Surgical Left Atrial Appendage Occlusion During Cardiac Surgery: A Systematic Review and Meta-Analysis

The left atrial appendage is a common site for the formation of thrombi in patients with atrial fibrillation (AF). Concomitant surgical left atrial appendage occlusion (s-LAAO) during cardiac surgeries can reduce the risk of embolic events; however, there is limited data supporting its regular use.

We performed a comprehensive literature search through March 1st 2018 for all eligible studies comparing s-LAAO versus no occlusion in patients undergoing cardiac surgeries. Clinical outcomes included postoperative embolic events, postoperative stroke, early all-cause mortality, postoperative atrial fibrillation, and reoperation for bleeding and complications. We further stratified the analysis based on propensity matched studies and AF predominance.

Ten studies (n=16,403) met the inclusion criteria. s-LAAO was associated with lower risk of postoperative embolic events (OR: 0.63, 95%CI: 0.53 to 0.76; p< 0.001) and early all-cause mortality (OR: 0.37, 95%CI: 0.24 to 0.57, p< 0.0001). s-LAAO was associated with trend towards lower risk of postoperative stroke (OR: 0.68, 95%CI: 0.46 to 1.02, p= 0.06). Stratified analysis demonstrated this association was more strong in AF predominant strata. There was no difference in risk of complications and reoperation for bleeding.

s-LAAO was associated with lower risk of follow-up embolic events, stroke and mortality without any increase in adverse events. Further randomized trials to evaluate long term benefits of s-LAAO are essential.
In-Hospital Resource Utilization and Treatment Outcomes Among Patients with Gastric cancer: A Nationwide Analysis

Introduction: Gastric cancer is the fifth most common cancer in the United States. We sought to determine the frequency of hospital admissions, in-hospital treatment outcomes and resource utilization among patients with gastric cancer.

Methods: This is a retrospective cohort study using the 2014 National Inpatient Sample. The primary outcome was the number of admissions per year. The secondary outcomes were Patients’ demographic characteristics, Most common 5 reasons for admission, In-hospital mortality, and in-hospital resource utilization.

Results: There were 43,365 admissions with gastric cancer. The most common principal diagnoses for admission were: Gastric cancer, Gastric cancer in the cardia, Malignant neoplasm of overlapping sites of stomach, Malignant neoplasm of the pyloric antrum and Septicemia. Majority of admissions were male, white, with Medicare or private insurance and in the lower two income quartiles. Furthermore, majority of patients were treated in large urban teaching hospitals located in the south. The inpatient mortality rate was 7.3% (6.6% - 8.1%). The average length of stay was 7.6 (95% CI -7.4-7.8) days. The mean total hospitalization charges were $73,867 (95% CI -$70,750 – $76,985) with a cumulative healthcare burden of $3.2 billion.

Discussion: Among patients with gastric cancer, the use of inpatient services is significant with around 50,000 admissions per year. Hospital admission is associated with substantial mortality along with a staggering cumulative in-hospital healthcare burden of $3.2 billion per year. Interventions aimed at decreasing hospital admission among patients with gastric cancer have the potential to decrease both mortality and healthcare resource utilization.
Psychological, Physical and Functional Importance of Patient Reported Outcomes in Cancer Patients

Introduction:
There has been increased interest in patient-reported outcomes (PROs) as they allow consistent monitoring of patients' symptoms and quality of life. We evaluated the prevalence of PROs among cancer outpatients. Our objective was to look at the association of ET components with demographic and disease characteristics.

Methods:
PROs were prospectively collected cross sectional data which were later mixed with retrospectively obtained clinical data from the EMR. Predictors of ET components were determined by linear regression analysis. The predictors of those who required Help was determined by logistic regression.

Results:
The mean age was 58 (±14) years. 54% were male. The common cancer diagnoses were breast 17%, hematological (Leukemia) 17% and lymphoma 12%. Only a minority (7%) of participants required help (N = 1076) with the tablet-based surveys. Age categories ≤ 30 and 51–70 scored lower in mean depression ET. African Americans had a higher mean ET Anger scale. African Americans scored higher in mean need of Help –ET. Age 31-50 years was at 13% lower risk and 51–70 years was at 72% lower risk. Those with self-care problems were at higher risk of requiring Help with tablet computer.

