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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

DETERMINANTS OF SUCCESSFUL AVF CREATION INCLUDING COMPLETION CONTROL BY INTRAOPERATIVE TRANSIT TIME FLOW MEASUREMENT AND HIGH RESOLUTION ULTRASOUND IMAGING

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INTRODUCTION AND AIMS:

The prevalence of hemodialysis patients is increasing and it is important to create the arteriovenous fistula as early as possible to avoid hemodialysis by central venous catheter. International guidelines recommend arteriovenous fistula as the vascular access of first choice. Arteriovenous fistulae are associated with a failure rate between 20 and 50%. The success of an AV-fistula is crucial for adequate hemodialyisis. Intraoperative flow measurement and imaging can help to improve the maturation rate.

METHODS:

We report on a prospective cohort study of 41 patients, undergoing a primary AV-fistula at the upper extremity. The primary endpoint of the study was the successful fistula maturation after 6 weeks. The role of combining intraoperative blood flow measurement and ultrasound imaging is discussed in the context of the current literature.

RESULTS:

The maturation rate was 85.4% at 6 weeks. Intraoperative measurement of the blood flow in the outflow vein has been identified as the unique significant parameter for fistula maturation. By the help of high resolution imaging surgical problems can be immediately detected.

CONCLUSIONS:

The predictive value of intraoperative flow measurement is superior to intraoperative physical examination and could help to reduce the fistula failure rate. Intraoperative transit time flow measurement (TTFM) and ultrasound imaging are easy to use and can ensure a successful fistula maturation in a high percentage rate.

Session: Oral

Topic: MSN - Hemodialysis
Abstract ID: 8

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

GENE-ENVIRONMENT AND GENE-GENE INTERACTIONS IN DIABETIC KIDNEY DISEASE AMONG PATIENTS WITH TYPE 2 DIABETES MELLITUS: A POPULATION-BASED STUDY FROM THE MALAYSIAN COHORT PROJECT

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INTRODUCTION AND AIMS:

Despite extensive studies for identifying susceptible genes and environmental risk factors for diabetic kidney disease (DKD), there are still gaps in knowledge regarding the gene-environment interaction (GEI) and gene-gene interaction (GGI) that could give rise to DKD. Deeper understanding of GEI and GGI is needed as this may lead to personalized medicine and individualized lifestyle modifications in the patients.

METHODS:

We enrolled 300 DKD cases and 300 controls, with type 2 diabetes mellitus by a case-control study. Retrospective sub-analysis was performed for the cases to assess DKD progression from the recruitment phase. In total, 32 single nucleotides polymorphisms (SNPs) were genotyped using mass spectrometry and validated via Sanger sequencing. The probability for DKD and predicted incidence rate for DKD progression were estimated from the significant GEI and GGI analyses.

RESULTS:

Four SNPs (eNOS rs2070744, PPARGC1A rs8192678, KCNQ1 rs2237895, KCNQ1 rs2283228) and five environmental factors (age, sex, smoking, waist circumference, high-density lipoprotein) were significantly associated with DKD. There were significant probabilities for DKD from GEI for sex (PPARGC1A rs8192678), smoking (eNOS rs2070744, PPARGC1A rs8192678, KCNQ1 rs2237895), waist circumference (eNOS rs2070744, PPARGC1A rs8192678, KCNQ1 rs2237895, KCNQ1 rs2283228) and high-density lipoprotein (eNOS rs2070744, PPARGC1A rs8192678). A DKD probability was estimated from GGI between KCNQ1 rs2283228 and AGTR1 rs5186. Sub-analysis indicated that the incidence rate for DKD progression was 132.62 cases per 1000 person-years, with a mean follow-up period of 4.78 (standard deviation 0.73) years. There was a significant predicted incidence rate for DKD progression in GEI between KCNQ1 rs2283228 and two environmental factors (sex, body mass index).

CONCLUSIONS:

Environmental factors remain the main factors that are associated with DKD. Despite, the small effect of genetic factors, it has significant role either individually or by GEI and GGI to modify the probability for DKD and its progression.

Session: Oral

Topic: MSN- Basic Science
Abstract ID: 24

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

PREDICTORS OF TIME TO INITIAL REMISSION FOR CHILDHOOD STEROID SENSITIVE NEPHROTIC SYNDROME

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INTRODUCTION AND AIMS:

Nephrotic syndrome is the commonest glomerular diseases in childhood with remission rate of 80%. If the patient needs to take steroid longer time to get first remission, there is a higher chance of first relapse. This review aims to determine clinical characteristics that can predict time to initial remission with steroid management and it is the very first study of its kind.

METHODS:

A retrospective cohort study was conducted through the medical records at Hospital Sultan Ismail, Johor, Malaysia starting from June 2007 until June 2017. We included 1 to 16-year-old children first-time diagnosed as nephrotic syndrome and treated with prednisolone at a dose of 60 mg/m2/day for 4 weeks. These children were followed up for at least 1 month and the outcome of interest was the complete remission. Subsequently, we compared the clinical characteristics between two groups of early steroid responders (14 days). Children with incomplete medical records, who lost follow up and infant nephrotic syndrome were excluded.

RESULTS:

We included 60 children and 46 (77%) were steroid sensitive nephrotic syndrome (SSNS) and 14 (23%) were steroid resistant nephrotic syndrome (SRNS). Sixty-three percent of them are male with male to female ratio of 1.8:1 (38:22) and 73% being Malays. Among SSNS, 38 (83%) got remission within 14 days whereas 8 (17%) responded after 14 days of steroid treatment. There was no statistically significant association between early remission and other predictors such as gender, age at diagnosis, infections, haematuria, hypertension and atopy or allergic disorders. The significant clinical predictive factor for early remission (<14 days) was absence of abdominal pain (OR-12.5, p-value 0.031).

CONCLUSIONS:

In this study, absence of abdominal pain although relatively subjective was found to be a clinical predictor for early remission in SSNS (<14 days).

Session: Poster

Topic: MSN - Pediatric Nephrology
Abstract ID: 10

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Abstract Open Access

ICODEXTRIN FLUSHING STRATEGY TO PREVENT PERITONEAL DIALYSIS CATHETER FAILURE POST LAPAROSCOPIC SURGERY

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INTRODUCTION AND AIMS:

In our practice we noticed a rise of peritoneal dialysis (PD) catheter failure immediate post laparoscopic surgery (for insertion or catheter revision). Previous abdominal surgery and/ or patients with significant intra-peritoneal bleeding can lead to intra-abdominal adhesion formation contributing to primary PD catheters failure. Icodextrin by process of hydrofloatation can keep peritoneal organ apart during this critical post-surgical period when adhesion formation can occur. We adopted Icodextrin 7.5% flushing strategy post-operative for this group of patients and review outcome following this strategy.

METHODS:

All patients requiring laparoscopic PD catheter surgery were reviewed from 1st July 2017 to 31st Mac 2019. This was pre-post study design comparing patients before icodextrin flushing (Non-IcoFlush) versus icodextrin flushing (IcoFlush) strategy. In IcoFlush strategy, patients had 3 consecutive daily flushing with 1L Icodextrin and 500ml Icodextrin was left to dwell. Outcomes were measured for catheter function at 1 month and occurrence of peritonitis.

RESULTS:

A total 42 cases reviewed. Thirteen cases were IcoFlush while 29 cases were Non-IcoFlush. There was no age difference between IcoFlush vs Non-IcoFlush, 50.5±21.0 versus 55.7±12.5 years, p=0.32. In IcoFlush group, 7 (53.8%) were male, 6 (46.2%) were female while Non-IcoFlush group, 11 (37.9%) were male, 18 (62.1%) were female, p=0.34. The reasons for laparoscopic PD catheter surgery comparing IsoFlush versus Non-IsoFlush were catheter migration, 15.4% versus 37.9%, omental wrap 23.1% versus 13.8% and new catheter insertion in patients with previous abdominal surgery, 61.5% versus 48.2%, p=0.33. There was no difference for catheter functioning between IcoFlush versus Non IcoFlush, 11 (84.6%) versus 23 (79.3%), p=0.68. However, there was significant increase in peritonitis in IcoFlush versus Non-IcoFlush group, 6 (46.2%) versus 3 (10.3%), p=0.009.

CONCLUSIONS:

Icodextrin flushing strategy in our study did not show significant improvement in PD function compared to standard strategy post laparoscopic surgery.

Session: Poster

Topic: MSN - Peritoneal Dialysis
Abstract ID: 12

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

UNUSUAL TRIAD OF POLYURIA, HYPONATRAEMIA AND HYPERKALAEMIA INDUCED BY TRIMETHOPRIM-SULFAMETHOXAZOLE: A CASE REPORT AND REVIEW OF LITERATURE

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INTRODUCTION AND AIMS:

Trimethoprim-sulfamethoxazole (TMP-SMX) is a broad spectrum antimicrobial commonly prescribed for a wide variety of infections. As with other medications, its use is associated with various potential adverse effects. A complete triad of polyuria, hyponatraemia and hyperkalaemia induced by TMP-SMX is considered rare and to our best knowledge, has not been reported previously.

