%) and hospital mortality of 3.8%.

Conclusion and Recommendation: The modified BT shunt provided good palliation for cyanotic congenital heart disease with acceptable mortality and morbidity. We consider it a preferable interim procedure for cyanotic congenital heart disease with reduced pulmonary blood flow when financial constraints delay primary repair.

24. PALLIATIVE SENNING OPERATION IN TRANSPOSITION OF GREAT ARTERIES OR TAUSSIG BING ANOMALY WITH VSD AND REVERSIBLE PULMONARY HYPERTENSION

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Background: Palliative Senning with VSD remaining open, is an innovative surgical alternative for late-presenting children with TGA and VSD. This subset of children with TGA who present very late for medical attention is very high in developing countries. Previous studies in the west have limited themselves to children within age of 5 years / or 20 kg. In such studies immediate operative mortality and RV failure was more in children whose VSDs were closed especially if they were large.

Patients and Methods: We studied 26 children from our series in the age range of 2 - 10 years. ECHO confirmed TGA in 24 patients, and 3 patients had Taussig Bing anomaly, with coarctation in 2. Of

these children, 20 had moderate sized VSDs and 6 had large VSDs. Cardiac catheterization was done for all from the original series of 40 patient. Fourteen patients with irreversible pulmonary hypertension were ruled out of a palliative Senning surgery. In the other 26 patients, all had systemic pulmonary pressures with reversible pulmonary resistance and 2 patients had associated coarctation. All the patients underwent a Senning operation but the VSDs were left open. Average bypass time was 1 hour 10 minutes done on a temperature of 33 degrees centigrade. Post-operative recovery was uncomplicated in 22 patients. 2 patients had RV dysfunction which needed inotropes and nitric oxide with IV levosimendan and prolonged ICU stay of 8 days,

Results: There was no early post-op mortality. After the end of one month, the mortality was 1 out of 26. At one year follow-up, all patients were doing well, except one.

Conclusion: Palliative Senning with VSD remaining open, is a safe surgical alternative for late presenting children with TGA and VSD.

25. PENETRATING CARDIAC INJURIES IN BELGIUM: 20 YEARS OF EXPERIENCE IN UNIVERSITY HOSPITALS IN BRUSSELS

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Contexte : Les plaies cardiaques représentent une affection mortelle dont le pronostic dépend de la qualité de la prise en charge par les services d'urgences. Analyser l'expérience de certains hôpitaux bruxellois et les comparer avec ceux de la littérature.

Patients et Méthodes : Nous avons revu rétrospectivement du 1^{er} janvier 1990 au 31 décembre 2010 toutes les plaies cardiaques de 3 grands hôpitaux bruxellois. Les données récoltées concernaient des paramètres cliniques, diagnostiques, opératoires et de morbi-mortalité.

Résultats : Un total de 15 cas ont été répertoriés. Un patient a été exclu par manque de données. Quatorze patients (12 hommes/ 2 femmes) d'un âge moyen de 35 ans (16-69) ont été inclus. Le mécanisme était une arme blanche chez 13 patients (93%) et une arme à feu chez 1 patient (7%). L'état hémodynamique était instable chez 9 patients (64%), in-extremis chez 2 patients (14%) et stable chez 3 patients (26%). L'Abbréviate Injury Score (AIS) était de 5 chez 11 patients, 3 chez 2 patients (14%) et 2 chez 2 patients (14%). Le New Severity Injury Score (NISS) était de 30 chez 5 patients, 38 chez 3 patients (22%), les 6 patients restants ayant respectivement des scores de 54, 51, 35, 14, 10 et 5. Le bilan diagnostique a consisté en un électrocardiogramme chez 5 patients, une échographie cardiaque chez 5 patients et un scanner chez 5 patients. Cinq patients n'ont eu aucun examen

