

## Abstracts - Oral Papers

### Does PF Ratio Help in Choosing The Mode of Ventilation In ARDS? An Experience from A Tertiary Care Centre

Aravind R\*, Aishwarya K\*, Senthil N\*\*

\*Post graduate, \*\*Professor

Department of General Medicine, Sri Ramachandra Medical college and Research Institute, Chennai, India

Corresponding author - Aravind.R (aravind794@gmail.com)

Chettinad Health City Medical Journal 2019; 8(2): 56

#### Introduction

ARDS is a life-threatening condition with significant impact on the morbidity and mortality of critical care patients. The use of Non-invasive ventilation (NIV) in ARDS is still controversial as NIV failure is associated with worse prognosis. However there is no classification system that facilitates an optimal prognostication of mortality in ARDS patients. This is a prospective study done in Medicine ICU between June 2018 and May 2019 in which the association of PF ratio at admission and NIV failure in ARDS patients who are put on NIV is studied.

#### Materials and Methods

All patients diagnosed to have ARDS according to BERLIN criteria above the age of 18 without any cardiac disease were included in the study. Patient's PaO<sub>2</sub>/FiO<sub>2</sub> ratio (with PEEP ≥5cm of water on NIV) at admission was recorded based on which the patients were stratified into 3 categories as mild, moderate and severe ARDS. The outcome of NIV was studied as to whether the patient had to be put on invasive ventilation due to NIV failure or the patient had improved with NIV during the hospital stay.

#### Results

All patients with PaO<sub>2</sub>/FiO<sub>2</sub> ratio less than 100 on NIV required invasive ventilation subsequently due to NIV failure which is significantly higher than the number of NIV failures among patients in the mild and moderate ARDS category.

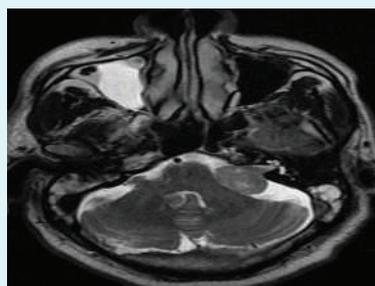
#### Conclusion

In patients with ARDS, the PaO<sub>2</sub>/FiO<sub>2</sub> ratio at admission is a valuable parameter to decide on choosing the right mode of ventilation thereby avoiding NIV failure and redundant long-term invasive mechanical ventilation.

#### Key words

Non Invasive ventilation, ARDS, Mechanical ventilation.

#### Image Challenge - 01



Clue : 50 years male with H/O tinnitus, giddiness, decreased sensation of left side of face

- Answer in page : 64

## Correlation Between Serum Vitamin - D3 Levels and Blood Pressure in Patients with Essential Hypertension and Normotensive Individuals

Divya Patil V\*, Tarun Kumar Dutta\*\*, Arun Kumar R\*\*\*, Amirtha Ganesh B\*\*

\*Post Graduate, \*\*Professor, \*\*\* Associate Professor

Department of General Medicine, Mahatma Gandhi Medical College and Research Institute, Puducherry

Corresponding author - Divya P (dia.1994cool@gmail.com)

Chettinad Health City Medical Journal 2019; 8(2): 57

### Introduction

Vitamin D, a fat-soluble vitamin is produced when ultraviolet rays from sunlight strike the skin. It's seen that lower circulating 25(OH)D levels were associated with higher blood pressures.

### Materials and Methods

An observational study was conducted on 60 individuals in the out patient department of Mahatma Gandhi Medical College and Research Institute between January to December 2018. Based on history and blood pressure values (JNC 7), the population was divided into cases and controls who age and sex matched. Serum Vitamin D levels were measured and classified into deficiency (<20ng/ml), insufficiency (20-30ng/ml) and sufficiency (30-100ng/ml). Statistical analysis was done using independent t test, one way ANOVA and correlation.

### Results

Among the hypertensive individuals, 90% were Vitamin D deficient and 10% had insufficiency. The mean Serum Vitamin D level in essential hypertension was  $14.6 \pm 4.401$  (P value < 0.001). Serum Vitamin D levels were affected significantly by increasing BMI (P value < 0.001) and less sunlight exposure (P value < 0.001) among both cases and controls. There was also a significant negative correlation between serum vitamin D levels and systolic blood pressure (P < 0.001).