Conclusions:
Many cancer patients visiting the cancer center had high pain/discomfort, anxiety/depression, problems with usual activities and mobility problems. Younger patients (31-50 years) had more distress and depression (ET). African Americans reported more problems with mobility, self-care, usual activities, pain/discomfort and anxiety/depression (EQ5D). Those with self-care problems were at risk to require help with tablet-based surveys.
Cytoreduction Methods to Prevent the Progression of Hyperleukocytosis in a Newly Diagnosed CML Patient

Hyperleukocytosis is a laboratory abnormality that is variably defined as a total white blood cell count greater than 50x10³ or 100x10³. When symptomatic it is referred to as leukostasis, a fatal complication mainly affecting the central nervous system and lungs. Incidence of hyperleukocytosis and its complications vary depending on the type of leukemia and patient affected. Cytoreduction is the mainstay treatment for this phenomena, it can be achieved by 2 methods: chemical; hydroxyurea treatment or induction chemotherapy treatment, and physical; leukapheresis.

31 year old male with no significant past medical history presented to his family physician with the complaints of fatigue, night sweats, decreased appetite, and a 60lb weight loss that started 6 months prior to presentation. CBC showed: WBC 356.7x10³, Absolute Neutrophils 181.91%, Absolute Basophils 39.42%, Platelets 659x10³, Hemoglobin 8.7g/dL. He was admitted to the hospital. Bone marrow biopsy was performed and showed CML-Chronic phase. While awaiting the results of the BMB, cytoreduction was immediately initiated using Hydroxyurea and Leukapheresis to prevent progression to Leukostasis. The patient underwent 7 days of cytoreduction as inpatient, at discharge his WBC was down to 37.3x10³. The patient followed up with Oncology and was started on Dasatinib when his WBC reached <15x10³.

Hyperleukocytosis can progress to affect patients with vast complications if not treated promptly. Lowering the WBC with the above stated methods is crucial for survival, in addition to supportive measures to prevent and/or treat complications such as anemia and Tumor Lysis Syndrome.
The Membrane That Can Lead to Stroke

Introduction:
Out of the many sources of cardio-embolic strokes, Cor triatriatum sinister is an uncommon one. Echocardiography is an invaluable tool in detecting such an anomaly.

Case description:
A 78 years old female with no past medical history came to the ED complaining of a sudden onset of facial drooping and weakness over her right side. She denied history of embolic events or similar symptoms. vitals were WNL. On physical exam she had significant weakness of the Rt side. Subsequently, stroke alert was called and CT head showed no acute abnormality. MRI revealed a small focus of lacunar infarction involving the left thalamus with diffusion restriction consistent non-hemorrhagic stroke. Patient was started on low dose aspirin and efforts were direct to locate the potential source of embolization. A bilateral carotid ultrasound showed less than 50 percent occlusion. A TTE showed a linear echo density membrane like was noticed in the left atrium in the apical four chamber view just above left atrial appendage (LAA) consistent with Cor triatriatum sinister.

Conclusion:
In a nutshell, this case shades the light on a rare congenital anomaly however can lead to devastating consequences. Cor triatriatum sinister is an uncommon cause of stroke and very few cases have been previously reported. The underlying mechanism of stroke in Cor triatriatum sinister is the low flow state generated between the membrane like fibromuscular tissue and LAA. It is worth mentioning that Cor triatriatum sinister should be differentiated from supra mitral membrane.
Autoimmune Hepatitis: An Uncommon Cause of Acute Hepatitis

Introduction: Autoimmune hepatitis (AIH) is a rare cause of acute hepatitis with a reported incidence of about 0.9-2 per 100,000 cases per year. We report a case of acute hepatitis due to AIH.