complémentaire et sont directement allés au bloc opératoire. Treize (93%) patients ont été opérés (11 d'une sternotomie dont 2 avec laparotomie, 2 d'une thoracotomie dont un avec transection sternale). Les lésions concernaient le ventricule droit chez 10 (71%) patients, le péricarde chez 3 patients (22%) et le ventricule gauche chez 1 patient (7%). Trois patients (22%) présentaient des lésions associées (1 lacération diaphragmatique avec hémopéritoine, un hémopneumothorax, une plaie hépatique). Deux patients ont eu recours à une circulation extracorporelle. Le séjour moyen aux soins intensifs était de 4,8 jours. Trois patients ont présenté des complications consistant en une insuffisance tricuspidiennne chez une malade et une dépression réactionnelle chez 2 d'entre-eux. Trois patients (22%) sont décédés.

Conclusion : Les plaies pénétrantes du cœur relativement rares en Belgique, sont surtout dues aux armes blanches avec une mortalité hospitalière non négligeable. L'amélioration de la morbi-mortalité passe par la mise en place de protocoles clairs adaptés à nos services d'urgences qui ne disposent pas toujours d'un plateau technique nécessaire pour gérer optimalement ces victimes.

25-PENETRATING CARDIAC INJURIES IN BELGIUM: 20 YEARS OF EXPERIENCE IN UNIVERSITY HOSPITALS IN BRUSSELS

Background: Cardiac wounds remains highly lethal lesions in which their prognosis depends on the emergency management. The aim of this study was to analyse the experience of different hospitals in Brussels and compare it with the findings in the literature.

Patients and Methods: From January 1st 1990 till 31st December 2010, all penetrating cardiac wounds in 3 hospitals in Brussels were retrospectively reviewed. The data recorded included clinical parameters, surgical consultation and outcome.

Results: A total of 14 (12 men / 2 female) sustained penetrating cardiac injuries. There were 13 patients (93%) with stabs wounds, 1 patient (7%) with gunshot wounds. The location of the wounds was as follows: 10 patients (71%) right ventricle, 3 patients (22%) the pericardium, 1 patient (7%) the left ventricle. The hemodynamic status was unstable in 9 patients (64%), in-extremis in 2 patients (14%) and stable in 3 patients (22%). The mean Abbreviate Injury Score was 4.6 and the mean New Injury Severity Score was 31. Thirteen patients (93%) were operated (11sternotomies, 2 thoracotomies). Two patients required cardiopulmonary bypass. Three patients (22%) died.

Conclusions: Penetrating cardiac wounds are relatively rare in Belgium, mainly due to stabs and with consequent mortality. The implementation of clear guideline is necessary to improve survival.

26. THE POSTOPERATIVE MANAGEMENT OF THE CARDIOVASCULAR AND THORACIC PATIENT IN THE INTENSIVE CARE UNIT (ICU) AND HIGH-DEPENDENCY UNIT (HDU)

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Background: Postoperative complications may occur and are not rare during thoracic and cardiovascular surgery. Early detection and treatment may reduce morbidity and mortality. It is therefore necessary that all postoperative cardiovascular and thoracic patients be observed in a HDU/ICU for a period depending on the type of surgery that was done. The ICU especially should be well resourced to allow for effective management of these cases. At the National Cardiothoracic Centre the commonest major postoperative cases are open heart surgery, closed heart surgery and thoracic surgery.

Patients and Methods: All post-op cardiovascular and thoracic patients admitted to the ICU/HDU from January 2010 to December 2012 were analyzed.