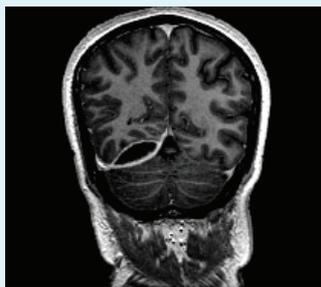
### Conclusion

Isolated systolic hypertension was associated with lower serum Vitamin D levels. Obesity and reduced sunlight exposure were also associated with lower serum Vitamin D levels.

### Key words

Vitamin D3 levels, hypertension, obesity.

### Image Challenge - 02



Clue : H/O right ear pain & discharge since 5 days presents with Fever & Headache

- Answer in page : 65

## A Study on Association Between Red Cell Distribution Width and Glycated Hemoglobin in Diabetes

Gnanadeepan T \*, Durga Krishnan \*\*, Rajasekaran D \*\*

\*Postgraduate, \*\*Professor

Department of General medicine, Chettinad Hospital & Research Institute, Chettinad Academy of Research & Education , Chennai, India

Corresponding author - Gnanadeepan T (ttdeepu27@gmail.com)

Chettinad Health City Medical Journal 2019; 8(2): 58

### Introduction

DM is associated with high morbidity and mortality which makes it a global health problem. Red blood cell distribution width (RDW) is an expression of the variation in size of red blood cells. Recently, RDW has been found to be useful as a prognostic marker in cardiac failure, myocardial infarction and other systemic disorders

### Aims and Objectives

1. To compare RDW with HbA1C level in diabetic patients
2. To establish a correlation between HbA1C level and RDW

### Materials and Methods

A Cross Sectional Study was done in 130 diabetic patients attending Medicine OPD at CHRI. The duration of diabetes and medications taken were recorded with laboratory parameters like CBC, HbA1C and RBS values.

### Results

This cross sectional study was done in 130 diabetic patients of which 79 were male and 51 were female. Majority of the patients were in the age group of 46-65 years. RDW and HbA1C levels were compared and a positive correlation was seen between RDW and HbA1C. Pearson correlation value was 0.882 which was statistically significant at  $p < 0.001$ . RDW level increased with increase in HbA1C level. The study also indicated that higher the value of HbA1C, higher is the RDW value.

### Conclusion

RDW along with HbA1C may be considered as a marker of glycemic control in diabetic individuals as there appears to be a positive correlation between HbA1C and RDW.

### Key words

RDW, HbA1C, Diabetes mellitus.

### Image Challenge - 03



Clue : Left sided hypochondrial pain radiating to left shoulder

- Answer in page : 66

## A Cross Sectional Study to Assess the Diurnal Rhythm of Pulmonary Ventilation in South Indian Population

Jawahar G\* , Sanjay Andrew R\*\*.

\*Postgraduate, \*\*Professor

Department of Physiology, Chettinad Academy of Research and Education, Chennai

Corresponding author - Jawahar G (george5678@gmail.com)

Chettinad Health City Medical Journal 2019; 8(2): 59

### Introduction

Despite the known evidences about pulmonary function, discrepancies in diurnal rhythm and ethnicity that prevails in lung function remains to be elucidated. The aim of this study was to determine the magnitude of pulmonary function variability during the usual daytime hours in healthy south Indian population.

### Materials and Methods

Study participants were healthy South Indian volunteers between 18 - 26 years of age. Study participants with bronchial asthma, COPD, acute airway/pulmonary parenchymal infection, systemic or autoimmune disorders were excluded. Smokers and subjects on shift work were excluded. Pulmonary function including PEFR, FEV<sub>1</sub>, FVC & PIFR were assessed on 2 days at 07:00 – 08:00, 09:00 – 10:00, 11:00 – 12:00, 14:00 – 15:00, 16:00 – 17:00 & 18:00 – 19:00 with minimum of 3-day interval using RMS Helios 10 Spirometer.

### Results

The lowest and highest FVC & FEV<sub>1</sub> values were found in the 18:00 – 19:00 and 11:00 - 12:00 time intervals respectively in both the sexes. Lowest airway resistance i.e. the highest PEFR values were observed between 14:00 and 15:00 and the highest airway resistance is recorded between 07:00 and 08:00. Peak Inspiratory Flow Rate was highest between 18:00 – 19:00 pm and lowest in the morning 07:00 – 08:00.

