

# World Summit on COPD

March 07, 2022 | Webinar

## **A case report- infant Gastroduedenal Necrosis**

**Kennedy K Misso**

*Kilimanjaro Christian Medical University College, Tanzania.*

Nearly all perforation during infancy occur in neonatal period with risk being prematurity and low birth weight. With most cases being perforation of hollow viscus and necrotizing enterocolitis. We reported the first case of infant gastroduedenal necrosis to a two month old male baby. He presented with clinical signs of acute abdomen with fever, abdominal distension and a silent abdomen. He was subjected to surgery where intraoperative a necrosis and autolysis of the stomach to proxima jejunal was noted. A clinical condition incompatible with life. Palliative approach was initiated and he lost his life on day eight post surgery.

### **Biography**

Dr Misso completed his medical degree at the age of 24 years from Kilimanjaro Christian Medical University College, Kilimanjaro, Tanzania. He is currently enrolled in postgraduate studies at the same institute persuading General Surgery. The aurthor has more than five publications of the last five years inclding case report and epidemiological studies. Researchwise the aurthor has participated extensuvevly with several collaborators including Havard T-Chan Willows impact evaluation from the year 2017-2019. Currently involved in gastrointestinal malignancy, both lower and upper.

## Modifications of aerobic performance and ventilatory responses during exercise in COPD patients undergone to lung resection

**Danielle Bedin**

*Universidade Federal de São Paulo, Brasil*

Cardiopulmonary exercise test is an important tool for preoperative risk assessment of lung resection for non-small cell lung cancer. However, physiological modifications after surgery remain controversial in patients with COPD. Methods. A prospective cohort study that compared functional loss after six months of lung resection in patients with COPD and controls. The study was powered to detect a 20% difference in the  $\dot{V}O_2PEAK$  between the groups ( $\beta=0.2\%$ ;  $\alpha=0.05$ ).

**Results:** Eighteen patients were selected, ten to COPD group and eight to control group. Follow-up after six months showed that controls presented a decrease in  $\dot{V}O_2PEAK$  ( $20.8 \pm 7.1$  mL/kg/min to  $16.3 \pm 5.3$  mL/kg/min,  $p = 0.007$ ), a difference not observed in COPD patients. In both groups, there were no difference in the  $\Delta\dot{V}E/\Delta\dot{V}CO_2$  values, but in COPD group an increase of the  $\Delta\dot{V}E/\Delta\dot{V}CO_2$  intercept and  $\dot{V}O_2/W$  was observed ( $p < 0,05$ ). Conclusion: Patients with COPD present a lesser degree of  $\dot{V}O_2$  PEAK loss after surgery, compared to controls. However, augmentation of  $\dot{V}E/\dot{V}CO_2$  intercept and  $\dot{V}O_2/W$ , may suggest an increase in the ventilatory mechanical work of patients with COPD after lung parenchymal resection.

### Biography

Danielle Bedin, MD, has completed her PhD in 2018 in Universidade Federal de São Paulo (UNIFESP), São Paulo Brasil. She is associate physician in Preoperative Medical Clinic at Hospital São Paulo, (academic hospital – UNIFESP).

## Diagnostic of rare diseases in patients with HIV infection

**T. Abu Arqoub**

*Moscow Research and clinical Centre for tuberculosis control, Russia*

The risk of the development of tuberculosis in HIV positive people are in 20-37 times higher than in HIV – negative people, but they may have other diseases with lesion of the respiratory organs, pleura, intrathoracic lymph nodes, which often requires differential diagnosis, including the use of surgical methods due to the atypical course of tuberculosis in patients with HIV infection, and insufficient effectiveness of radiological and immunological methods in some cases. Results of 18 surgeries were studied which were done in Moscow Research and clinical centre for TB control: in 3 (16.7%) case were found lymphoma, in 3 (16.7%) cases benign neoplasms were found, in 3 (16.7%) cases lung cysts were found, mycoses were found in 3 (16,7%) cases, nonspecific lymphadenopathy was found in 1 (5.6%) case, and in 5 (27.8%) cases was found sarcoidosis despite the fact that the relative deficiency of CD4+ lymphocytes prevents the development of the disease. Patients with HIV infection may have various opportunistic and defensive diseases, which must be identified in a timely manner. Some disease is extremely rare in patients with HIV, but they must be taken in account when there is unclear lung process in patients with HIV.