METHODS:

Case report

RESULTS:

We describe a 37 year old gentleman who was admitted and intubated for severe acute respiratory distress syndrome secondary to pneumocystis carinii pneumonia. He was promptly treated with high dose TMP-SMX (20mg/kg QID) and prednisolone with marked clinical improvement together with normalization of inflammatory markers and arterial blood gas indices. However, on day 4 of admission, patient developed significant polyuria (more than 4.5L of urine output per day) together with hyponatraemia (serum sodium from 131mmol/l to 120mmol/l) and concomitant persistent hyperkalaemia (serum potassium ranging from 4.7mmol/l to 6.0mmol/l) necessitating multiple infusions of intravenous calcium gluconate, and intravenous rapid acting insulin. Solute diuresis were rendered as unlikely causes of his polyuria in view of normal blood glucose levels and normal urea and creatinine levels throughout admission. Further investigations excluded structural intracranial lesions while water diuresis due to diabetes insipidus were unlikely due to normal serum and urine osmolarity levels. He was euvolaemic clinically. It was then decided to withhold his TMP-SMX which fortunately accompanied by resolution of polyuria and electrolyte imbalances. A diagnosis of polyuria, hyponatraemia and hyperkalaemia secondary to TMP-SMX use was thus made.

CONCLUSIONS:

Due to its popularity in the medical field and to the largely unrecognised effects of hyponatraemia, hyperkalaemia and polyuria, it is vital for clinicians to consider these adverse effects when prescribing TMP-SMX. Early recognition and prompt withdrawal of the offending drug is vital to minimise harm and ensure a better patient outcome.

Session: Poster

Topic: MSN - Others
Abstract ID: 14

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

MYCOPHENOLATE MONITORING IN DE NOVO RENAL TRANSPLANT

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INTRODUCTION AND AIMS:

Mycophenolate Acid (MPA) monitoring is applied variably among renal transplant units, with differing opinions regarding it's application and significance on outcome.

METHODS:

This is a retrospective single centre review. MPA levels were measured using High Performance Liquid Chromatography (HPLC) assay (N=227). Area under the curve (AUC) levels were calculated using the trapezoidal method with MPA levels measured at 0, 1, 2 and 4 hours of MPA dosing. Only MPA results during the first 90 days post-transplant for patients on mycophenolate mofetil(MMF) and tacrolimus co-therapy were included. All relevant events that occured within 2 weeks from the time of MPA measurement were analysed.

RESULTS:

MPA levels were taken at 17.8±31.5 days post transplant. The mean MPA AUC and trough levels were 46.5±21.5mg/L.h and 2.6±4.4mg/L. The MMF doses were 1998±360mg/day, and 26.5±7.6mg/kg/day after weight adjusted. With fixed MMF dosing, 20.3% of patients had MPA AUC <30mg/L.h, while 26.9% had MPA trough<1.6mg/L. MMF dose, including the weight adjusted dose, did not correlate with MPA trough nor MPA AUC levels. BPAR incidence was not reduced in patients with MPA trough≥1.6mg/L or MPA AUC≥30mg/L.h. If MPA AUC≥40mg/L.h or MPA trough≥1.9mg/L was applied, the odds ratio(OR) of biopsy proven acute rejection (BPAR) was numerically lower.

MPA AUC≥60mg/L.h was statistically associated with increased risk of viral infections, namely CMV and BKV viraemia, with OR of 1.95(95% CI 1.08-3.50, p=0.043). There was also increased OR for neutropenia and non infective diarrhoea (not statistically significant). Otherwise, MPA trough≥4.0mg/L was associated with non-statistically-significant increase in OR for viral infections, neutropenia, thrombocytopenia, and non-infective diarrhoea.

CONCLUSIONS:

Over or under-exposure to immunosuppression is best avoided in transplantation. This study showed statistically significant increased risk for viral infections for MPA over-exposure, and numerically reduced risk for BPAR in adequate MPA exposure, based on MPA TDM.

Session: Poster

Topic: MSN - Transplant
Abstract ID: 17

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

A CASE OF PERSISTENT LEFT SUPERIOR VENA CAVA (PLSVC), AN INCIDENTAL FINDING DURING HD CATHETER INSERTION.

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INTRODUCTION AND AIMS:

We report a 58 year old lady with end stage renal disease (ESRD) who was planned for renal replacement therapy. She has undergone two previous failed arteriovenous fistula creation.

METHODS:

During an admission for fluid overload, she underwent emergency haemodialysis via femoral catheter which was subsequently planned for conversion to uncuffed IJV catheter upon discharge. Right sided IJV catheter insertion was complicated with a hematoma over the insertion side and the procedure was abandoned. She was subsequently planned for a left ultrasound guided IJV catheterisation. The catheter insertion was uneventful with good flow exhibited over both lumens. A chest radiograph for confirmation of placement showed an abnormal position of the catheter. The patient then underwent an urgent contrast enhanced computed tomography(CECT) of the thorax.

RESULTS:

CECT revealed double superior vena cava(SVC) with the catheter seen in the IJV which drains into a dilated coronary sinus and to the left atrium which suggests a left persistent superior vena cava. Haemodialysis was uneventful using the left IJC. She is currently into her sixth month of regular haemodialysis with no complications reported.

CONCLUSIONS:

Persistent left superior vena cava(PLSVC) is an uncommon congenital anomaly estimated in about 0.3-0.5% in healthy individuals and it is usually is an incidental finding post IJV catheterization. CECT thorax is the best modality that show the presence of this abnormality. Clinicians need to be aware of this diagnosis once post- procedural radiograph shows the IJV catheter in an abnormal position.

Session: Poster

Topic: MSN – Others
Abstract ID: 19

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

PREDICTING MYCOPHENOLIC ACID (MPA) AREA UNDER THE CURVE (AUC) USING MPA TROUGH IN DE NOVO RENAL TRANSPLANTATION

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INTRODUCTION AND AIMS:

MPA trough-AUC relationship in the early post-transplant period can be variable. This has spurred different opinions regarding the preferred method for MPA monitoring. We explored the potential role of MPA trough as an initial screening method for MPA exposure, rather than employing a full MPA AUC.

METHODS:

This is a retrospective single centre analysis of medical records and labarotary results. MPA levels were measured using High Performance Liquid Chromatography (HPLC) assays. AUC levels were calculated using the trapezoidal method with MPA levels measured at 0, 1, 2 and 4 hours of MPA dosing. Only MPA results taken during the first 90 days post-transplant for patients on mycophenolate mofetil(MMF) and tacrolimus co-therapy were included (N=227).

RESULTS:

MPA levels were taken at 17.8±31.5 days post transplant. The mean MPA AUC and trough levels were 46.5±21.5mg/L.h and 2.6±4.4mg/L. The MMF doses were 1998±360mg/day, and 26.5±7.6mg/kg/day after being weight adjusted. Mycophenolate mofetil dose, including the weight adjusted dose, did not correlate with MPA trough nor MPA AUC levels. However, MPA AUC was well associated with MPA trough in our study population, with linear regression correlation, r2=0.643, F(1,225)=404.77, p=0.001 (ANOVA). Based on receiver operating characteristic (ROC) curve, MPA trough ≥1.95mg/L has a sensitivity 80.7% and specificity 68.5% in predicting MPA AUC ≥40mg/L.h (ROC AUC 0.859, SE 0.024, p<0.001). Conversely, MPA trough of ≥4.0mg/L has a sensitivity of 57.4% and specificity of 93.6% in predicting MPA AUC ≥60mg/L.h (ROC AUC 0.83, SE 0.36, p<0.001).

CONCLUSIONS:

This study has shown good correlation and predictability between MPA trough and AUC levels for MMF with tacrolimus co-therapy. Due to the logistic and cost benefits, MPA trough can be considered as a screening for MPA drug exposure in early post-transplant patients routinely, rather than employing the AUC method.

Session: Oral

Topic: MSN - Transplant
Abstract ID: 57

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

INTERNAL JUGULAR VEIN DIALYSIS CATHETER TIP ON THE LEFT HEART SHADOW: A CASE REPORT

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INTRODUCTION AND AIMS:

Internal jugular vein catheter (IJVC) insertion is a common clinical procedure performed to establish temporary vascular access for acute haemodialysis (HD). Vascular anomalies of major venous vessels are rarely seen, which may be detected only at the time of IJVC insertion.

METHODS:

We report a case of end stage renal disease (ESRD) patient found to have persistent left superior vena cava (PLSVC) after placement of left IJVC for temporary vascular access.