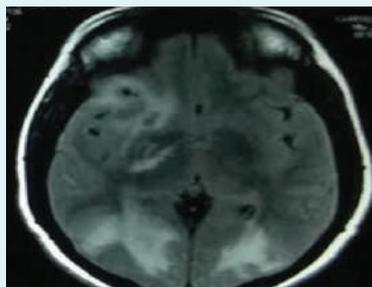
### Conclusion

Airway resistance is found low during the mid-day in healthy south Indian population. Further studies on diurnal variation in pulmonary function, their ability to predict airway disorders and application in therapeutic management of airway disorders must be investigated in future.

### Key words

Pulmonary function, Diurnal rhythm, Airway resistance.

### Image Challenge - 04



Clue : 38 yrs female with headache and blurring of vision

- Answer in page : 67

# A Comparative Study of Clinical and Angiographic Profile of Acute Coronary Syndrome in Young Diabetics and Non-diabetics in a Tertiary Care Centre

B Lakshmi Narayanan\*, Mohamed Hanifah\*\*

\*Postgraduate, \*\*Professor

Department of General Medicine, Mahatma Gandhi Medical College and Research Institute Pondicherry.

Corresponding author - B Lakshmi Narayanan (lakshmibm6@gmail.com)

Chettinad Health City Medical Journal 2019; 8(2): 60

## Introduction

The clinical presentation and angiographic findings of CAD varies in diabetic and non-diabetic and also varies with the age of presentation. This study compares the clinical presentation and angiographic changes in patients with the acute coronary syndrome with diabetes and without diabetes below the age of 45 years. Coronary artery disease in patients below the age of 45 is a special subset. The clinical presentation of coronary artery disease in young patients with various risk factors differs, which plays an important role in management strategies.

## Materials and Methods

It is a comparative study in young patients (Age group <45 years) who presented with acute coronary syndrome. Patients were subdivided into two major groups, Group 1 (ACS with DM) and Group 2 (ACS without DM) and analyzed for the clinical and angiographic pattern.

## Results

Pattern of involvement of coronary arteries as assessed by the coronary angiographic study is found to be different in younger CAD patients. Atypical clinical presentation and distinct angiographic finding are common in diabetics below the age of 45.

## Conclusion

According to our study SVD is the most common angiographic finding in younger patients presenting with acute coronary syndrome. When comparing diabetics and nondiabetics, diabetic patients had higher proportion of DVD than in non diabetic patients.

## Key words

Acute Coronary Syndrome, Angiography, Diabetes.

### Image Challenge - 05



Clue : Case of post MI Presented with transient VT

- Answer in page : 68

## Assessment of Safety & Efficacy of Bromocriptine in Comparison with Teligliptin in Newly Diagnosed Type 2 Diabetes Mellitus

Nasrin Nisha A<sup>\*1</sup>, ArunKumar R<sup>\*\*1</sup>, Ruckmani A<sup>\*\*1</sup>, Rajasekran D<sup>\*\*2</sup>

\*Postgraduate, \*\*Professor

<sup>1</sup>Department of Pharmacology, Chettinad Hospital and Research Institute, Chennai

<sup>2</sup>Department of General Medicine, Chettinad Hospital & Research Institute, Chennai

Corresponding author - Nasrin Nisha A (shiamsherin@gmail.com)

Chettinad Health City Medical Journal 2019; 8(2): 61

### Introduction

Bromocriptine and teligliptin were approved for the treatment of type 2 diabetes mellitus in 2009 and 2015 respectively. Though bromocriptine has good safety profile, it is not widely prescribed, whereas the recently introduced teligliptin is widely used. Hence the purpose of this study was to evaluate the efficacy and safety of bromocriptine in comparison with teligliptin in newly diagnosed type 2 diabetes mellitus.

### Materials and Methods

It was a prospective, randomized, open labeled, controlled study done in 50 newly diagnosed type 2 diabetic patients. They were randomly divided into two groups, bromocriptine group (25 patients) and teligliptin group (25 patients). Bromocriptine 0.8 mg was administered in the morning with food from 1st day and increased to 1.6 mg from 15th day and maintained at 1.6 mg till the completion of the study (3 months). Teligliptin 20 mg was administered once a day after food in the morning for 3 months. FBS, PPBS, HbA1c and BMI were assessed at baseline and at the end of 1st, 2nd and 3rd months. Statistical analysis was done using student t test and ANOVA.

### Results

Both bromocriptine and teligliptin significantly reduced FBS, PPBS, HbA1c and BMI values (p value < 0.05). However, teligliptin was found to be superior to bromocriptine in the reduction of FBS and PPBS at the end of 3 months. There was no significant difference between the groups for the reduction in BMI and HbA1c. Teligliptin was well tolerated with no adverse events, whereas 5 patients in bromocriptine group reported nausea.

