

PROGRAM

Forty First Annual Meeting of the Surgical Infection Society



Dallas, TX
April 23-26, 2022

MO9. MSC-derived exosomes reduce oxidative damage and scarring to promote wound regeneration. Ayesha Aijaz presenting. Sunnybrook Research Institute.

MO10. Rectus femoris flap as the preferred salvage procedure for the management of vascular graft groin complications. Ashley Holly presenting. (Resident Award) Texas Health Resources.

3:15-3:30 BREAK-Visit the Exhibits

Ballroom Promenade

3:30-4:30 Session II

Moderators: Manuel Lorenzo, MD, Amanda Yang, MD and Brett Tracy, MD

MO11. Ventilator-Associated Pneumonia: A riddle, wrapped in pleura, inside an enigma. Walter A. Ramsey presenting. (Resident Award) Jackson Memorial Hospital, University of Miami.

MO12. The impact of pre-operative sepsis on patients undergoing emergency general surgery. Anahita Jalilvand presenting. (Resident Award) Ohio State University Wexner Medical Center.

MO13. The Impact of the COVID-19 Pandemic on Utilization of Emergency Medical Services (EMS) in New York City (NYC). Megan Donnelly presenting. University of California, Irvine.

MO14. Temporal Profile of the Inflammatory Response During Six-month Follow Up After Severe Trauma. Lauren Kelly presenting. (Resident Award, Sawyer Award) University of Florida.

MO15. Risk Factors for Mortality Following Gastroduodenal Perforations: H. Pylori is alive and well in the USA! Lamis El Kabab presenting. (Resident Award) Southshore University.

MO16. The Performance of Fever as a Univariate Predictor of Infection. Victor Joe presenting. University of California, Irvine School of Medicine.

MO17. A Descriptive Review of Bacteremia in Trauma Patients. Arthur Grimes presenting. University of Oklahoma.

MO19. Analysis of the causes of lethal outcomes among patients with acute purulent-destructive lung diseases with COVID-19. Shokhista Bobokulova presenting. Tashkent Medical Academy.

MO20. Vitamin C deficiency may be a significant risk factor for surgical infections. Hugo Bonatti presenting. Meritus Health.

MO21. Burn-specific triage guidelines in state-based crisis standards of care. Rabia Nizamani presenting. University of North Carolina at Chapel Hill.

CR1. A new twist on an old trick: the use of MAAB soaks to treat angioinvasive Fusarium. Jennifer Schneider presenting. THR Fort Worth

CR2. Anaplasmosis Mimicking Acute Cholecystitis. Hannah Medeck presenting. UPMC Mercy Hospital

CR3. Successful non-surgical management of isolated hepatic mucormycosis. Swarnalaxmi Umapathy presenting. (Resident Award). Medical City Health.

methods that result in functional loss, such as using pectoralis major or rectus abdominus muscles, to obliterate the soft tissue defect. Omental flaps have also been employed but usually necessitate a hernia. Sternal reduction and rigid fixation with transverse plates is debated in the setting of infection. Some data shows early positive advantages. The distinct advantage to reduction and fixation is use of pedicled pectoralis flaps without turnover flaps or use of abdominal flaps, as well as maintenance of sternal rigidity and upper girdle function and strength. The goal of this study was to examine the outcomes of rigid plate fixation (RPF), and to determine what factors lead to better patient outcomes

Hypothesis: We hypothesized that despite infections most patients could be treated with RPF.

Methods: This is a retrospective study of patients who underwent sternal reconstruction by a single plastic surgeon from April 2013 to March 2021. We evaluated the demographic and perioperative factors that were associated with recurrent sternal infection after RPF. Inclusion criteria- sternal reconstruction with RPF. Exclusion criteria- death within six months of reconstruction, addition and removal of plates multiple times.

Results: Of the 101 patients who underwent sternal reconstruction during the timeframe, 91 met the criteria. 10/63 (16%) patients who had either clean-contaminated or infected wounds developed recurrent infection, while 4/28 (14%) patients who had clean wounds developed infection after plating ($p>0.05$). Of the 63 clean-contaminated/infected patients, 7/23 (30%) with high creatinine levels versus 3/40 (8%) with normal levels, and 6/18 (33%) females versus 4/45 (9%) males had recurrent infection ($p=0.029$, $p=0.026$ respectively). Over time, there was a significant increase in the number of platings performed, while the number of infections did not differ yearly ($p=0.002$ vs $p=0.783$).

Conclusions: Overall, there is no statistically significant difference between patients with clean-contaminated/infected wounds and those with clean wounds and development of infection after RPF. Other than creatinine level and sex, all other demographic and perioperative factors were insignificant for recurrent infection.