### Biography

Tamila Abu Arqoub was born on 24/10/1989 – in Moscow – Russia. In 2014 graduate from Moscow - State University of Medicine and Dentistry named by Evdokimov. In 2016 completed grand surgery Residency in Moscow - State University of Medicine and Dentistry named by Evdokimov , at the department of general surgery. In 2017 completed thoracic surgery Residency in Russian Medical Academy of Continuing Postgraduate Education, at the department of thoracic surgery. From 2016 until 2018 worked as general surgeon in Moscow state hospital № 3 From 2017 until now working as thoracic surgeon in Moscow Research and clinical Center for TB control. Conducts scientific work on the topic of surgical methods in the diagnostic of tuberculosis in HIV-infected patients, have more than 15 publications on this topic.

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**Answering questions and challenges in the management of health ex-smoking and COPD patients****Uribe Echevarría Loli***Servicio de Neumonología. Sanatorio Allende - Nueva Córdoba, Argentina*

GOLD defined COPD as a preventable disease and suggest therapeutic strategy, so new proven diagnostic tests are needed in order to allow an early and complete disease assessment. The aim of this study was to identify the best method of cellular biomarker to help an assessment of smokers patients, to early diagnosis, prevent of the disease and choose the specific therapy for COPD patients. We analyzed the sputum differential cell phenotype of healthy ex-smoking (HS 33) and patients with COPD (85) according to GOLD A (19) B (29) C (19) D (18). Eosinophils count from blood and sputum were correlated and compared the FEV1 within 1 year in the HS group. The population included female (47) and male (71) (NS). Age, P/ Y and FEV1% post BD were statistically significant between HS and COPD patients ( $p < 0.02$ ,  $p < 0.04$   $p < 0.01$  respectively). The predominant cell pattern in sputum was Eosinophilic (E 53), neutrophilic (N 21), mixed (M 15) and paucigranulocytic (P 29). In the HS group predominated E. Cell pattern in each COPD group was statistically significant ( $p \leq 0.001$ ). N phenotype in group A; E and M in groups B and C and in group D, N pattern. Compared blood and sputum eosinophils of COPD group, observing a significant positive correlation ( $p = 0.003$ ) nevertheless S, S, PPV, NPV of eosinophils in blood was weak 67%, 70%, 74% and 63% respectively. The analysis of FEV1 within 1 year in the HS group revealed a rapid decrease in E phenotype. In conclusion differential cell patterns were recognizes in HS and COPD stages emphasized the importance of identifying factors that conditioning the onset of the disease in HS for early diagnosis and to prevent the disease evolution; a personalized and optimal therapy would imply the search of the cellular phenotype, suggested induced sputum by greater precision

**Biography**

Uribe Echevarría Loli was studied at Servicio de Neumonología. Sanatorio Allende - Nueva Córdoba

## Prognostic value of neutrophil-to-lymphocyte ratio in hospitalized patients with COVID-19

**N.Boubaker**

*Abderrahmen Mami Hospital, Tunisia*

**Introduction:** Neutrophil-to-lymphocyte ratio (NLR) is a simple biomarker of inflammation that can be measured from a routinely blood test. Previous studies showed that NLR had a prognostic value in various conditions such us sepsis, malignant tumors and cardiovascular diseases.

**Aim:** The aim of the study was to determine the prognostic value of the neutrophil-to-lymphocyte ratio (NLR) in moderate to severe COVID patients.

**Methods:** We conducted a retrospective study including 577 patients with laboratory-confirmed COVID-19 infection hospitalized in the pulmonology department B of Abderrahmen Mami hospital from 9 October 2020 to 01 Juillet 2021. We defined 2 groups: Group1 (n=41): patients with  $NLR \geq 8$ , Group2 (n=128): patients with  $NLR \leq 8$ .

**Results:** The population was majority male (76,3%) with a mean age of  $66 \pm 13$  years old. Hypertension was the most common comorbidity (44%) followed by diabetes (35%), obesity (28%) and chronic obstructive pulmonary disease (20%). The median time between symptoms onset and admission was 8 days in the two groups. The common clinical manifestations at admission were shortness of breath (84%), fatigue (78%), fever (77%) and cough (70%). The high NLR group had more severe form of the disease on admission than the other group ( $p=0,03$ ). Mean hospital stay was not different between the two groups ( $p=0.1$ ). Patients in the first group had more intensive care unit referrals ( $p=0,01$ ) and a higher incidence of mortality ( $p=0,002$ ).