### Conclusion

Both teligliptin and bromocriptine significantly reduced FBS, PPBS and HbA1c in newly diagnosed type 2 diabetes patients and were well tolerated. Teligliptin was found to be superior to bromocriptine in reducing FBS and PPBS.

### Key words

Teligliptin, Bromocriptine, Type 2 Diabetes Mellitus.

### Image Challenge - 06



Clue : 55 years male with bone pain

- Answer in page : 69

## Study of Relationship Between Non HDL Cholesterol and Severity of Stroke

Sai Suhas Y V\*, Mayilananthi K\*\*, Rajasekaran D\*\*

\*Postgraduate, \*\*Professor

Department of General Medicine, Chettinad Hospital and Research Institute, Chennai

Corresponding author - Sai Suhas Y V (suhasyadlapati6666@gmail.com)

Chettinad Health City Medical Journal 2019; 8(2): 62

### Introduction

Dyslipidemia is established as a risk factor for cerebrovascular accidents in various studies. Patients with elevated total cholesterol, LDL cholesterol and decreased HDL cholesterol are at a higher risk of developing stroke. Non HDL cholesterol is total cholesterol minus HDL cholesterol. In a recent analysis of data combined from 68 studies it is found that non-HDL-C was the best predictor among all cholesterol measures, both for coronary artery disease events and for strokes.

### Aim of the Study

To assess the severity of stroke in patients with increased non HDL cholesterol.

### Materials and Methods

It is a cross sectional study of 100 stroke patients, selected based on CT/MRI findings. National Institute Health Stroke Scale (NIHSS) is used to quantify the severity caused by stroke (Mild- 0-7, Moderate- 8-13, Severe- 14-21, Very severe- 22-42). Serum non HDL cholesterol levels were calculated in these patients.

### Results

The mean age of study population is  $59.32 \pm 15.235$  years. Older age, male gender, hemorrhagic stroke, overall co-morbidities, existence of both diabetes and hypertension and elevated non HDL cholesterol was found to be better predictors of severe stroke. The statistically significant predictors of severe stroke included hemorrhagic stroke ( $p=0.041$ ), overall co-morbidities ( $p=0.000$ ), existence of both diabetes and hypertension ( $p=0.000$ ), elevated non HDL cholesterol ( $p=0.001$ ).

### Conclusion

Elevated non HDL cholesterol was established as predictor of severe stroke.

### Key words

Non HDL Cholesterol, Stroke, Hemorrhagic stroke.

### Image Challenge - 07



Clue : Elderly female from west bengal with recurrent abdominal pain and skin pigmentation

- Answer in page : 70

# A Comparative Study of Acute Phase Reactants as Prognostic Marker in Sepsis

Sreedeeve Shamritha M\*, Vigneshwaran J\*\*, Rajasekaran D\*\*\*

\*Postgraduate, \*\*Associate Professor, \*\*\*Professor

Department Of General Medicine, Chettinad Hospital And Research Institute, Chennai,

Corresponding author - Sreedeeve Shamritha M (shamrithaprem@gmail.com)

Chettinad Health City Medical Journal 2019; 8(2): 63

## Introduction

Sepsis and septic shock is a common life threatening condition seen in the emergency department. Early identification of sepsis and goal directed therapy is a must for a better outcome in sepsis.

## Aim of the Study

1. To compare the predictive value of acute phase reactants namely -serum ferritin, procalcitonin and CRP level in the prognosis of sepsis.
2. To compare the superiority of ferritin over procalcitonin in predicting the prognosis of sepsis.

## Materials and Methods

This was a cross sectional study which included 86 patients admitted in the ICU of a tertiary care center with sepsis. Informed consent was taken from all subjects and from patient's relatives if patient was unable to give consent. Serum ferritin, procalcitonin and CRP were done immediately after admission and processed within 30 minutes of collection using an auto analyser.