RESULTS:

A 69-year-old female with underlying Hepatitis B and ESRD due to hypertension and Type 2 diabetes mellitus on maintenance HD presented to our centre for secondary failure of right braciocephalic fistula. Ultrasound (USG) neck showed aneurysm of right common carotid artery and small right internal jugular vein. A 12-Fr double-lumen non-cuffed dialysis catheter was thus inserted uneventfully into the left IJV under real-time USG guidance. However, post-procedure chest radiography revealed an aberrant course of catheter through the left heart border. Blood gas analysis from the dialysis catheter sample confirmed venous blood picture. A computed tomography with contrast via the catheter confirmed that the dialysis catheter was in left IJV, with the tip of dialysis catheter located in the PLSVC which drained into the right atrium via coronary sinus without extravasation of contrast. Right superior vena cava was present and patent. Haemodialysis via the IJVC was uneventful. Electrocardiogram (ECG) revealed no evidence of arrhythmia or ischaemia. There was no evidence of impaired venous drainage of the left upper limb. Decision was made to continue HD with the left IJVC until a new arteriovenous fistula is successfully created.

CONCLUSIONS: Clinicians should be aware of the existence of PLSVC as it is the most common variation of the thoracic venous system, occurring in 0.3% of the population.

Session: Poster

Topic: MSN - Others
Abstract ID: 59

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

EPSTEIN-BARR VIRUS ASSOCIATED SMOOTH MUSCLE TUMOUR AS A RARE COMPLICATION OF IMMUNOSUPPRESSIVE THERAPY IN LUPUS NEPHRITIS: A CASE REPORT

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INTRODUCTION AND AIMS:

Treatment of proliferative lupus nephritis requires strong immunosuppressant which predisposes the patient to malignancy.

METHODS:

We report a case of Epstein-Barr virus associated smooth muscle tumour (EBV-SMT) with distant metastasis in a patient with lupus nephritis on immunosuppressant therapy.

RESULTS:

A 15 year-old girl with underlying SLE presented with proteinuria of 1.88 g over 24 hours. Renal biopsy was consistent with ISN/RPS classification of lupus nephritis class IV. She was given IV cyclophosphamide pulses in 2014 for a total of 6.7 g followed by maintenance therapy of prednisolone and azathioprine. She developed acute flare of SLE accompanied by relapse of lupus nephritis in May 2016 needing initiation of mycophenolate mofetil. In December 2017, she noted a small swelling over the anterior chest wall. Biopsy of the anterior chest wall mass in February 2018 showed spindle cell lesion consistent with benign leiomyoma. 6 months later, she presented with back pain and shortness of breath. Further imaging study showed soft tissue lesions in bone, liver, spleen and lung. Targeted liver biopsy showed smooth muscle tumour, which stained positive for EBV. Her mycophenolate mofetil was stopped as she undergoes chemotherapy. EBV-SMT is rare and has been described to be related to 1) HIV, 2) post-transplant immunosuppressant and 3) congenital immunodeficiency state. Its optimal management is unknown and prognosis is poor.

CONCLUSIONS:

EBV-SMT in SLE is rare and may be attributed to the similar immunosuppressive therapy profile resembling that of transplant.

Session: Poster

Topic: MSN - Others
Abstract ID: 35

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

PROJECTION OF ECONOMIC BURDEN OF END-STAGE RENAL DISEASE (ESRD) TO THE PUBLIC SECTOR IN MALAYSIA

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INTRODUCTION AND AIMS:

Prevalence of dialysis in Malaysia has increased three times in ten years and majority (67.1%) were funded by the government. Renal transplantation has remained static. Despite high disease burden, the exact economic burden of ESRD has yet to be quantified.

METHODS:

This was a modelled economic evaluation on future economic burden of ESRD and cost-effectiveness analysis (CEA) of modifying renal replacement therapy (RRT) distributions. A Markov model was constructed. Primary and secondary data sources were used to derive current ESRD expenditure and model parameters. Dynamic cohort modelling was employed to project future economic burden and to conduct CEA. Forecast incidence of dialysis and renal transplantation obtained through auto-regressive integrated moving average (ARIMA) and simple exponential smoothing (SES) models respectively were added to fourteen-cycle dynamic cohort, representing fourteen years of projections (2017 2030).

RESULTS:

Eighteen public sectors organisations participated in the study. ESRD expenditure has grown 95% from MYR601 million in 2010 to MYR1.71 billion in 2016, with average growth of 11.81% per year. ESRD expenditure constituted 4.39% of total health expenditure for public sector. The Ministry of Health was the main contributor (57.01%), followed by Social Security Organisation (SOCSO), Department of Public Service, Zakat Organisations, Ministry of Defence and Ministry of Education. ESRD expenditure per capita (MYR41.154) was 25 times higher than the national total health expenditure per capita (MYR1,636). ESRD expenditure is expected to increase to MYR2.195 billion in the year 2030, 86% higher compared to 2017. Increasing renal transplant by 50% in the next fourteen years was identified to be a very cost-effective measure. Deterministic and probabilistic sensitivity analysis showed that the constructed model was robust.

CONCLUSIONS:

The rapid growth of ESRD expenditure shall warrant the government to take proactive preventive measures and avoid further escalations. Renal transplantation shall be promoted as a preferred modality for RRT.

Session: Poster

Topic: MSN - Others
Abstract ID: 39

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Abstract Open Access

EXTRAPULMONARY TUBERCULOSIS: A CASE OF BILATERAL PYOSALPINX IN CADAVERIC RENAL TRANSPLANT RECIPIENT

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INTRODUCTION AND AIMS:

We report a case of bilateral tubo-ovarian tuberculosis (TB) diagnosed in early cadaveric renal transplant.

METHODS:

A 30-year-old lady presented at Day 51 post cadaveric renal transplant with fever for 1 day. She denied other symptoms. There was no past history of TB contacts. Despite 1 week of broad-spectrum intravenous antibiotics, her condition deteriorated requiring inotropic support. CT of thorax-abdomen-pelvis revealed dilated tubular structures at bilateral adnexal regions suggestive of bilateral pyosalpinx. She underwent emergency laparotomy and drainage of the bilateral tubo-ovarian abscess. Pus microscopy was positive (3+) for AAFB and pus for GeneXpert detected high mycobacterium tuberculosis. Anti-TB consists of isoniazid, rifampicin, ethambutol, and pyrazinamide were commenced, for a minimum 6 months and mycophenolate mofetil was withheld. She was discharged well with dual immunosuppressive therapy. Her allograft is functioning well with no evidence of rejection.

RESULTS:

Prevalence of active TB is estimated to be 1.2%-6.4% in developed countries and up to 15% in highly endemic areas. Genitourinary TB is the second commonest cause of extrapulmonary TB, accounts for 7-15% of TB cases among post renal transplant patients. Active TB infection in transplant recipients can be due to airborne contacts from the community, reactivation of latent TB or direct transmission from the transplanted organ. The situation is more complex in cadaveric renal transplant where donor and recipient are not routinely screen for TB. The risk factors for TB post-transplant include the use of T-cell depleting agents, enhanced immunosuppression, longer duration of haemodialysis, diabetes mellitus, chronic liver disease, increased recipient age, coexisting infections, particularly deep mycoses, pneumocystis pneumonia and CMV infections.

CONCLUSIONS:

This case reflects possible reactivation of latent TB in early post-renal transplant due to severely immunocompromised state. Tuberculosis should be suspected in kidney transplant recipients who present with unexplained fevers.

Session: Poster

Topic: MSN - Transplant
Abstract ID: 48

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Abstract Open Access

EFFECTIVENESS OF THROMBOLYTIC AGENT IN THE PREVENTION OF CONTINUOUS AMBULATORY PERITONEAL DIALYSIS RELATED PERITONITIS

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INTRODUCTION AND AIMS:

Peritonitis remains a significant cause of morbidity and mortality for patients on continuous ambulatory peritoneal dialysis (CAPD). Presence of biofilm in PD catheter may impede penetration of antibiotics, thus reducing its effectiveness and causing PD related peritonitis particularly relapsing peritonitis. In Sarawak General Hospital, instillation of thrombolytic agent into the PD catheter to remove the biofilm was introduced as part of the treatment regimen for PD related peritonitis since year 2016. This study aim to evaluate its effectiveness in preventing CAPD related peritonitis.

METHODS:

This is a retrospective record review of 152 CAPD patients who developed peritonitis between year 2014 to 2018. Data examined include patients demographic, peritonitis rate and usage of thrombolytic agents.

RESULTS:

A total of 282 episodes of peritonitis, including 31 relapsed cases were recorded during this study period. With the usage of thrombolytic agent, overall peritonitis rate reduced from 0.47 episodes per patient year in 2015 to 0.3 in 2018. There was a similar reduction in both relapsing and repeat peritonitis episodes, and a reduction in the number of PD catheter loss due to peritonitis. The reduction of relapsing peritonitis in patients using thrombolytic agents was statistically significant (p=0.028). Six patients developed blood stained PD fluid and 3 patients had turbid PD fluid after the instillation of thrombolytic agent. However, these events were transient and resolved completely without any sequelae.

CONCLUSIONS:

This study demonstrates that the usage of thrombolytic agent in addition to standard antibiotic therapy is safe and results in a statistically significant reduction in relapsing peritonitis episodes and overall peritonitis rate. This may result in reduction in PD catheter loss, membrane failure, treatment cost and improve CAPD outcomes.