**Conclusion:** NLR could be a valuable biomarker to predict disease progression in patients with moderate to severe COVID-19 in order to improve the treatment strategies.

### Biography

N.Boubaker is working at Abderrahmen Mami Hospital, Tunisia

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**Cardiac Comorbidities in COPD Patients: A Cross Sectional Study****U. Khattri**

SRMS IMS Bareilly – Bareilly (India)

**Introduction:** There could be potential extrapulmonary effects secondary to COPD out of which the most common one is the Cardiovascular (CVS) disease. Echocardiography is considered as an accurate rapid and non invasive modality for evaluation of cardiac functions which could help in identification of cardiac comorbidities and help to reduce COPD mortality and morbidity. The present study aimed to study cardiac comorbidities in COPD patients with the help of two dimensional (2-D) echocardiography.

**Materials and methods:** 110 COPD patients who consented, were included in this observational study, and were investigated with chest X-ray, spirometry, ECG, and 2-D echocardiography. The results were compiled and analysed to determine the association of CVS involvement with COPD and other factors.

**Results:** Majority (63.64%) of the COPD patients were associated with cardiovascular involvement. Findings reported among patients included in the study were -Regional wall abnormality (3.64%), Global hypokinesia (6.36%); Valvular abnormality (41.82%). Among 46 patients with valvular abnormality there was mild TR - 65.22%, moderate TR - 4.35%, severe TR- 10.87%, mild AS-8.7%, had mild AR-10.87%, severe AR-2.17%. 17.39% had mild MR, 4.35% had moderate MR, 2.17% had severe MR, 2.17% had mild MS, 2.17% had moderate MS. In majority (66.36%) of patients, PAH was absent followed by mild PAH (20.00%) and severe PAH (7.27%). PAH was moderate in only 7 out of 110 patients. Cor pulmonale was present in only 20.91% of patients. LVH and LVDD was seen in 8.18% of patients, DCMP in 6.36% of patient and LVSD in 3.64% of patients.

**Conclusion:** Screening COPD patients for cardiac diseases may help in identification of the subset of group at increased risk of morbidity and mortality and may help in early intervention for the same.

**Biography**

Dr. Utkarsh Khattri (MBBS, MD) has masters in the subject of respiratory medicine and critical care. He has been active in providing front line services to the critical COVID-19 patients. He has publications in distinguished journals of international repute. With deep understanding on the subject, and extensive clinical research, he has established the association of cardiovascular involvement in COPD patients, which is of value to identify the ones who are at risk of developing fatal complications, later in life.

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**Comparison between different weaning methods in chronic obstructive pulmonary disease patients with respiratory failure (BIPAP, CPAP and T piece)****Ahmed Farag Abdelsamie Sadek Salama***Ain Shams University , Egypt*

Weaning from invasive mechanical ventilation (MV) may be defined as the process of abrupt or gradual withdrawal of ventilator support, thereby shifting the work of breathing from machine to man. More than 40% of the time that a patient spends on MV is constituted by the weaning period, and around 20% of mechanically ventilated patients will fail their first attempt at weaning. The reason for increased use of Noninvasive positive-pressure ventilation (NIPPV) is to avoid adverse effects of invasive ventilation in patients with COPD. Although invasive MV is trustable effective in supporting alveolar ventilation, prolonged MV is itself associated with complications like nosocomial pneumonia, cardiac morbidity, gastrointestinal bleeding, etc. Thus, choosing the optimum time and right weaning method forms a crucial part of the management of such critically-ill patients and certainly affects their outcome. This study was undertaken on these patients who need invasive mechanical ventilation for more than 24 hours, a lot of challenges we face in daily practice in ICU like difficult weaning, reintubation and Ventilation-acquired pneumonia. In this study we do our best to overcome these challenges by studying the effect of using of NIPPV both CPAP or BIPAP immediately after extubation or using T piece for 1 hour followed by extubation and using oxygen therapy and concluded that BIPAP improves patient gas exchange, hemodynamics and associated with shortest ICU stay which reflects on utilization of resources.