## Results

1. Serum CRP >50 mg/dl and procalcitonin levels >16.1 mcg/dl was correlating significantly with mortality in sepsis.
2. A serum ferritin level >396ng/ml also correlated well with the mortality in sepsis.
3. The sensitivity of these acute phase reactants in predicting mortality in sepsis were high namely - Serum ferritin-75.6%, CRP - 73.2% and Serum procalcitonin- 70.7%.
4. The specificity of predicting mortality in sepsis was highest with procalcitonin & it was low for CRP and ferritin

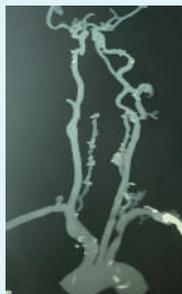
## Conclusion

All three acute phase reactants are similar in predicting the prognosis of subjects in sepsis. Serum Ferritin is not superior to Procalcitonin or CRP in predicting the mortality of patients with sepsis

## Key words

Procalcitonin, CRP, Serum ferritin.

### Image Challenge - 08



Clue : Elderly male presenting with giddiness and left arm claudication

- Answer in page : 71

## A Study of Correlation Between Admission Serum Uric Acid Levels and Short Term (14 Days) Clinical Outcomes in Acute Ischemic Stroke Patients in a Tertiary Care Centre.

B. Soorya Narayanan\*, Jeyapalan\*\*

\*Postgraduate, \*\*Professor

Department of General Medicine, Mahatma Gandhi Medical College And Research Institute, Pondicherry.

Corresponding author - B.Soorya Narayanan (soorya99@gmail.com)

Chettinad Health City Medical Journal 2019; 8(2): 64

### Introduction

There are several studies which project the cerebro-protective effect of uric acid in acute ischemic stroke patients by its antioxidant effect. This study analyses the severity of stroke and short term clinical outcome with reference to serum uric acid levels.

### Materials and Methods

We studied 45 acute ischemic stroke patients who were admitted within 48 hours of onset. The clinical severity of stroke was assessed using NIHSS scale and serum uric acid levels were measured at the time of admission. Then 14 day clinical outcome was reassessed with NIHSS scale and compared. Results were statistically analysed.

### Results

Among 45 patients studied, 29 were male, 16 were female and the mean serum uric acid was 5.89. Mean uric acid levels in males and females were 6.3 and 5.12 respectively. By using NIHSS scale, severity of stroke at the time of admission is less and 14 days outcome of these patients is also better when the uric acid level is higher.

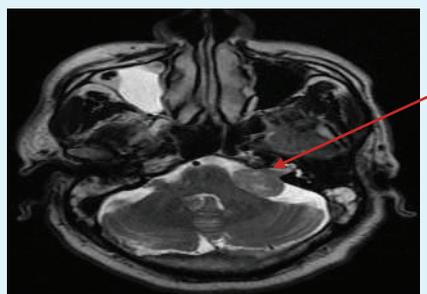
### Conclusion

Our study supported the hypothesis that acute ischemic stroke patients with elevated serum uric acid at the time of admission had reduced severity and favourable short term clinical outcome.

### Key words

Acute ischemic stroke, Uric acid.

#### Image Challenge - 01



Answer : CP ange tumour

## A Quality Improvement Initiative on Delayed Cord Clamping

P Srikanth<sup>\*1</sup>, Bhavani<sup>\*2</sup>, Vignesh<sup>\*\*1</sup>, Giridhar<sup>\*\*\*1</sup>, Srinivasan<sup>\*\*\*\*2</sup>, L Umadevi<sup>\*\*\*\*1</sup>

<sup>\*</sup>Post Graduate, <sup>\*\*</sup>Assistant Professor, <sup>\*\*\*</sup>Associate Professor, <sup>\*\*\*\*</sup>Professor

<sup>1</sup>Department Of Pediatrics, Chettinad Hospital And Research Institute, Chennai

<sup>2</sup>Department Of Neonatology, Chettinad Hospital And Research Institute, Chennai

Corresponding author - P.Srikanth (srikanthpoola@gmail.com)

Chettinad Health City Medical Journal 2019; 8(2): 65

### Introduction

Delayed cord clamping at birth has proven benefit in neonates. The objective of the study was to perform a quality improvement initiative and evaluate adherence to a delayed cord clamping protocol for babies who did not require resuscitation after the introduction of protocol.

### Materials and Methods

To implement and sustain the practice of delayed cord clamping:“WHO point of care quality improvement initiative”model was adapted for this. This study was conducted at Chettinad Hospital& Research Institute, a tertiary care facility with level 3 Neonatal Intensive Care Unit (NICU). All neonates delivered at Chettinad hospital who did not require resuscitation during period of September 2018 to February 2019 were included in the study.