Results: Open heart surgery (OHS) for 2010, 2011 and 2012 [Number (Mortality Rate %)] were: 79 (11.4), 73 (12.1) and 81(10.0) respectively. Closed heart surgery (CHS) similarly was 55 (5.5), 68 (11.3) and 55 (3.6).Thoracic cases were 26(0), 43 (7.1) and 47 (0). Operations on the colon were 12(0), 15 (0) and 11(0). Abdominal aortic aneurysm (AAA) was 1 (0), 11 (0) and 5 (0). Femoral popliteal bypass (FEMPOP) was Nil, 1 (0) and 11 (0). Arterio-venous fistula (AVF)/ Tunnelled dialysis line (TDL) was 93/79, 126/18 and 150/33. Pacemaker (PM) was 52 (1.9), 59 and 42. For some cases basic monitoring of ECG, NIBP, SPO2, temperature, as well as the basic ventilator parameters if the patient is being ventilated. Monitoring is usually invasive for most thoracic, closed and all OHS namely arterial blood pressure, central venous pressure and occasionally pulmonary artery pressure catheters. Trans-esophageal or trans-thoracic ECHO should be available. Routine investigations, clotting, chest xray and arterial blood gas analysis should be routinely available. Complications commonly seen are bleeding especially postoperative open-heart surgery and thoracic surgery, low cardiac output states, arrhythmias and respiratory failure. Blood, blood components, antifibrinolytic agents and desmopressin should be available. Low cardiac output states should be treated with fluids, inotropic agents and if severe, mechanical support and extra-corporeal membrane oxygenator. Renal replacement therapy, total parenteral nutrition, deep vein thrombosis prophylaxis when indicated and enteral feeding should be available. Arrhythmias especially of ventricular origin should be aggressively treated with the correction of deranged electrolytes levels.

Conclusion: Postoperative care after cardiovascular and thoracic surgery should be in HDU/ICU, monitoring may have to be invasive and other resources should be available.

27. POSTOPERATIVE COMPARISON OF CHEST CLOSURE WITH OR WITHOUT A DRAIN FOLLOWING PATENT DUCTUS ARTERIOSUS LIGATION. A NON-BLINDED RANDOMISED CONTROLLED CLINICAL TRIAL

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Background: This study compared the post-operative outcomes of thoracotomy closure in patients with a chest drain and those without a drain following patent ductus arteriosus (PDA) ligation. Due to the controversy that exists concerning the safety and benefit of chest tubes when routinely used following PDA surgery, the information obtained from this pilot study can be used to inform theory, create policy and improve practice.

Patients and Methods: A non-blinded randomized controlled clinical trial. We randomized 22 patients to no chest tube and 22 patients to receive a chest tube.

Results: In the no drain arm, 21 participants (95.5%) did well without a chest tube at 48 hours; one patient developed a post-operative pleural effusion that needed draining with no further complications. In the no drain arm, none of the patients (0%) had post-operative wound infection while in the drain arm, five patients (22.7%) developed infection. More participants in the no-drain arm (86.4%) did well on less than 1 L/min of oxygen compared to those in the drain arm. (OR: 0.19, 95% CI: 0.04 – 0.83, p=0.027). For the combined primary outcome, participants in the no-drain arm had significantly favorable outcomes (less adverse events) compared to the drain arm, (OR: 0.15, 95% CI: 0.04 – 0.61, p=0.008). After adjusting for potential confounders, this protective effect remained statistically significant and increased (OR: 0.13, 95% CI: 0.02 – 0.77, p=0.024). There was no statistically significant difference in stay in the Intensive Care Unit (95% CI: 0.07 – 2.76, p=0.388).

Conclusion: Avoiding routine use of a chest drain after uncomplicated PDA surgery can be employed with minimal complications to the patients.

28. POUMONS DÉTRUITS DE L'ENFANT SUR CORPS ÉTRANGERS: INDICATIONS ET RÉSULTATS

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Contexte: présenter notre expérience des poumons détruits de l'enfant sur corps étrangers

Patients et Méthodes: Etude rétrospective de 1990 à 2011 qui a concerné 8 enfants opérés (7 garçons et une fille) pour un poumon détruit sur corps étranger intra bronchique ancien de nature métallique. Les manifestations respiratoires marquées par des infections pulmonaires à répétition évoluaient de 5 mois à 3ans. Les territoires détruits étaient localisés à droite dans 7 cas.

Résultats: Huit résections pulmonaires réglées ont été réalisées (une pneumonectomie droite, 6

lobectomies droites et une lobectomie gauche) en raison des destructions parenchymateuses adjacentes à l'obstruction. Le séjour post opératoire a été de 12 jours Les suites opératoires ont été simples avec à un an avait noté une bonne récupération clinique et radiologique et une reprise de la scolarité.