**Biography**

I Graduated from faculty of medicine , Mansoura University at the age of 23 years ,worked for 6 months in matrouh chest hospital then start my residency in critical care medicine in 2016 and finished master degree in critical care in ain shams university 2020.I worked for many hospitals accredited like Wadi elneel , Dar elfouad and Asslam international hospital . I am interested in MV specially NIPPV and its application in COVID 19 pandemic and post cardiac surgery .

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**Vitamin D status in children with asthma****Paraschiva Chereches-Panta***University of Medicine and Pharmacy "Iuliu Hatieganu", Romania*

Vitamin D plays an important role in general health, and has characteristics of an hormone. Recent studies proved its immunomodulatory effect in patients with asthma. The authors analyzed the relationship between low serum concentration of 25-hydroxi-vitamin D (25-OH-VitD) and the incidence of exacerbations in children with asthma. We included in th study 131 children with asthma admitted in The Illrd Pediatric Clinic, Clinical Emergency Hospital for Children, Cluj-Napoca, in which we noted the prophylaxis with vitamin D that the patients received, serum concentration of 25-OH-VitD and other factors that correlates with asthma exacerbation. The prevalence of vitamin D deficit was of 58.8% in our sudy group. We noticed a statistical significant corellation between vitamin D deficiency and the asthma exacerbation during the previous 4 weeks ( $p=0.02$ ). In conclusion, the assesment of 25-OH-VitD status may be a usefull parameter for monitoring children with asthma, mainly in those patients with frequent symptoms.

**Biography**

Senior Physician in Pediatrics (2000), Doctoral Degree in Medicine (2001): "Monitoring of treatment with theophylline administered in children with asthma and in prematures with idiopathic apnea by measuring salivary level of the drug". Lecturer in Pediatrics (2002) at The University of Medicine and Pharmacy "Iuliu Hațieganu", Dpt. 9, Disc. Pediatric III, Cluj Napoca, Overspecialisation in Paediatric Pneumology, Competence in "Special Pulmonary Function Tests", Competence in Pediatric Allergology and Immunology, Member of The Pediatric Pneumology Committee of the Ministry of Health (since 2019)

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**Rate of sputum culture conversion on extensive drug resistance treatment TB patients with the backbone regimen of bedaquiline in National tuberculosis hospital, Swaziland.****Faiza alewi Hassen***Guyana Asuniversity, Swaziland*

Tuberculosis is one of the most common transmittable infectious diseases worldwide. Drug resistant tuberculosis (DR TB) is a major public health problem and Swaziland is amongst the high burden countries. XDR TB is newly emerged in the country according to reports from health facilities and it is difficult to treat due to lack of effective drugs. This study will provide analysis of culture conversion rate of XDR TB patients on the new FDA approved TB drugs.

**Method:** This is a retrospective study done in NTBH on all bacteriologically conformed pre-XDR and XDR TB patients who are initiated on BDQ based regimen from July.2015 to January 2016 and sputum culture followed for six months.

**Results:** Data analysis done by using SPSS statistics data analyzer. A total of 27 confirmed pre-XDR or XDR TB patients who are on individualized BDQ backbone regimen according to the resistance pattern and/or history of drug exposure. All of the patients were culture positive at baseline and followed for 6 months with sputum culture result at 2nd, 4th and 6th months. From 27(100%) patients; 19(70.37%) sputum culture converted within 2 months, 5(18.5%) at 4th month and 1(3.7%) at 6month and 1(3.7%) not converted and 1(3.7%) died before 6 months. In total the culture conversion rate is 25(92.59%).

**Conclusions:** BDQ backbone XDR TB regimen is promotable for better outcome on the management of XDR TB. Result from interim sputum culture conversion is high when it is compared to WHO conventional XDR TB treatment regimen, which has a cure rate of 20%.