A fish bone analysis was done to assess challenges associated with delayed cord clamping in newborns. The initial 2 months of the study (Baseline phase) was done to assess the practice of delayed cord clamping in newborns. The next 2 months was the implementation phase where multiple plan-do-study-act cycles were done involving obstetricians, neonatologists and staff nurses. Last 2months of the study was to evaluate the sustainment of delayed cord clamping.

### Results

The compliance rate for delayed cord clamping increased to 96%. This had increased from 0% of babies observed before the introduction of quality improvement initiative.

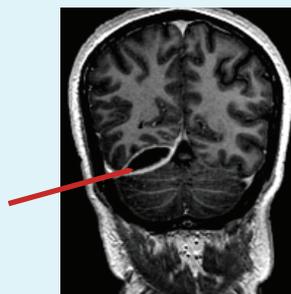
### Conclusion

Sustainment to the practice of delayed cord clamping in newborns was achieved with the help of this initiative.

### Key words

Delayed cord clamping, Neonates, Quality improvement initiative.

### Image Challenge - 02



Answer : Subdural empyema

## To Study the Platelet Indices as Predictive Factors for Microvascular Complications in Type 2 Diabetic Patients in a Tertiary Care Hospital

Subashini\*, Siva Ranganathan Green\*\*

\*Post Graduate, \*\*Associate Professor

Mahatma Gandhi Medical College and Research Institute, Pondicherry.

Corresponding author - Subashini (drsubag95@gmail.com)

Chettinad Health City Medical Journal 2019; 8(2): 66

### Introduction

Platelet indices like total platelet count, mean platelet volume, plateletcrit, platelet distribution width are emerging as good predictors in assessing diabetic patients who are prone for microvascular complications. There are many studies which emphasize the role of platelet indices as a predictor for microvascular complications of diabetes like retinopathy, neuropathy and nephropathy. This study is a comparative study among diabetic population, with and without microvascular complications and analysis of platelet indices in these 2 subgroups, regarding the correlation between abnormal platelet indices and microvascular complications.

### Materials and Methods

Total number of patients studied were divided into 2 groups according to the presence or absence of microvascular complications. Thorough history, clinical examination, investigation necessary for the diagnosis of microvascular complications were done. Platelet indices were done in all patients and results were analyzed.

### Results

Platelet indices were significantly higher in diabetic individuals with microvascular complications when compared with those without microvascular complications.

### Conclusion

Changes in platelet indices were found to be statistically associated with diabetic microvascular complications. Hence these parameters can be used to monitor and predict the risk of microvascular complications.

### Key words

Platelet indices, Microvascular complications, Diabetes mellitus .

### Image Challenge - 03



Answer : Splenic infarct

## Distribution of Infections in Critically Ill Patients in ICU in a Tertiary Care Center

Swathi G\*, AkshayaChowdary\*\*

\*Post Graduate, \*\*Associate Professor

Department of General Medicine, Mahatma Gandhi Medical College and Research Institute, Puducherry.

Corresponding author - Swathi G (swathiguru92@gmail.com)

Chettinad Health City Medical Journal 2019; 8(2): 67

### Introduction

Infectious diseases continue to pose a major public health challenge for the low- and middle-income countries across the world from time immemorial. With increasing awareness and facilities, there has been use of multiple antibiotics which in turn increase the incidence of multidrug resistant organisms.

### Materials and Methods

A clinical, prospective observational study at MGMCRI hospital Intensive care unit. A total of 153 patients admitted in ICU with infections were studied. Demographic, physiological, bacteriological, and therapeutic data were collected on the day of the admission and regularly at prefixed intervals depending upon the patient until hospital discharge.

### Results

A microbiological diagnosis was established less frequently in elderly patients aged 65 and above as compared to those younger than 65. Gram negative organisms were the most common isolates.

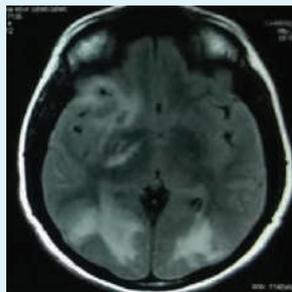
### Conclusion

In our study we found that gram negative infections are more common than gram positive organisms in contrast to the western world and hospitals need to develop hospital specific protocols to fight infections..

### Key words

Distribution of infection, ICU, Gram negative infections.