Conclusion: Les exérèses pulmonaires pour poumons détruits sur corps étrangers intra-bronchiques malgré les bons résultats doivent être le recours ultime au profit de L'extraction par endoscopie et les mesures préventives surtout chez l'enfant.

28. DESTROYED LUNG IN CHILDREN DUE TO INTRA-BRONCHIAL METALLIC FOREIGN BODIES

Background: To present our experience of destroyed lung in children due to intra-bronchi metallic foreign bodies.

Patients and Methods: It was a retrospective study between 1990 and 2011 involving 8 children (7 males and 1 female) presenting with destroyed lungs due to intra-bronchial metallic foreign bodies.

Results: Recurrent pulmonary infections were the most frequent complaints. The destroyed lungs were right-sided in 7 cases. Eight pulmonary resections (one pneumonectomy and 7 lobectomies) were necessary because of pulmonary parenchymal destruction. There were no post-operative complications and no mortality.

Conclusion: Pulmonary resection for destroyed lung due to intra-bronchial foreign bodies in children despite the good results must be used after unsuccessful endoscopic extraction and preventive measures.

29. PRESENTATION OF RHEUMATIC HEART VALVE DISEASE IN EASTERN ARGENTINA (PAMPA REGION)

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Background: Although rheumatic fever is a treatable and curable disease in the 21st century, in the third world countries it continues to be a common presentation of heart valve disease. We investigated the incidence, presentation and outcome of surgery for rheumatic heart valve disease in Eastern Argentina, the richest and most developed area of the country.

Patients and Methods: Between January 2008 and June 2013, 49 (4%) patients out of 1206 were operated with the diagnosis of rheumatic valve pathology. The data of the patients was prospectively collected and analyzed.

Results: The mean age was 58.6 years (43-81), 73.3% (33) being females. The mitral valve was involved in all but one case (98 %); the aortic valve was involved in 6 patients (13%). The most common presentation was mitral stenosis or mixed mitral valve disease in 80% of the cases and insufficiency in the 17, 7% and aortic insufficiency in only one case. A third of the patients had severe pulmonary hypertension, but only four (9%) had coronary artery

disease. The most common surgery was mitral valve replacement (83.6 %), either alone or combined with aortic and tricuspid repair, followed by mitral repair 15.5 % and isolated aortic replacement in one case. Atrial fibrillation surgery was performed in 28.5 %. Hospital mortality was 12.25 %.

Conclusions: Mitral stenosis is the most common presentation of rheumatic heart disease. Although it represents less than 5% of all the open heart cases it continues to be the most common cause of mitral valve replacement. Complex surgeries including double, triple valve, atrial fibrillation surgery and mitral repair account for half of the cases.

30. RÉSULTATS DE LA PRISE EN CHARGE DES COMPLICATIONS THORACIQUES DES CORPS ÉTRANGERS INGÉRÉS.

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Objectifs : présenter les résultats de la prise en charge des complications thoraciques des corps étrangers ingérés.

Matériels et méthodes : De 1994 à 2009, nous avons pris en charge 6 patients pour des complications thoraciques d'un corps étrangers ingéré, un os de poulet (n=2), une arête de poisson (n=3), un dentier (n=1). Il y avait 2 hommes et 4 femmes dont l'âge était compris entre 21 ans et 69 ans. Le diagnostic a été porté dans un délai de 2 heures à 90 jours devant un pyothorax (n=4), un pneumothorax avec un emphysème sous cutané massif (n=1), et une dysphagie persistante (n=1). Un drainage pleural été réalisé chez 5 patients et une thoracotomie pour une décortication associée à une fistulorraphie (n=4) et une oesophagotomie pour extraction du corps étranger (n=1) a été également réalisée. Une jejunostomie d'alimentation a été associée dans tous les cas pour une durée de 21 jours en moyenne.