**Key Words:** Drug resistance tuberculosis (DR TB), Extensive drug resistance tuberculosis (XDR TB), Bedaquilin (BDQ), Swaziland, National tuberculosis hospital (NTBH)

**Biography**

I am Dr Faiza Alewi Hassen, a graduate of masters of medical science in infectious disease at the Guyana Asuniversity and have bachlor degree in medical doctor at the addis ababa university. My experience for the past 11 years mostly focused on infectious disease especially in DS-TB, DR-TB and TB/HIV and consultant national wide and working in collaboration with the national TB program to combat DR-TB. Contribute as a front line health professional at the national DR TB referral hospital, consulting the baby facilities national wide, construction group and individualized regimen on the national DR-TB treatment success from 54% to 82%. Managing the data base system at the national TB hospital and analyses data. Have also experience in community based prevention, sensitization and identification of TB cases in the country. Member of the national TB research team and participate in research work. Participate in implementing national TB guideline 2019.

## Measurement of adult human brain responses to breath-holding by multi-distance hyperspectral near- infrared spectroscopy

**Vladislav Toronov**

*Ryerson University, Canada*

Chronic obstructive pulmonary disease (COPD) leads to a complex variety of pathological changes in the human body from systemic level, such as hypertension, anemia, heart failure, and Alzheimer's disease [1-4], to tissue and subcellular levels, such as deterioration of blood vessels and mitochondrial dysfunction [5-7]. Diagnostics of such conditions and control of the therapy outcomes require measurement and imaging tools capable of objective quantitative assessment of the degrees of pathologies at all levels. Near-infrared spectroscopy (NIRS) [8] is a novel non-invasive quantitative imaging modality, which currently is being tested in many medical applications including COPD. Light of near-infrared wavelengths (700 nm - 900 nm) can penetrate tissues to the depth of 2 – 3 cm without harmful effects on cells. NIRS can non-invasively measure local concentrations of tissue chromophores, such as oxy- and deoxy- hemoglobin, water, fat, melanin, and cytochrome C oxidase (CytOx). This allows for using NIRS for non-invasive analyses of blood oxygenation, tissue blood concentration, and oxygen consumption. Target tissues include all organs accessible from the surface of the body through the superficial tissues, in particular the cerebral cortex. While NIRS methodology for measuring blood parameters and oxygen consumption in muscles was well established in 1990s, measurements of CytOx and all types of cerebral measurements in adults still remain hot research topics. CytOx is an enzyme participating in the respiratory electron transport chain in mitochondria of cells [6]. Since CytOx absorbs near-infrared light, it is an important intracellular marker of the oxygen metabolism. However, the problem is that the tissue concentration of CytOx is much lower than the concentration of hemoglobin. Challenges of cerebral NIRS in adult humans are caused by the strong light absorption in the scalp and by the strong scattering in the skull and meninges. For these reasons, reliable non- invasive measurements of CytOx in the brain and muscles, and of CytOx and hemodynamics in cerebral cortex by NIRS became possible only recently, after the introduction of novel highly sensitive broadband detectors of light and with the development of advanced signal acquisition techniques and signal processing algorithms. Our group contributed to the development of the hyperspectral NIRS (hNIRS) of the brain, which is capable of measuring cerebral hemoglobin and CytOx [9]. In COPD the interest to NIRS has been increasing since 2016, but is limited mostly to measurements of muscle oxidative capacity, muscle blood oxygenation, and vascular endothelial damage in COPD patients [7]. However, the potential of NIRS for COPD applications is significantly wider, as NIRS can be also used for the assessments of cerebral and mitochondrial pathologies (due to its capacity to measure CytOx). In particular, some authors have found increased concentration and pathological activity of CytOX in the muscles of COPD patients [5,6]. So far the analysis of the muscle CytOx has been performed ex vivo using muscle biopsy, while hNIRS allows for the non-invasive in-vivo measurements of CytOx in muscles. Also hNIRS has a potential to measure both vascular and mitochondrial pathologies caused by chronic hypoxia in the brain of COPD patients, which recently were linked to increased risk of stroke [2], cognitive decline [3], and Alzheimer's disease [4].

### Biography

Vladislav Toronov PhD is an Associate Professor of Medical Physics, Ryerson University, and a research member of iBEST Institute, Toronto, Canada. He received his PhD in Physics from Saratov State University, Russia. Before accepting his current faculty position, he was a senior research scientist in Biomedical Physics in the University of Illinois at Urbana-Champaign. His research interests include biomedical applications of Optics and brain imaging. His research papers have been cited by more than 2,800 authors.