Session: Oral

Topic: MSN - Peritoneal Dialysis
Abstract ID: 52

JCTN (2019) Volume 1 , S1-123

JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

AN UNUSUAL POSITION OF HEMODIALYSIS CATHETER PERSISTENT LEFT SUPERIOR VENA CAVA

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INTRODUCTION AND AIMS:

Persistent left superior vena cava (PLSVC) is an uncommon venous anomaly due to the failure of the left anterior cardinal vein to regress during embryonic life. We reported a case of PLSVC in an end-stage renal disease (ESRD) patient, which was detected incidentally after a jugular vein catheterization.

METHODS:

A 43-year-old lady with ESRD was admitted for right arteriovenous fistula site infection and required temporary rest of the fistula. An uncuffed hemodialysis catheter was inserted through the left internal jugular vein approach. The procedure was uneventful. Chest radiograph post procedure revealed an unusual position of the catheter tip in the left mediastinum. There was good blood flow from both lumens and blood gas analysis revealed venous blood. The computed tomography thorax scan showed the presence of right and left superior vena cava. The patient was asymptomatic and the catheter was successfully used for hemodialysis.

RESULTS:

PLSVC is a congenital thoracic venous anomaly with an incidence of 0.3-0.5%. It results from failure of the regression of left anterior cardinal vein during embryological development. This abnormal persistent patent vessel later forms the PLSVC that subsequently drain into the right atrium via the coronary sinus. Our patient has double superior vena cava (left and right-sided SVC) which is the commonest PLSVC variation, present in approximately 80% of cases. She was asymptomatic, and the unusual location of the catheter was detected incidentally on chest x-ray post-catheterization. Catheter placement into PLSVC can be misinterpreted as malposition of the catheter into the arterial or intrathoracic system. Diagnostic tests that are useful for confirmation of catheter location in PLSVC are catheterogram or centrovenogram, agitated saline test or computed tomography.

CONCLUSIONS:

Awareness of anatomical variation of the blood vessels in the cervicothoracic region is necessary to prevent unnecessary complications.

Session: Poster

Topic: MSN - Hemodialysis
Abstract ID: 50

JCTN (2019) Volume 1 , S1-123

JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

DOUBLE-POSITIVE ANTI GBM AND ANCA-ASSOCIATED GLOMERULONEPHRITIS

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INTRODUCTION AND AIMS:

Double-Positive Anti-Glomerular Basement Membrane (Anti-GBM) and Anti-Neutrophil Cytoplasm Antibody (ANCA)- Associated Glomerulonephritis is a rare disease. The disease is characterized by concurrent presence of Anti-GBM antibodies and ANCA in a patient. Patient usually presents with rapidly progressive glomerulonephritis with or without pulmonary haemorrhage. There is no standard treatment for this disease. Previous study reported that up to 50 per cent of cases became dialysis dependent.

METHODS:

We report a case of a middle-aged gentleman who presented acute kidney injury secondary to Double Positive Anti-GBM and ANCA-Associated Glomerulonephritis and underwent plasma exchange, pulse IV cyclophosphamide and high dose steroid.

RESULTS:

A 59 years old gentleman presented with one month cough, intermittent fever but no haemoptysis or reduced urine output. No significant findings on physical examination. Investigations showed hemoglobin 8.7 g/dL, total white blood cells 5.6 x 103/mm3, platelet 343 x 103/mm3, urea 13.3 mmol/L, creatinine 500 umol/L, clear lung fields of Chest XRay, Antinuclear Antibody (ANA) positive with titre 1:160, p-ANCA positive with titre 1:320, Anti-GBM antibody positive with titre >200 IU and 24 hour urine protein of 1.8g/day. Anti-myeloperoxidase antibody was not performed. Renal biopsy revealed linear IgG (3+) positivity along the glomerular basement membrane with active necrotizing glomerular injury and 59% of cellular crescent. IV pulse methylprednisolone 500mg was given for 3 days followed by 8 cycles of plasma exchange and IV cyclophosphamide 0.4 g/kg/m2. Patient discharged well after 8 cycles of plasma exchange. During his outpatient review, further 2 cycles of IV cyclophosphamide 0.5 g/kg/m2 was given and high dose steroid was maintained. After 2 months, creatinine reduced to 210 umol/L and Anti-GBM antibody titre became 84 IU.

CONCLUSIONS:

Double-Positive Anti-GBM Disease and ANCA Associated Glomerulonephritis is a rare condition with variable outcome, despite immunosuppression and plasma exchange.

Session: Poster

Topic: MSN - Glomerulonephritis
Abstract ID: 55

JCTN (2019) Volume 1 , S1-123

JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

EFFECTS OF ORAL CALCITRIOL IN THE TREATMENT OF BIOPSY-PROVEN IMMUNOGLOBULIN A NEPHROPATHY: AN OPEN LABEL RANDOMISED CONTROL CLINICAL TRIAL

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INTRODUCTION AND AIMS:

Vitamin D and its analogues were shown to have positive effect on the immune systems function, mesangial glomerular cell proliferation and plays important role in reducing overt proteinuria. Previous studies have revealed vitamin D analogue has antiproteinuric effect in Immunoglobulin A Nephropathy (IgAN). We conducted study to assess the effect of oral calcitriol on albuminuria in IgAN patients and its correlation with 25-OHD level, serum hs-CRP, serum creatinine and eGFR after three months.

METHODS:

This is an open-label, randomised control study in biopsy-proven IgAN patients with UACR more than 3mg/mmol. Patients were randomised into two groups; oral calcitriol 0.25mcg daily and no calcitriol group using block randomisation method in addition to standard care and followed up for 3 months. The blood and urine investigations were done at baseline and the third month.

RESULTS:

Calcitriol-treated group had 15.8% UACR reduction compared to 5.2% in non-calcitriol group but was not statistically significant; 81.74 to 68.83 mg/mmol (p=0.13) vs 66.86 to 63.68 mg/mmol (p=0.65) respectively. Those with severely increased albuminuria in the calcitriol-treated group, had better response compared to moderately increased albuminuria (Δ-23.18 vs Δ16.89; p=0.03). We found 87.1% had low 25-OHD (<30ng/ml). Serum 25-OHD stabilized in calcitriol-treated group; 19.05 to 19.92ng/ml; p=0.23 compared to non-calcitriol group where there was a significant reduction; 20.79 to 19.30 ng/ml; p = 0.03. 80% of patients had elevated hs-CRP >1mg/ml. Three months of 1.75mcg per week calcitriol treatment had no significant effects on hs-CRP, serum creatinine and eGFR. There was no significant correlation between 25-OHD with hs-CRP, UACR levels and eGFR.

CONCLUSIONS:

Calcitriol treatment at 1.75mcg per week does stabilize serum 25-OHD in stable IgAN patients and the effect on albuminuria is more predominant in those with severely increased albuminuria. It has no renoprotective benefit at 3 months.

Session: Oral

Topic: MSN - Glomerulonephritis
Abstract ID: 65

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

NON-TUBERCULOUS MYCOBACTERIUM TENCKHOFF CATHETER EXIT SITE INFECTION: A SINGLE-CENTRE EXPERIENCE

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INTRODUCTION AND AIMS:

Exit site infection (ESI) contributes significantly to peritoneal dialysis (PD) related peritonitis.Non-tuberculous Mycobacterium (NTM) is an emerging cause of ESI. Optimal treatment regime and outcome are unknown. Use of topical gentamicin 0.1% as predisposing factor has been suggested.

METHODS:

We describe a single-centre observational study of a retrospective cohort with culture proven NTM-ESI from 1 January 2016 to 30 June 2018. Subjects with positive Mycobacterium culture from either exit site swab or PD fluid during the corresponding period were identified from local microbiology laboratory database. Only subjects with NTM-ESI were included in the analysis. Subject case files and admission notes were reviewed to determine demographic profile, species identification, antibiotic usage and outcomes of infection.

RESULTS:

18 subjects had culture positive NTM-ESI and included in the analysis. Median age was 61 years old and 11 (61.1%) had diabetes mellitus. 17 subjects (94.4%) were using gentamicin-based exit-site dressing at the time of NTM-ESI onset. Species identified were predominantly M. fortuitum (9/18 cases, 50%) and M. abscessus (8/18 cases, 44.4%). 1 (5.6%) species could not be determined. All subjects received at least 2 antibiotic combinations, of which backbone antibiotics were clarithromycin-doxycycline combination in 10 subjects (55.5%). Median duration of antibiotics was 5.4 months. 4 subjects (22.2%) elected to remove the catheter early within first 2 weeks and were well with no reported sequelae. Of the 14 subjects who did not have early removal of catheter, 8 subjects (57.1%) required removal of catheter subsequently due to peritonitis (n=5, NTM), sepsis (n=1) or persistent ESI for more than 2 months (n=2), 3 subjects (21.4%) died of sepsis while on treatment, and 3 subjects (21.4%) were successfully treated with antibiotics.

CONCLUSIONS:

NTM-ESI is difficult to treat and associated with significant morbidity and mortality. Early removal of catheter may be necessary to reduce complications.