### Image Challenge - 04



Answer : Multiple ring enhancing lesions - neurocysticercosis

## A Study to Determine the Prognostic Significance of Serum Uric Acid Levels in Acute Ischemic Stroke

Thejesh C V \*, Dhivya \*\*, Vinu B\*\*\*, Rajasekaran D\*\*\*\*

Postgraduate\*, Senior Resident\*\*, Assistant Professor\*\*\*, Professor\*\*\*\*

Department of General Medicine, Chettinad Hospital & Research Institute, Chennai.

Corresponding author - Thejesh C V (thejeshcv2@gmail.com)

Chettinad Health City Medical Journal 2019; 8(2): 68

### Introduction

Stroke is one of the most common and leading causes of morbidity and mortality in the world. Various studies have shown correlation between the levels of uric acid and acute cerebrovascular disease, although the role of uric acid in pathogenesis of stroke is still controversial.

### Aims and objectives

To determine the prognostic significance of serum uric acid in acute ischemic stroke

### Materials and Methods

This is a cross-sectional study conducted at a tertiary care hospital, Chennai over a duration of 1 year. 50 patients were enrolled. After obtaining a detailed history, a complete general, physical and systemic examination, patients were subjected to relevant investigations with informed consent. Serum uric acid levels were drawn at the time of admission.

### Results

Mean serum uric acid in patients with poor outcome (6.27 mg/dl) was higher than patients with a good outcome (5.31 mg/dL). There is a significant association (P value < 0.001) between increased serum uric acid levels and poor outcome in acute ischemic stroke.

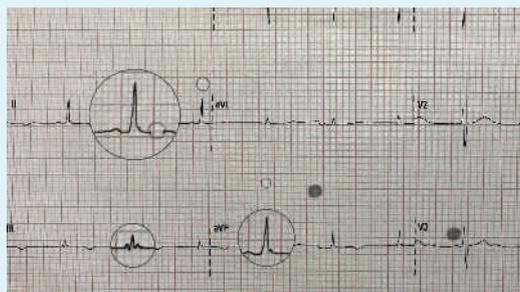
### Conclusion

Stroke patients with elevated serum uric acid levels had a poor outcome. Uric acid is the most abundant antioxidant in humans and uric acid concentrations increase during acute oxidative stress and ischemia, especially in acute brain injury. In acute ischemic stroke, uric acid can be considered as a biochemical marker of oxidative stress..

### Key words

Stroke, Uric acid, Prognosis.

### Image Challenge - 05



Answer : Epsilon wave



# A Study of Serum Magnesium Levels in Diabetic Patients admitted to Medical ICU

Vishal Venugopal\*, Nishaanth M K\*\*, Rajasekaran\*\*\*

\*Postgraduate, \*\*Senior Resident, \*\*\*Professor

Department of General Medicine, Chettinad Hospital and Research Institute, Chennai

Corresponding author - Vishalvenuogpal (Vishalreddy1104@gmail.com)

Chettinad Health City Medical Journal 2019; 8(2): 70

## Introduction

Magnesium is fourth most common cation in the body and second most common intracellular cation after potassium, yet its deficiency in critically ill patients is frequently overlooked. Diabetes mellitus is known to cause loss of magnesium in the urine, associated with glycosuria, which further lowers magnesium in the plasma of diabetic patients, aggravating the risk of development of its complications. So the present study is designed to reveal the relation between low magnesium levels during critical illness and their predictability in the outcome of intensive care therapy.

## Aims and Objectives

- 1) To study serum magnesium levels in critically ill patients admitted in medical intensive care unit.
- 2) To correlate serum hypomagnesemia in critically ill, diabetic and non-diabetic patients admitted in a medical intensive care unit and to compare their mortality.

## Materials and Methods

A cross sectional study was done in 60 patients admitted in medical intensive care unit in a tertiary care hospital. Diabetic patients and non-diabetic patients, with or without previous history of any hypertension and or vascular disease and or renal disease and or cardiovascular disease, were studied.

## Results

60 patients admitted in medical intensive care unit were enrolled in this study of which 37 were diabetic and 23 non diabetic. The mean age of study population is 59.85. Patients were monitored throughout the ICU stay and were divided into survivors and non survivors. Mortality rates among diabetic patients who had hypomagnesemia was significantly more when compared with diabetic patients without hypomagnesemia (p value < 0.05).

## Conclusion

Hypomagnesemia is a common electrolyte imbalance in patients admitted in medical intensive care unit. It was frequently associated with diabetes mellitus and incidence of hypomagnesemia correlated with increased duration of diabetes. Mortality was significantly higher in patients with diabetes mellitus and hypomagnesemia than without diabetes mellitus without hypomagnesemia.