P19. ANALYSIS OF THE CAUSES OF LETHAL OUTCOMES AMONG PATIENTS WITH ACUTE PURULENT-DESTRUCTIVE LUNG DISEASES WITH COVID-19

Alisher Okhunov; Shokhista Bobokulova

Background: COVID-19 is a rapidly evolving new disease first detected in China in December 2019. According to WHO, as of December 5, 2021, coronavirus was diagnosed in 265 million people, and in 5.2 million cases, the disease was fatal. Since the discovery of SARS-CoV-2, purulent-destructive lung diseases have been described and diagnosed more and more throughout the world in patients who have fallen ill or have had COVID-19 pneumonia.

Hypothesis: Target of our research was to identify the main causes of death in patients with acute purulent-destructive lung diseases who have undergone COVID-19.

Methods: The autopsies of 42 deceased patients with acute purulent-destructive pulmonary diseases (PDPD) who had undergone COVID-19 were analyzed. The data of pathomorphological examination of internal organs were studied

Results: Mortality among patients with PDPD who underwent COVID-19 was 17.6% (42 cases) and in the dynamics of treatment was distributed as follows. On the day of admission, 2 (0.84%) patients died, by the end of the first day - another 1 patient (0.42%). Subsequently, on days 2-3 of treatment, 4

patients (1.68%) died, 3-7 days - 9 patients (3.78%), 7-14 days - 10 patients (4.2%) and in the long term (over 14 days and up to 3 months), another 16 (6.7%) patients died. Thus, the most dangerous were the first 14 days, during which 26 (61.9%) patients out of 42 died. The most common causes of death among patients with PDPD who underwent COVID-19 were purulent-septic (70.9%), pleural (59.6%), cardiovascular (58.3%) and hepatic-renal (45, 4%) complications. Pulmonary bleeding was less common (1.1%). Such a high specific percentage of multiple organ "interest" prompted us to retrospectively study the pathomorphological changes in patients with a comparative analysis of lethal outcomes. It was found that fatty and granular degeneration of liver cells was noted in 29 cases, cirrhosis of the liver - 9, amyloidosis - in 4. Kidney changes in 33 deaths were characterized by granular degeneration of the epithelium of the convoluted tubules and in 2 - by amyloidosis. Pathological changes in the muscle of the heart were found in 30 patients (no changes were found in 12). These changes were characterized by granular degeneration, combined in three patients with muscle fiber fragmentation.

Conclusions: Thus, among the internal organs, the liver underwent the most profound changes, which, as is known, to a greater extent than other organs, is exposed to purulent intoxication. The revealed changes were characterized by granular degeneration of internal organs, combined in one patient with damage to several organs at once and the development of multiple organ failure.

P20. Vitamin C deficiency may be a significant risk factor for surgical infections

Hugo Bonatti; Victoria Giffi; Catherine Faegge; Maulik Joshi; Aaron George

Background: Vitamin C deficiency (VCD) is a rare condition in developed countries. Poor dietary choices, socioeconomic barriers, and chronic health conditions may put subsets of the US population at risk for malnutrition including in vitamin deficiencies. Vitamin C may aid in the treatment of severe infections including sepsis.

Hypothesis: VCD may be underestimated in surgical patients, leading to detrimental complications.

Methods: After reviewing the course of a patient, who succumbed to Scurvy due to atypical presentation and delay in diagnosis, patients considered at risk to suffer from multi Vitamin deficiency were tested for Vitamin C levels. A data base was created including demographic, clinical and outcome data of VCD patients.

Results: During a two years period, 44 surgical patients with VCD were identified, fourteen with severe surgical infections. Median age of the ten females and four males was 62.1 (range 45.4 to 77.6) years, median body mass index 33.4 (range 18 to 58.9) kg/m² (6 morbidly obese); seven suffered from malignancies. The index patient was a 77-year-old female presenting with septic shock, who underwent emergency amputation of her necrotic leg (Figure). After stabilization she underwent debridement of sacral/gluteal necrosis and during laparoscopy for a colostomy the ileocecal region and sigmoid colon were found necrotic causing diffuse peritonitis and were resected. After a protracted course she was made comfort care by her family, and subsequently her Vitamin C levels came back unmeasurable. One cachectic iv drug abuser presented with survey and necrotic leg ulcers. Four patients had leaking staple line/sutured viscus perforation requiring repeat surgery or drainage, three patients had delayed anastomotic leaks and five had poor healing infected soft tissue wounds. Ten patients also had Thiamin deficiency, eleven Zinc deficiency, and twelve had low prealbumin levels. Once diagnosis of VCD was made, patients were started on intravenous ascorbic acid, which was then switched to oral maintenance. Two patients died as a direct result of their VCD, two died from progressive cancer and ten are currently alive.