Résultats: Les suites opératoires ont été favorables malgré une dénutrition importante, il n'y a pas eu de décès. La durée d'hospitalisation a varié de 21 jours à 133 jours.

Conclusion: les résultats ont été bons malgré le retard diagnostic et la longue hospitalisation

30.RESULTS OF TREATMENT OF THORACIC COMPLICATIONS OF OESOPHAGEAL FOREIGN BODIES

Background: To present the results of treatment of thoracic complications of oesophageal foreign bodies.

Patients and Methods: Between 1994 and 2009, we treated 6 patients with thoracic complications of oesophageal foreign bodies.

Results: There were 2 males and 4 females with ages between 21 and 69 years; foreign bodies were chicken bones (n=2), fish bones (n=3) and unidentified (n=1). The delay in diagnosis ranged from 2 hours to 90 days and was manifested by pyothorax

(n=4), pneumothorax with emphysema (n=1), and persistent dysphagia (n=1). Pleural drainage was necessary in 5 patients, thoracotomy in 5 patients (decortication in 4 and oesophagotomy for extraction of foreign body in 1). Feeding jejunostomy for 21 days was necessary in all the cases. Malnutrition was the most prevalent post-operative complication. There was no mortality. The hospital stay was 21 to 133 days.

Conclusion: Despite late diagnosis and the long hospital stay the results are good.

31. REUSE OF PACEMAKERS IN THE THIRD WORLD: MEDICAL, LEGAL, CULTURAL AND ETHICAL PERSPECTIVES

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According to the World Health Organization (WHO) cardiovascular disease (CVD) is the leading cause of death globally. Over 80% of CVD deaths take place in low- and middle-income countries (LMIC). Specifically, it is estimated that 1 million to 2 million people worldwide die each year due to lack of access to an implantable cardiac defibrillator (ICD) or a pacemaker. Despite the controversies surrounding pacemaker reutilization, studies done so far on the reuse of postmortem pacemakers show it to be safe and effective with an infection rate of 1.97% and device malfunction rate of 0.68%. Pacemaker reutilization can be effectively and safely done and does not pose significant additional risks to the recipient. Heart patients with reused pacemakers have an improved quality of life compared to those without pacemakers. The thesis of this paper is that pacemaker reutilization is a life-saving initiative. It is cost effective; consistent with the principles of beneficence, nonmaleficence, and justice with a commitment to stewardship of resources and the Common Good. Used pacemakers with adequate battery life can be properly sterilized for use by patients in LMICs who cannot afford the cost of a new pacemaker.

32. SAFETY OF HYPOTHERMIC CARDIOPULMONARY BYPASS WITHOUT PERI-OPERATIVE EXCHANGE TRANSFUSION IN SICKLE CELL DISEASE PATIENTS

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Background: We conducted a case control study evaluating our institutional protocol of hypothermic cardiopulmonary bypass (CPB) without perioperative

exchange transfusion in sickle cell disease (SCD) patients.

Patients and Methods: Six SCD patients (group 1) undergoing CPB for intracardiac procedures were matched to six non-sicklers (group 2). The two groups were matched according to age, body surface area, duration of CPB, and intracardiac repair type. The data was analyzed according to hospital mortality, perioperative transfusion requirements, surrogates for intravascular hemolysis (IVH), and intensive care unit length of stay (ICUS).

Results: All patients underwent hypothermic CPB (28°C – 32°C) with aortic cross-clamping and cold crystalloid antegrade cardioplegia. There was no mortality. Two SCD patients experienced important nasopharyngeal bleeding from traumatic nasotracheal intubation; their nasal turbinates were found to be enlarged. There were no episodes of significant hypoxemia, hypercarbia, acidosis, or IVH. None of the patients had sickling crisis during the perioperative period. In addition to 450 ml of blood used for priming the heart-lung machine, blood transfusion requirements were significantly higher (17.8 ± 11.4 ml/kg) for SCD patients. The triggers for blood transfusion during cardiopulmonary bypass and the postoperative period were a fall in haemoglobin of more than 2g/dl below the preoperative steady state haemoglobin, or a hematocrit of less than 20% for SCD patients. The ICUS tended to be a day longer in SCD patients.