## Key words

Hypomagnesemia, Diabetes mellitus, Intensive care unit.

### Image Challenge - 07



Answer : Rain drop pigmentation of Arsenic poisoning

## Does Hypomagnesemia Predict Mechanical Ventilator Requirement and Outcome in Intensive Care Unit?

Vishnu Shankar<sup>\*1</sup>, Rahul Chowdary Kongara<sup>\*2</sup>, K Vengadkrishnan<sup>\*\*1</sup>

\*Postgraduate, \*\*Professor

<sup>1</sup>Department of General Medicine, <sup>2</sup>Department of Cardiology  
Sri Ramachandra Institute of Higher Education and Research, Porur, Chennai.

Corresponding author - Vishnu Shankar([shankar.vishnu2011@gmail.com](mailto:shankar.vishnu2011@gmail.com))

Chettinad Health City Medical Journal 2019; 8(2): 71

### Introduction

Hypomagnesemia can result in well known complications like ventricular arrhythmia, convulsions, neuro-muscular weakness, inability to wean off the ventilator and severe metabolic abnormalities. As magnesium being an unrecognized entity in critically ill patients, a study was done to observe hypomagnesemia and its association with hypokalemia, hypocalcaemia, ventilator requirement and outcome in intensive care unit (ICU)

### Materials and Methods

Prospective study done in medicine ICU including all patients admitted to ICU with duration of stay more than 2 days and magnesium levels <1.8 mg/dl during the first 24 hours.

### Results

The incidence of hypomagnesemia in critically ill patients in this study was 15.83%(169 patients).Magnesium in association with serum potassium and calcium showed positive correlation but the observation was not statistically significant.Magnesium in association with ICU stay showed negative correlation but the observation was not statistically significant(mean stay-4.85 days p=0.093).Magnesium in association with Ventilator requirements showed that there was statistically significant requirement of mechanical ventilation in patients with hypomagnesemia(62 patients mean=1.474 p=0.001).

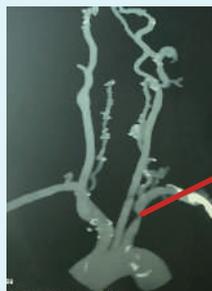
### Conclusion

As hypomagnesemia has a significant association with adverse outcomes, we suggest that measurement of magnesium to be done in all critically ill patients in ICU.

### Key words

Hypomagnesemia, Mechanical ventilator, ICU.

### Image Challenge - 08



Answer : Subclavian artery stenosis

# Correlation of Carotid Artery Stenosis with Diabetes Mellitus & Hypertension in Acute Ischemic Stroke

Blessline Sampath Kumar\*, Sakthivel V \*\*

\*Post Graduate, \*\*Professor

Department of General Medicine, Vinayaka Mission's Medical College and Hospital, Karaikal

Corresponding author - Blessline Sampath Kumar (blesslinesampathkumar@gmail.com)

Chettinad Health City Medical Journal 2019; 8(2): 72

## Introduction

Stroke remains the second leading cause of death world wide, after ischaemic heart disease. 85% of stroke cases are due to infarction and 15% are due to haemorrhage. Carotid atherosclerosis remains an important cause of ischaemic stroke. Carotid atherosclerosis occurs in patients with atherosclerotic risk factors like diabetes mellitus, hypertension. It leads to plaque formation which increase in size and causes stenosis.

## Materials and Methods

This is a hospital based cross sectional single centre study in 100 patients with acute ischemic stroke

## Results

It has been noted that the prevalence of carotid stenosis in this study is 58% where in of the 75 patients with the carotid doppler, 44 were observed to have stenosis while 31 didn't. There was a correlation between diabetes mellitus and carotid stenosis. More diabetes mellitus patients had carotid stenosis than non diabetic which was statistically significant ( P value < 0.001). Prevalence of carotid stenosis was more in hypertensives than in nonhypertensives and it was statistically significant ( P< 0.001)

## Conclusion

The prevalence of carotid stenosis increases with diabetes mellitus and hypertension .A simple, non invasive screening procedure like doppler sonography of the carotid arteries in high risk individuals could therefore have profound diagnostic and therapeutic implications in predicting and preventing a potentially fatal and devastating stroke.

## Key words

Stroke , Hypertension, Diabetes.

## Interesting Image



\*Do you know the importance of this place?

See Page : 93