Case Summary: A 40-year-old female presenting with complaints of nausea, vomiting, dull right upper abdominal discomfort, yellowish discoloration of her eyes and skin for 10 days. Physical examination revealed conjunctival icterus, yellow skin, with mild tenderness at the right upper epigastric region. Labs were remarkable for elevated AST 574 U/L, ALT 1,021 U/L, total bilirubin 7.4 mg/dl, direct bilirubin 6.6 mg/dl, ALP 415 U/L and Gamma-GT 520 U/L. Urine was positive for bilirubin and urobilinogen. Abdominal CT and US abdomen did not show evidence of acute cholecystitis. Infectious hepatitis panel was negative. Serum ceruloplasmin, ferritin, and alpha-antitrypsin were within normal range. However, anti-nuclear, anti-smooth muscle antibodies titers and Total serum IgG were elevated (1:320, 1:20 and 1,780 mg/dl respectively). Liver biopsy showed acute on chronic inflammation with cellular necrosis and ballooning of hepatocytes. Prednisone 60 mg daily was started, following which there was remarkable improvement in symptoms and progressive decline in serum AST, ALT, total and direct bilirubin. On discharge, she was started on azathioprine for maintenance.

Discussion: AIH is an uncommon but treatable cause of hepatitis. It shows excellent response to steroids, immunosuppressant’s and a majority of patients achieve remission. This case highlights the importance of having a high index of suspicion for AIH in patients with acute hepatitis whose infectious workup come back negative.
Hemodynamically Stable Pulmonary Embolism with Right Ventricular Thrombi: A Management Dilemma

Introduction: Right ventricular thrombus (RVT) is an uncommon complication which occurs in approximately 4% of patients with pulmonary embolism (PE). It carries higher 30-day mortality risk compared to acute PE patients without RVT. The management guidelines for PE with right ventricular thrombus are not well established and has been a matter of debate.

Case: 84 years old female presented to the emergency department with complaints of shortness of breath and chest pain. Her vitals were remarkable for tachycardia and tachypnea; however, her blood pressure was within normal limits. Due to AKI Ventilation-perfusion scan was performed which showed a high probability of pulmonary embolism with multiple mismatched perfusion/ventilation defects. An echocardiogram showed RVT without evidence of right heart strain. The next day she had an episode of vomiting following which her O2 saturation dropped to 70's. An emergently obtained echocardiogram demonstrated disappearance of the previously observed RVT suggesting its migration to cause a massive recurrent PE along with right heart strain with severely elevated right ventricular systolic pressure. An emergent Computed Tomography Angiography of the chest was immediately ordered to determine the location of the PE to perform catheter-directed thrombolysis. However, she lost her pulse; there was no ROSC with 35 minutes of CPR she was pronounced dead.

Conclusion: Even though the current guidelines recommend standard anticoagulation without reperfusion therapy for hemodynamically stable PE with right heart thrombus, the outcome of our case, however, suggests otherwise.
IgA Nephropathy, Underrecognized Common Cause of Glomerulonephritis and CKD

Introduction: IgA Nephropathy is the most common cause of glomerulonephritis worldwide. It can lead up to ESRD in 20-30%. We describe a case of a young African American Male in North America who presented with CKD and poorly controlled hypertension who was treated with combination of steroid and ACEI.

Case Description: A 28 year old African American Male who presented with 3 weeks of progressively worsening frontal headache. He presented with blood pressure of 209/121 as well as eGFR of 40. The patient denies history of gross hematuria. The patient’s blood pressure was difficult to control and ultimately required 3 maximum antihypertensive therapy. Urine protein/creatinine ratio was 2.72g/day. Diagnosis of IgA Nephropathy was confirmed by renal biopsy; which showed IgA nephropathy with proliferative and sclerosing features (oxford score: M1, E1, S1, T2, C1) as well as findings consistent with malignant hypertension. The patient was started on prednisone oral 100mg once followed by 50mg once daily as well as lisinopril. Lisinopril was up-titrated to 20mg until the patient’s urine protein was undetectable by 4 month follow up. Once the proteinuria was controlled, the prednisone was tapered weekly until prednisone 10mg once daily. Renal function was minimally improved.

Discussion: Despite the high prevalence of IgA Nephropathy world-wide, there is large discrepancy in the prevalence between different regions; particularly affecting Asia more than North America or Europe. Due to the strong regional and ethnic bias in IgAN, it still proves to be a difficult disease to diagnose and treat in North America.