Conclusion: Hypothermic cardiopulmonary bypass can be used safely in SCD patients without exchange transfusion if hypoxia, acidosis, and low cardiac output are avoided.

Perioperative transfusion is often triggered by hemodilutional anemia and blood loss rather than intravascular hemolysis from sickling crisis; transfusion requirements are nearly 20ml/kg higher than non-sicklers of similar size undergoing the same intracardiac procedure. A hematocrit of 20% may be considered a safe transfusion trigger during cardiopulmonary bypass in SCD patients.

In SCD patients, nasotracheal intubation is best avoided as it carries an important risk of traumatic nasopharyngeal bleeding from enlarged nasal turbinates.

33. SEPARATION OF CONJOINED HEARTS IN THORACOPAGUS TWINS – YES WE CAN BUT SHOULD WE?

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Conjoined twins have been the subject of academic and public interest for ages. Until recently, such twins

only aroused the curiosities of the medical profession but no real treatment options were offered. Recent advances in pediatric cardiology and cardiac surgery have increased the possibilities of surgical separation for twins with conjoined hearts in well-resourced centers. The spectrum of abnormalities found in such conjoined hearts is protean; the attempts at successful separation are almost universally futile. Some have questioned the moral justification for attempting such high risk procedures with attendant high financial costs to society. We have recently encountered three pairs of such twins with unfavorable outcome: the first pair was stillborn and we had to define the morphology of their conjoined hearts as a post-mortem procedure; we performed emergency separation of the conjoined hearts at 24 hours of life in the second pair when the imminent demise of one twin threatened the survival of the other who survived the separation but succumbed to respiratory failure after 7 days; operation was denied to the third, a pair of dicephalic dibrachius parapagus twins who survived for only a month. Our experience with the management of conjoined hearts in thoracopagus twins is consistent with what is evident in the scientific literature: In the current era, successful surgical separation of conjoined hearts in thoracopagus twins remains largely elusive. When cardiac separation is possible, respiratory failure from hypoplastic lungs and flail chest remain important confounders of survival. The ethical justification for performing such high-risk complex procedures especially in resource-poor settings remains debatable.

34. SURGERY FOR VALVULAR HEART DISEASE ASSOCIATED WITH SHORT TERM USE OF FENFLURAMINE-PHENTERMINE: A CASE REPORT

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We report a case of multi-valvular heart disease in a 37 year old female following short term (1 month) use of fenfluramine-phentermine (Fen-Phen) prior to sleeve gastrectomy for morbid obesity. Echocardiography showed unusual valvular morphology and regurgitation in both mitral and tricuspid valves, thickened valve leaflets tethered by thickened and shortened chordae and severe pulmonary hypertension. At surgery, the affected valves had a glistening white appearance without the usual yellowish discoloration or calcification associated with rheumatic heart disease. She had surgical repair of both valves and intra-operative echocardiography showed competent mitral and tricuspid valves with trivial leaks. Histology of excised part of the leaflet showed focal surface proliferation and fibrosis. The use of Fenfluramine alone or in combination with Phentermine has been associated with unusual cardiac morphology and resultant regurgitation of the left- and right-sided heart valves and the prevalence of significant valvular disease associated with the use of these anorectic drugs is reported to be as high as 23%. The first report linking anorectics used in

treatment of obesity with valvular heart disease was in 1997. Most cases of valvular heart disease associated with Fen-Phen use have been attributed to long term exposure and surgical repair has not been a common mode of treatment. This case highlights the occurrence of severe multi-valvular regurgitation following short term exposure and a successful surgical repair.