Session: Poster

Topic: MSN - Peritoneal Dialysis
Abstract ID: 66

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

CARDIAC ARREST AND SEVERE RENAL INJURY AS A RARE MANIFESTATION OF SUPERIOR MESENTERIC ARTERY SYNDROME

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INTRODUCTION AND AIMS:

Superior mesenteric artery (SMA) syndrome is a rare cause of upper gastrointestinal obstruction. We report a 23-year-old man presented with persistent vomiting leading to severe hypokalaemia, severe metabolic alkalosis and acute kidney injury resulting in cardiorespiratory arrest shortly upon arrival to the emergency department.

METHODS:

On admission, Urea was 9.1 mmol/L, serum creatinine 218.3 µmol/L, potassium 1.6mmol/L, severe metabolic alkalosis with pH 7.56 and bicarbonate 62 mmol/L. After successful resuscitation, he was subsequently supported with hemodialysis and aggressive electrolytes correction. He was repeatedly noted not able to tolerate nasogastric tube feeding and CT abdomen was performed and the diagnosis of SMA syndrome was made. Gastroscopy examination revealed duodenal ulcer at D1, pin-hole D1-D2 junction, but there was no evidence of intraluminal mass or lesions leading to upper gastrointestinal obstruction. Nasojejunal (NJ) tube was inserted to bypass the narrow segment of the duodenum, and he was put on nutritional support.

RESULTS:

The patient subsequently able to tolerate orally and NJ tube was removed. As the renal function improved, he was weaned off dialysis support, and subsequent review showed normalization of renal profile. He remains symptoms free and already gained five kilograms within four months post discharge.

CONCLUSIONS:

SMA syndrome is rare but should be considered as a differential diagnosis when a patient presents with recurrent vomiting and AKI with metabolic alkalosis. CT contrast is the gold-standard imaging for diagnosis together with an endoscopic examination to identify potential secondary causes for the narrowing of aortomesenteric angle causing D3 compression. Conservative medical management with nutritional support should be attempted in most patients whereas surgical procedures are reserved for those not responding or came with complications that warrant immediate surgery. Generally, the prognosis of SMA syndrome in this case is good given that the condition is identified and intervene early.

Session: Poster

Topic: MSN – Others
Abstract ID: 67

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

PATTERN OF DEFAULTERS IN NEPHROLOGY CLINIC, UKMMC

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INTRODUCTION AND AIMS:

Despite the high incidence of chronic kidney disease (CKD), many patients are seen in nephrology clinic with advanced CKD stages. Despite being referred early, many patients do not attend their appointment for several reasons. Hence, we explored the reasons for defaulting and the demographics of the defaulters.

METHODS:

We retrospectively reviewed electronically appointments records from January - December 2018 and included diabetic nephropathy, haemodialysis (HD) and general nephrology (GN) clinics. We excluded PD and RRT counselling, nephrology daycare and CKD pregnancy clinics.

RESULTS:

Of a total of 89 clinic sessions involving 9702 appointments (5429 Diabetic CKD/ HD and 4273 GN/RTx), 8607 were attended (88.7% attendance rate). There were 934 patients who defaulted 1095 appointments with a mean age of 60.9 ± 17.3 years. Of the defaulters, 491(52.6%) were males and 442 (47.4%) females. Their racial distribution was 565 Malay, 299 Chinese followed by 55 Indians and 12 others. 726 (77.7%) were married. Majority 578 (61.9%) were unemployed or retired. Most of the defaulters were from diabetic CKD clinic (49.4%), followed by general clinic (34.9%). Nearly one third (36.1%) of defaulters lived < 10 km radius from hospital. Majority (80.1%) were patients on regular follow up whereas 19.9% were new cases. Their mean serum creatinine was 317.5 ± 278.3 umol/L and their eGFR 37.1 ± 35.2 mls/min/m2. Majority (58.6%)had either CKD stage IV or V. Although the majority 793 (84.9%) defaulted once only, 122 (13.1%) defaulted twice whereas 19 (2.0%) patients missed ≥ three appointments.

CONCLUSIONS:

We found that majority of defaulters were those who were elderly and dependent on their family members to provide transport and assistance to clinic.Those with advanced CKD were more likely to default clinic.

Session: Oral

Topic: MSN - Others
Abstract ID: 68

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

ACHIEVING HIGH SUCCESS RATES WITHOUT BURNING BRIDGES: A PROSPECTIVE STUDY ON SNUFFBOX ARTERIOVENOUS FISTULAS

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INTRODUCTION AND AIMS:

The snuffbox arteriovenous fistula (SBAVF) is the most distal venous access which can be constructed. It has the advantage of providing a long vein segment for cannulation and also allows proximalization of AVF should there be problems of stenosis or thrombosis after use. This study is to evaluate SBAVFs in our group of patients in terms of patency rates and complications.

METHODS:

A prospective study of patients who had undergone SBAVF creation between 1st January 2018 and 30th September 2018 was undertaken. The patients were followed up after 2 weeks and then monthly until initiation of dialysis. Data was collected during each visit. Statistical analysis was performed using SPSS version 15.0.

RESULTS:

167 cases of SBAVFs were included in the study. 63.5% were males. Mean age was 52.4 year (median 53, range 13-86). Significant co-morbidities include diabetes mellitus (70.7%) and hypertension (94%). 71.3% had never smoked. The mean body mass index was 27.2 (median 26.6, range 15-42).

82% of patients underwent left sided SBAVFs. Early complication rate was 2.4% (seroma and oedema). Failure to mature (FTM) occurred in 14 patients (8.4%). These were due to juxta-anastomotic stenosis (n=3), poor inflow (n=3), deep veins (n=6) and thickening of valves (n=2). All cases of FTM underwent either proximalization, loop brachiocephalic fistulas or superficialization, accordingly. The veins used for the anastomosis was normal in 98.2% of patients, with 83.8% having a diameter of 3.1mm or more. The artery size was 2.1mm or more in 94% of cases.

At 6 and 12 months, the primary patency rates were 84% and 78%, respectively, whereas the cumulative patency rates were 94% and 88%, respectively.

CONCLUSIONS:

The SBAVF should be considered as the first option for vascular access due to its favourable anatomy, low complication rates, satisfactory outcome and the availability of proximal vein for future use.

Session: Oral

Topic: MSN - Hemodialysis
Abstract ID: 69

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

DIABETIC NEPHROPATHY IN TYPE 2 DIABETES MELLITUS PATIENTS WITH RAPID DETERIORATION OF RENAL FUNCTION A CASE SERIES

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INTRODUCTION AND AIMS:

The prevalence of Diabetes Mellitus (DM) is increasing in Malaysia. According to the International Diabetes Federation (IDF), 16.7% of the Malaysian population suffered from DM in 2017. Among patients suffering from DM, about 20 - 40% will develop diabetic nephropathy, which is a leading cause of ESRD in Malaysia. The rate of kidney function decline in diabetic nephropathy can be varied but here we would like to discuss a proportion of patients with a rapid decline in renal function which exceeded 5ml/min per 1.73m2 per year.

METHODS:

The medical records of 6 patients from a single center were reviewed with the renal biopsy reports.

RESULTS:

Case Series This case series examines 6 patients from our centre, suffering from Type 2 Diabetes Mellitus with significant proteinuria and rapid deterioration of renal function over a matter of months. The decline in eGFR ranged between 7 - 47 ml/kg/1.73m2 per year, with 3 out of the 6 patients discussed, now requiring renal replacement therapy. Renal biopsies were performed to exclude other possible causes for the rapid deterioration of eGFR, however, all results showed diabetic nephropathy as the cause.

CONCLUSIONS:

Patients with Type 2 DM and proteinuric diabetic nephropathy are at a higher risk of chronic kidney disease progression and all cause mortality. The rate of progression of renal function decline also appears to be variable ranging from a slow decline to an accelerated decline in eGFR. We need to look further into causes or associated features, in an effort to identify patients at risk of rapid decline. It is vital to optimize glycaemic control, manage hypertension, start renin-angiotensin pathway blockers and implement lifestyle modification to reduce CKD progression. The protective renal effects of SGLT-2 inhibitors and GLP-1 analogues have also been encouraging and may further reduce the rate of renal function decline.

Session: Poster

Topic: MSN - Glomerulonephritis
Abstract ID: 71

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

CLINICAL OUTCOMES OF LUPUS NEPHRITIS IN PREGNANCY: A RETROSPECTIVE CASE SERIES IN A SINGLE CENTRED TERTIARY HOSPITAL IN PAHANG.

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INTRODUCTION AND AIMS:

Systemic lupus erythematous (SLE) is an autoimmune disease that affects primarily women of childbearing age. Lupus nephritis (LN) is frequently seen as a manifestation of severe SLE and plays a role in affecting the SLE patient survival and renal survival globally. Most studies of pregnant women with LN shows unfavourable maternal and fetal outcomes. Therefore, we set up to analyse our cohort to study whether the outcomes are similar in local setting.

METHODS:

A retrospective analysis of a series of patients who diagnosed as lupus nephritis and were expected who have been followed up in HTAA from Jan 2010 Dec 2017. Data is extracted manually using a standard proforma and is analysed using SPPS version 25.