35. THE PRACTICE OF ANAESTHESIA FOR THORACIC SURGERY

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Historically, thoracic surgeries created a lot of problems for the anaesthetist: Inadequate ventilation, hypoxia and hypotension from pendelluft and mediastinal flaps. This brought about the development of lung isolation techniques and the use of one lung ventilation (OLV). The other problem was that of control of secretions and other fluids like blood and pus from the pathologic lung soiling the healthy lung. The other challenge that still persists is adequate pain control in the post-operative period. The above problems require of the thoracic anaesthetist a good knowledge of certain aspects of the thoracic anatomical arrangements as well as an in-depth understanding of respiratory physiology and pharmacology. Common chest pathologies that need the input of the anaesthetist include the following;

1. Bronchoscopies for the removal of foreign bodies as well as diagnostic procedures. 2. Thoracotomy for lung abscess/empyema, lung resections, foreign bodies, bronchial repair, pleural surgery, chest wall surgery, oesophageal surgery, great vessels surgery (aneurysms) and spine fixation. 3. Sternotomy for the excision of the thymus, retrosternal thyroids and other mediastinal tumours. 4. Video assisted thoracotomies for achalasia, removal of foreign bodies, catamenialhaemo- and pneumothorax and pleurodesis.

Pre-operative assessment of the patient is very important. This includes taking a good history and examination of the patient. The laboratory investigation and appropriate imaging are reviewed thoroughly. Appropriate explanation is given to the patient about what to expect in the peri-operative period as well as what to do and what not to do. Some medications are also prescribed at this stage and chest physiotherapy initiated. Our intra-operative armamentarium includes the normal endotracheal tube, double lumen tube, bronchial blockers, fibre optic bronchoscope and the ability to manage one-lung ventilation. The post-operative period is equally challenging with respect to pain management as well as having to ventilate some patients after lung surgery and the challenges it brings with it.

36. THE SCOPE OF THORACIC SURGERY IN WEST AFRICA – THE GHANAIAN EXPERIENCE

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The practice of thoracic surgery in Ghana involves the diagnosis and management of lung pathology, mediastinal disease, foregut and the chest wall anomalies. General thoracic surgery is undertaken by the cardiothoracic surgeons at the National Cardiothoracic Center (NCTC), the only cardiothoracic center in the country. Patients seen are mostly referred from teaching hospitals, regional hospitals and district hospitals. History, clinical examination and when appropriate a repeat or new investigations are carried out to confirm diagnosis before treatment is commenced for any patient.

The scope of general thoracic surgery in Ghana includes the following:

- Lung cancer diagnosis, staging and surgical treatment
- Pulmonary resections
- Pneumothorax – primary and secondary
- Empyema thoracis
- Suppurative lung diseases – lung abscess, bronchiectasis
- Pleural effusions
- Bullous lung diseases
- Chest wall tumours
- Mediastinal tumours
- Surgery for myasthenia gravis
- Gastroesophageal reflux disease
- Esophageal motility disorders
- Chest trauma

In a ten year review from 2002 – 2012, 539 cases of general thoracic procedures were carried out at the NCTC. Esophageal procedures accounted for 49% followed by pulmonary procedures (19.1%). Surgery for corrosive esophageal stricture was the highest (42.2%) for esophageal procedures and surgery for esophageal carcinoma was performed in 21.3% of patients. For pulmonary procedures, surgery for bronchogenic carcinoma accounted for the highest number of cases that benefited from lung resections. Majority of patients (70%) who had pneumonectomy were diagnosed with destroyed lung from tuberculosis. Advances in general thoracic surgery was in the field of minimally invasive surgery using video assisted thoracoscopy (VAT). Innovations at the NCTC include tracheal stabilization with autologous costal cartilage in acquired tracheomalacia, sternocleidomastoid myocutaneous esophagoplasty for cervical esophageal lesions, colo-pharyngo-esophagoplasty and colon flap pharyngo-esophagoplasty for very severe pharyngo-esophageal strictures. Early diagnosis and management of thoracic cancers especially esophageal and bronchogenic carcinoma remain the greatest challenge in the practice of general thoracic surgery.

37. THE UNMET NEED FOR PAEDIATRIC AND CONGENITAL HEART SERVICES IN ACCRA

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Background: Approximately 90% of more than 1,000,000 children who are born with congenital heart disease around the world receive suboptimal care or have no access to care. The figure in Ghana has yet to be reported.

Methods: A retrospective search of the echocardiogram database was made from January 2005 to December 2010. All patients less than 15 years diagnosed with a congenital heart disease (CHD) for the first time were selected and entered into the study. In like manner, all children in the age group who had surgery were also entered into the study.

Results: A total of 4,396 new echocardiograms were performed for CHD over the study period; 2175 (49.5%) were male whilst 2221 (50.5%) were female, in a male to female ratio of 1:1. 589 (22.2%) were cyanotic lesions whilst 2067 (77.8%), were acyanotic. The commonest CHD studied was ventricular septal defect (VSD) 40.3% of all the acyanotic lesions, or 18.9% of the entire series. Tetralogy of Fallot (TOF) was the commonest cyanotic CHD lesion encountered, 71.6% of all the cyanotic lesions studied or 9.6% of the series. The five commonest CHDs studied were, VSD, TOF, ASD, PVS and PDA. Only 20.2%, (17.6 - 28.5%) of all CHDs evaluated and who had surgical indications had access to surgery.

Conclusion: In the study period, 79.8% of children with CHDs could not have access to surgery. With this great need for paediatric and congenital heart services, there is the need for a concerted effort to save the lives of these children.

38. TRANSCATHETER CLOSURE OF PATENT DUCTUS ARTERIOSUS AND ATRIAL SEPTAL DEFECT; EXPERIENCE IN AN AFRICAN COMMUNITY.

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Background: Congenital heart disease contributes significantly to the health burden of children in Nigeria. Catheter interventions for congenital heart disease has been available in the developed world since the first report on device closure of PDA in 1967 by Porstmann. However this did not commence in Nigeria until October 2010. The objective was to document the profiles of the patients who have undergone interventions for congenital heart diseases since the availability of the facility, the challenges encountered and the prospects associated with the interventions at the study site.

Patients and Methods: All the patients referred for interventions for congenital heart disease at the study centre between October 2010 and October 2012 were studied. Profile of the patient including diagnosis at referral, indications interventions done were documented. The study was done at the Department of Paediatrics and Child Health, Lagos State University Teaching Hospital, Ikeja, Lagos, Nigeria.

Results: Age range was 3 years to 62 years, (13.54 ± 17.7 years) with male to female ratio of 1: 3. Diagnosis at referral include Patent Ductus Arteriosus (PDA) in 10 out of the 12 patients (83%) and secundum atrial septal defects (ASD) in two patients (17%). They all had transcatheter closure of the defects.

Conclusion: Interventional procedures for congenital heart diseases although now available locally, high degree of manpower training, cost and local availability of consumables are major limiting factors to its use. Regional and International collaboration could be mutually beneficial.

39. TWO SYNCHRONOUS INTUSSUSCEPTIONS OCCURRING AFTER THE REPAIR OF CHRONIC TRAUMATIC DIAPHRAGMATIC HERNIA

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Post-operative intussusception is rare. It may occur after operations for a wide variety of conditions as a result of ileus and adhesion bands. A high index of suspicion with good ultrasonography are necessary for proper diagnosis because of the protean mode of presentation. We report a case of two synchronous post-operative jejuno-jejunal intussusception in a 13-year-old girl following repair of a chronic left traumatic diaphragmatic hernia via thoracotomy. She had features of partial intestinal obstruction after a bout of diarrhoeal stools in the second post-operative week. The diagnosis was made 3 days later. The intussusceptions were discovered intra-operatively with the second and smaller one found on routine bowel exploration after discovery of the obvious and larger one. Both were manually reduced without the need for bowel resection. Double post-operative intussusceptions are rare. We recommend meticulous bowel inspection at laparotomy whenever post-operative intussusception is managed operatively.