RESULTS:

A total 24 pregnancies occurred 4 years (+/- 2.4 years) after the onset of LN. Only 50% of our cohort has histopathological proven LN with majority of them in class III (41.6%), Class 4 (41.6%) and class V (16.8%). One-third has pre-conceive hypertension, 45.8% required antihypertension during pregnancy in which 16.6% developed pregnancy induced hypertension, however none had pre-eclampsia/eclampsia. All pregnancies were in remission before conception. 12.5% of pregnancies associated with antiphospholipid syndrome. Three quarters of pregnancies required antiplatelet (aspirin) antenatally. Worsening renal function that required RRT to therapeutic abortion was 4.2%. 87.5% of pregnancies were delivered at term and 8.3% of intrauterine death were noted. 58.3% of women treated with IV cyclophosphamide and 20.8% were treated with MMF before conception. During the pregnancies they were prescribed with prednisolone (100%), 79.2% on hydroxychloroquine and 45.8% on azathioprine. Postpartumly, mean serum creatinine was 79.17 mmol/L and mean proteinuria was 0.7g/day.

CONCLUSIONS:

Pregnancy need not be discouraged in women with LN. Deterioration of renal function and fetal loss rarely occurs.

Session: Poster

Topic: MSN - Glomerulonephritis
Abstract ID: 75

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

CHALLENGES IN MANAGING A CASE OF HEALTHCARE ASSOCIATED INFECTIVE ENDOCARDITIS(HAIE) COMPLICATED WITH EARLY SEPTIC EMBOLISATION

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INTRODUCTION AND AIMS:

Healthcare associated Infective Endocarditis (HaIE) in end stage renal failure(ESRF) has increasing incidence with some centres reporting up to 25% incidence and mortality rate of 30-50%. Managing a case like this is very challenging.

METHODS:

We report a case of a 56-year-old gentleman with ESRF who underwent hemodialysis (HD) via internal jugular venous catheter inserted in a previous tertiary hospital 4 weeks prior to current presentation. He presented with high grade fever associated with chills and rigors. Subsequent 3 blood cultures from his catheter showed methicillin resistant staphylococcus aureus(MRSA). A transthoracic echocardiography revealed a vegetation of 1.1cm affecting his mitral valve. These fulfilled the diagnosis of infective endocarditis according to Dukes Criteria. Together with a history of admission of more than 48 hours prior, this establishes the diagnosis of HaIE.

RESULTS:

This gentleman developed left middle cerebral artery neurological deficit by day 3 of admission. A computed tomography of the brain revealed multiple infarcts and his neurological deficit continued to worsen. He was started on intravenous Vancomycin guided by antibiotic sensitivity profile and a minimum inhibitory concentration (MIC) of <1.0. Despite best efforts, this patient remains septic with persistent positive blood culture and he succumbed by day 10 of admission.

CONCLUSIONS:

This case highlights the fatal and rapid complications of a catheter-related-blood-stream-infection complicated with a HaIE and septic emboli. Importantly, health care takers should practice on adherence to strict catheter care bundle guidelines in order to prevent HaIE.

Session: Poster

Topic: MSN - Others
Abstract ID: 76

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

COILED VERSUS STRAIGHT PERITONEAL DIALISIS CATHETER IN PATIENTS UNDERGOING PERITONEAL DIALYSIS IN A TERTIARY CENTER IN MALAYSIA

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INTRODUCTION AND AIMS:

The peritoneal dialysis (PD) catheter is an important factor to determine the success of peritoneal dialysis programs. Many studies have compared different outcomes of catheter designs yielding heterogeneous results. Our main objective is to compare the outcomes between coiled and straight peritoneal dialysis catheters in peritoneal dialysis patients in Malaysia.

METHODS:

126 patients were recruited, 75 (59.5%) patients received coiled PD catheter and 51 (40.5%) received straight catheter. Data on catheter survival, reasons for malfunction, interventions required for correction of catheter malfunction, PD failure, catheter related infections and all-cause mortality between patients in both groups was obtained in a ten-year follow-up. We also assessed quality of life using WHOQOL-BREF questionnaire.

RESULTS:

Catheter survival was similar between both groups. Although there was a trend towards more malfunctions and interventions required to correct malfunction in the coiled catheter group, there was no statistical significance. PD failure that required transfer to another mode of renal replacement therapy (RRT) was similar between groups. The catheter related infections and mortality were similar with no statistical significance. Patients with straight PD catheter scored higher in raw scores in three domains of the WHOQOL-BREF; physical health (24.6±5.27 vs 22.12±4.76, p-value=0.400), psychological health (23.20±3.03 vs 20.25±5.01, p-value=0.264) and environment (33.80±3.96 vs 27.75±4.89, p-value=0.041). Multivariate analysis showed higher Body Mass Index (BMI) (p-value=0.004) and absence of hypertension (p-value=0.008) as significant factors that contributed to higher score in the physical domain while religion (p-value=0.031) was a factor that affected the psychological domain and mode of dialysis affected the environmental domain (p-value=0.046).

CONCLUSIONS:

The outcomes of catheter survival, catheter malfunction, PD failure, catheter related infections, mortality and quality of life showed no significant difference in both groups. Thus the straight PD catheter is non inferior to the coiled PD catheter.

Session: Poster

Topic: MSN - Peritoneal Dialysis
Abstract ID: 78

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

COMPARISON OF OUTCOME BETWEEN LEVAMISOLE AND CYCLOSPORINE IN TREATMENT OF CHILDHOOD FREQUENT RELAPSING AND STEROID DEPENDENT NEPHROTIC SYNDROME IN HOSPITAL SULTAN ISMAIL

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[1] Hospital Sultan Ismail

INTRODUCTION AND AIMS:

The management of children with frequent relapsing and steroid dependent nephrotic syndrome is ever challenging for paediatric nephrologists. This study aims to compare the efficacy between levamisole and cyclosporine as second line treatment.

METHODS:

This is a retrospective cohort study where data of all patients less than 18 years old with frequent relapsing steroid dependant nephrotic syndrome on second line treatment from 1st January 2014 till 31st March 2018 were obtained via Hospital Information System. Data collected were rate of relapse, steroid dosage and serum albumin 1 year pre and post treatment and these were analyzed using SPSS version 18.0.

RESULTS:

A total of 55 patients were included in this study with 29 on levamisole and 26 on cyclosporine. The mean age of patients on levamisole and cyclosporine were 8.5 and 7.4 years respectively. The male to female prevalence is 3:1. Levamisole demonstrated better efficacy in reduction of relapse (RR=0.55, p=0.037). The median relapses pre and post commencement in levamisole were 4 (IQR=2) and 1 (IQR=2) compared to cyclosporine 3 (IQR=2) and 2 (IQR=2). 10% patients on levamisole were successfully off steroid, none in cyclosporine group. The median lowest dose of steroid achieved in levamisole group was 0.21mg/kg/EOD (IQR=0.23) compared to 0.36mg/kg/EOD (IQR=0.39) in cyclosporine group. Compared to cyclosporine, levamisole showed more significant increment of albumin 3 months post commencement (RR 0.31, p= 0.021). The side effects in both groups were mainly attributed to chronic steroid usage rather than respective adverse effects (50% growth retardation, 20% hypertension).

CONCLUSIONS:

In our study, levamisole is proven to be more superior to cyclosporine in treatment of frequent relapsing steroid dependent nephrotic syndrome in terms of greater reduction of relapses, lower steroid dosage requirement and higher increment of albumin 3 months post commencement. In addition, levamisole is cost-saving and a safer drug.

Session: Oral

Topic: MSN - MSN - Pediatric Nephrology
Abstract ID: 79

JCTN (2019) Volume 1 , S1-123

JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

EFFECTIVENESS OF INTENSIVE PHOSPHATE DIETARY EDUCATION IN REDUCING PHOSPHATE LEVEL IN HEMODIALYSIS PATIENTS

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INTRODUCTION AND AIMS:

Hyperphosphatemia occurs universally in end-stage renal disease (ESRD) and it leads to serious complications. Phosphate dietary education is important in encouraging compliance to phosphate diet and phosphate-binder regimes. The aim of this study was to evaluate the impact of the intensive phosphate dietary educational program on control of serum phosphate in a maintenance hemodialysis population.

METHODS:

We conducted an observational study amongst hemodialysis patients in Hospital Langkawi. Patients who underwent haemodialysis for at least 6 months prior to the commencement of our study with serum phosphate level of more than 1.70 mmol/L in September 2018 were enrolled in the intensive phosphate education programme which was delivered by doctors, pharmacist and dialysis nurses. The education program consist of information on diet preparation, phosphate additives, and complications of hyperphosphatemia. Visual aids, oral, and written information were provided to each patient throughout the sessions. The phosphate level was reassess after 6 months to evaluate the outcome. Wilcoxon Signed-Ranked Test was primarily used to compare difference in serum phosphate levels pre- and post-intervention.

RESULTS:

We analysed a total number of twenty nine eligible patients who completed the education programme for 6 months duration. Phosphate level dropped significantly from September 2018 (mean serum phosphate level of 2.21 0.456 mmol/L (range 1.70 - 3.42mmol/L, median 2.25mmol/L) to March 2019 2.00 0.455 mmol/L (range 1.23 3.18mmol/L, median 1.97mmol/L) with p-value of 0.015 ($p<0.05$).

CONCLUSIONS:

This simple phosphate dietary education was effective at lowering serum phosphate in hemodialysis patients. Empowering hemodialysis patients with adequate information and educations are crucial part in the management. Future studies with larger sample size and longer follow-up duration are warranted to assess the sustainability of the intervention.

Session: Poster

Topic: MSN - Nutrition
Abstract ID: 81

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

CONCURRENT FUNGAL AND BACTRERIAL SINUSITIS WITH MENINGOENCEPHALITIS IN A KIDNEY TRANSPLANT RECIPIENT: A CASE REPORT.

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INTRODUCTION AND AIMS:

Fungal sinusitis constitutes 6-9% of all rhinosinusitis. Aspergillus is the commonest fungus affecting paranasal sinuses. Invasive Aspergillus sinusitis is destructive and carries a high mortality risk.

METHODS:

Madam R was a 43 years old lady who received a kidney from her sister in 2005. She acquired Haemophilus influenza sinusitis in November 2017 which was successfully treated with antibiotic. Her immunosuppressants were prednisolone 5mg OD, cyclosporine 50mg/25mg BID and azathioprine 75mg OD.

RESULTS:

She presented with fever, headache and vomiting for 3 days; and acute confusion when she was admitted to the hospital. She was febrile, disorientated, and had photophobia. She developed a seizure on the second day of admission. Blood investigations revealed leucocytosis and markedly raised CRP (247.3mg/L). Her cerebrospinal fluid examination showed clear fluid, high white cell count of 285/ml (Polymorph 80%, monocyte 20%), negative gram stain, no yeast, normal glucose level and high protein concentration. An urgent MRI showed right sphenoid fungal sinusitis with focal bone dishiscence and loculated extra-axial collection at the middle cranial fossa extending to the anterior cranial fossa with subdural collection . Blood culture was positive for methicillin sensitive Staphylococcus aureus. She was treated for concurrent bacterial and fungal sinusitis with meningoencephalitis. Transphenoidal endonasal drainage was done. There was greenish pus and thick capsule within the sphenoid sinus cavity. Fungal PCR from pus and biopsy sample were positive for Aspergillus oryzae. She completed 6 weeks of cloxacillin, 4 weeks of amphotericin B, and subsequently put on oral voriconazole for another 2 months. She recovered fully and was put on life-long antifungal as prohylaxis.

CONCLUSIONS:

Early diagnosis and therapeutic intervention; appropriate antifungal agent and surgical debridement, is the key to successful treatment of invasive aspergillosis. Voriconazole is recommended for the primary treatment of invasive aspergillosis.

Session: Poster

Topic: MSN - Transplant
Abstract ID: 83

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

CLINICAL OUTCOME OF ELDERLY END STAGE RENAL DISEASE (ESRD) PATIENTS INITIATED ON REGULAR DIALYSIS AND ITS CORRELATION WITH COUCHOUD CLINICAL SCORE

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INTRODUCTION AND AIMS:

More elderly with chronic kidney disease (CKD) stage 5 had enrolled in long term dialysis. With the existence of multiple co-morbidities and development of potential geriatric issues such as frailty, impaired physical function and poor nutrition, these elderly patients infer higher risk of poorer outcomes, by higher mortality rates compared to their younger counterparts. The study objective is to look at mortality of elderly who had newly started on long term renal replacement therapy (RRT), and its correlation with Couchoud Clinical Scores (CCS), nutritional status and frailty.

METHODS:

This prospective observational study involves 55 new ESRD patients aged ≥ 65 years initiated on long term RRT recruited at UMMC between February 2018 and February 2019. They will be followed up for 6 months. Data collection utilizes CCS, Mini-Nutritional-Assessment Form (MNA) and Clinical-Frailty-Scale (CFS). Categorical variables were reported as frequency and percentage and analysed using Fisher-Exact test. Continuous variables were reported as mean and standard deviation and analysed using student T-test.

RESULTS:

21 patients have completed their 6 months follow-up, comprise of 10 Malays (47.6%), 8 Chinese (38.1%) and 3 Indians (14.3%). The mean age was 73.7 (± 6.0) with mean BMI of 24.8 (± 4.6).There are 10 males (47.6%) and 11 females (52.4 %.). Following MNA, 7 (33.3%) were malnourished. At 6 months follow-up, there were 6 deaths. Of 6 deaths, 4 (66.7%) were classified as dependent for transfer on CCS. There is a significant association between total dependent for transfer and 6 months mortality ($p < 0.05$).

CONCLUSIONS:

The strongest predictor of mortality is dependency for transfer. CCS relies solely on routine clinical evaluation to assess short-term prognosis in elderly ESRD patients, and in the future may become a simple bedside assessment tool for clinicians.

Session: Poster

Topic: MSN - Hemodialysis
Abstract ID: 84

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

FACTORS ASSOCIATED WITH PERITONEAL DIALYSIS FAILURE

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INTRODUCTION AND AIMS:

Peritoneal dialysis (PD) is an established option for long term renal replacement therapy. The main reasons for drop out from PD are technical or membrane failure. Residual renal function (RRF) is an important factor in ensuring success rate on PD. Loss of RRF was associated with the development of anuria.

METHODS:

We reviewed all stable PD patients > 6 months duration from 2015 and followed them up from the time of initiation of PD to December 2018. We correlated the onset of loss of RRF to the time of switching to haemodialysis. Demographic data, dialysis adequacy, type of transporter and medication regimen were documented. Loss of RRF was defined as urine output < 100mls/day. Membrane failure was confirmed by PET test.

RESULTS:

We had 78 patients (47 males: 31 females), aged 53.67 ± 15.04 years. There were 56 Malay, 19 Chinese and 3 Indians. 63(80.8%) patients had hypertension and 48 (61.5%) were diabetic. Majority (65.4%, n=51) were on CAPD. The mean duration of PD was 19.6 ± 15.4 months. Majority (70.5%, n=55) were either on ACE/ARB and 45 patients were on diuretics. During the four year period, 24 (30.8%) patients developed loss of RRF with median time to from PD initiation to loss of RRF being 4.2 (3.0, 5.3) months. Of the 24 patients with loss of RRF, 9 were still on PD with median duration of PD of 11.9 (3.2, 18.2) months since loss of RRF. Of the remaining 15, 7 patients switched to haemodialysis (5 due to peritonitis/catheter problems) and 8 died (3 cardiovascular, 4 non peritonitis sepsis and one peritonitis).

CONCLUSIONS:

Despite the high usage of ACE/ARB and diuretics, many patients lost RRF early in the course of PD. Sepsis was the main reason for PD drop out.

Session: Poster

Topic: MSN - Peritoneal Dialysis
Abstract ID: 86

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

TENCHKOFF FAILURE/MALFUNCTION IN A SINGLE CENTRE

1 Wan Haslina Wan Hassan, [1] Noorul Azura Shida Rosman, [1] Hairulniza Satar, [1] Nor Fazlina Fadzillah, [1] Rizna Abdul Cader, [1] Rozita Mohd

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INTRODUCTION AND AIMS:

Maintaining patency of tenckhoff catheter plays an important role in ensuring success of a peritoneal dialysis (PD) programme. At our institution, tenchkoff catheters are exclusively done by urologists. We wanted to evaluate the causes of tenchkoff failure at our institution.

METHODS:

We reviewed our newly diagnosed ESRD patients who chose to PD and monitored their tenchkoff survival from 2015 and followed them up till December 2018. We collected data on who inserted the catheter, the type of catheter problems, number of revisions and the use of laxative and oral iron supplements.

RESULTS:

We recruited 92 patients (54 males: 38 females), aged 54.25 ± 14.96 years with BMI 25.8 ± 4.2 kg/m2. Majority (65.2%, n=63) were on CAPD and one third were on assisted PD. Nearly all patients (91.3%) were prescribed with laxatives with good compliance (87%). 60% of PD patients were on oral iron supplementation. The mean half life of first tenchkofff catheter was 550.8 ± 468.2 days and 79% of patients were still on their first tenchkofff catheter. Majority of catheters were inserted by surgical medical officers (77.2%) whereas only the remaining was inserted by urologists. Their mean kt/V, serum potassium and serum calcium were 1.71 ± 0.73, 4.0± 0.7mmol/L and 2.3± 0.2mmol respectively.

Of the 19 patients that had >1 tenchkoff catheters, 16 patients required catheter insertion twice and three patients needed thrice. Poor flow was the main cause of readjustment (n=15, 78.9%),hemoperitoneum in 3 patients(15.7%) and the remaining patient was due to persistent leakage. Abdominal radiograph revealed migrated tenchkoff in 8 patients and the other 7 had faecal loaded in the poor outflow group. Despite measures taken to clear the bowel, 3 patients had persistent poor flow despite readjustment twice needing switching to haemodialysis.

CONCLUSIONS:

Tenchkoff migration and constipation were the main reason of tenchkoff malfunction.

Session: Poster

Topic: MSN - Peritoneal Dialysis
Abstract ID: 88

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

FACTORS ASSOCIATED WITH SUCCESSFUL INITIATION WITH AVF AMONG MALAYSIAN PATIENTS WITH PRE-DIALYSIS FISTULA - SINGLE CENTER EXPERIENCE

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INTRODUCTION AND AIMS:

Chronic kidney disease non-dialysis patients (CKDND) are encouraged to get permanent dialysis access prior to dialysis initiation to avoid haemodialysis initiation with a central venous catheter (CVC). We look at factors associated with successful initiation with arterio-venous fistula (AVF) among Malaysian patients with pre-dialysis fistula.

METHODS:

A total of 155 CKDND patients was referred for AVF creation between 1 January 2017 and 31 August 2018. Patients were followed more than 6 months after AVF creation, death or dialysis initiation. Primary failure defined as immediate AVF failure within 72 postoperative hours, access loss due to iatrogenic reason or failed AVF cannulation within six months post creation. Stenosis defined as venous diameter reduction of more than 50% and accompanied by reduced access flow.

RESULTS:

Ninety-eight (63.2%) patients had AVF created prior to dialysis with 47 patients were subsequently initiated on haemodialysis. Twenty-one (44.7%) patients successfully initiated haemodialysis with AVF while 26 patients were initiated with CVC. The primary failure rate for AVF group was 9.5% compared to 23% of patients initiated with CVC. Seven patients in the CVC group has significant stenosis requiring further intervention compared to only one patient in the AVF group.

There is no significant difference between both groups for age, gender, race, site of fistula and eGFR at referral. Mean eGFR at referral 11.90 ± 3.71 ml/min for AVF group and 11.88 ± 3.80 ml/min for CVC group. Eleven (42.3%) patients in the CVC group were referred for AVF less than 6 months from dialysis initiation compared to 6 (28.5%) in the AVF group. Five deaths in the CVC group but all were not associated with catheter-related bloodstream infection.

CONCLUSIONS:

Early AVF referral, as well as intervention for AVF failure and stenosis, may improve rate of successful initiation with AVF among patients with pre-dialysis fistula.

Session: Poster

Topic: MSN - Hemodialysis
Abstract ID: 89

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

COMPLEMENTARY AND ALTERNATIVE MEDICINE USAGE IN CHRONIC KIDNEY DISEASE PATIENTS

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INTRODUCTION AND AIMS:

The use of complementary and alternative medicine (CAM) is gaining popularity worldwide and its usage among chronic kidney disease (CKD) patients causes concerns among medical professionals. The study aimed to determine the prevalence and pattern of CAM usage; and its association with the progression of CKD in our population.

METHODS:

The cross-sectional survey recruited CKD patients in Universiti Kebangsaan Malaysia Medical Centre (UKMMC). Data were collected via interview using questionnaires which explore the demographics, type and pattern of CAM use. Patients comorbidities and serum creatinine were extracted from the medical notes to assess the association between progression of CKD and usage of CAM. Chi-square, Independent Samples t test, Mann-Whitney U test and logistic regression were used to evaluate for an association.

RESULTS:

Three hundred and seventy-two eligible patients were recruited. The prevalence of CAM use was 29% in the past year. Younger age, higher education and higher income level were associated with significantly more usage of CAM. Natural products were the commonest type of CAM used (86.1%). The belief in the effectiveness of CAM was the main reason for its uptake, and about 57.8% revealed their practice to their physician. There was no statistically significant difference found between the percentage of CAM usage and progression of CKD.

CONCLUSIONS:

A third of our CKD patients were using CAM and most of them were high educated younger patient with higher income individuals. The progression of CKD was not associated with the usage of CAM.

Session: Poster

Topic: MSN - Others
Abstract ID: 91

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

ACTUAL DRUG COST INCURRED FOR EVEROLIMUS-BASED IMMUNOSUPPRESSION AMONG RENAL TRANSPLANTATION RECIPIENTS: 18-YEARS EXPERIENCE

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INTRODUCTION AND AIMS:

Calcineurin inhibitor (CNI)-based immunosuppression is the backbone of kidney transplantation in this era. Chronic and dose-dependent CNI exposure may predispose kidney transplant recipients (KTR) to complications that might lead to graft loss, such as interstitial fibrosis and tubular atrophy (IFTA). CNI minimization through usage of everolimus (EVR)-based immunosuppression is a commonly used strategy to manage such complications. CNI minimization could be done through CNI tapering or CNI withdrawal, but the costs associated with these two methods were unknown. The objective of this study is to describe the actual drug costs incurred with CNI minimization at our centre.

METHODS:

This retrospective cohort study recruited KTRs with maintenance immunosuppression who were converted from tacrolimus-mycophenolic acid (MPA) immunosuppression to EVR-based regimen at Selayang-Hospital from 1 Jan 2000 to 31/12/2018. All patients prescribed with EVR were identified through the Hospital Electronic Medical Record (EMR) system. Costs of immunosuppressive drugs were computed two-months pre- and post-conversion after steady state was achieved. Demographic data and drug doses were obtained from EMR system. Drug costs were computed from the payers perspective (Ministry of Health Malaysia).

RESULTS:

Twenty-three subjects were prescribed EVR during the study period and fulfilled the study criteria. Twelve (52.2%) subjects were converted to CNI-EVR, while 11 (47.8%) subjects were converted to MPA-EVR. Conversion to CNI-EVR incurred an additional average cost of RM11800.56/patient/year (p=0.004). Conversion to MPA-EVR incurred additional average cost of RM8460.18/patient/year (p=0.001). Increase in drug costs upon conversion to CNI-EVR did not display statistically significant difference compared with MPA-EVR (p=0.399).

CONCLUSIONS:

EVR-based CNI minimization incurred significantly higher drug costs in our centre. Conversion to MPA-EVR appears to be cheaper in average compared with CNI-EVR conversion. Therefore, decision to implement CNI minimization has to be weighed by clinical benefits to justify the additional drug costs incurred in this era of high budgetary pressure.

Session: Oral

Topic: MSN - Transplant
Abstract ID: 92

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

ACUTE KIDNEY INJURY FOLLOWING INTRAVENOUS IMMUNOGLOBULIN USE IN BINTULU HOSPITAL, SARAWAK: A CASE REPORT

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INTRODUCTION AND AIMS:

Intravenous immunoglobulin (IVIG) induced acute kidney injury (AKI) is rare with an estimate incidence of <1%. We report a case of Guillain-Barre Syndrome (GBS) treated with IVIG complicated with AKI requiring dialysis.

METHODS:

Background:IVIG is an immunomodulating agent consisting of more than 95% unmodified IgG from pooled human plasma used to treat various autoimmune and immunodeficiency conditions. It can cause various adverse effects such as headache, fever, fatigue, back pain and AKI.

Case Presentation:A 25 year-old gentleman with no co-morbidity and normal renal function presented with 2 weeks history of progressive bilateral lower limb weakness preceded by upper respiratory tract infection. Clinically, patient is areflexic with weakness confined only to lower limbs. He was treated as GBS with IVIG 0.4g/kg/day. His neurological deficit improved with IVIG. However, on day 4 of IVIG administration, he became anuric with worsening renal function requiring one session of acute hemodialysis. There was no hypotensive episode or use of nephrotoxic drugs. His urine output subsequently improved and renal function completely recovered within 2 weeks.

RESULTS:

Discussion:IVIG preparations contain various stabilizers and accumulation of stabilizers in the proximal tubule may result in hyperosmolality and acute tubulo-interstitial nephropathy. Various measures can be taken to minimize the risk of AKI such as reducing the rate of infusion, using lower dose, ensuring good hydration and avoidance of concomitant nephrotoxic medications. The stabilizer used in our IVIG preparation was D-sorbitol which has a relatively lower incidence of AKI compared to sucrose containing IVIG. Our patient also did not appear to have any risk factor for the AKI.

CONCLUSIONS:

Although IVIG induced AKI is rare, clinicians need to be aware of this serious complication and ensure precautionary measures are taken and renal function monitored especially in those at risk during the administration of this drug.

Session: Poster

Topic: MSN - Basic Science
Abstract ID: 94

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

A COMPARISON BETWEEN DIALYSIS MACHINE CONDUCTIVITY MONITORING AND BLOOD-SAMPLING KT/V IN MEASURING HEMODIALYSIS ADEQUACY

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INTRODUCTION AND AIMS:

Adequate delivered dose of hemodialysis has considerable effect on clinical outcomes among ESRD patients on maintenance hemodialysis. Kt/V is usually calculated using pre- and post-dialysis blood samples based on urea kinetic modeling (UKM) to assess delivered dialysis dose. More frequent calculated Kt/V monitoring is desirable but difficult to achieve. Machine conductivity monitoring using effective ionic dialysance (EID) of Na+ is an attractive alternative measurement of delivered dialysis dose. Our aim is to test the validity of ionic dialysance in determining Kt/V in comparison with single-pool Kt/V (spKt/V) from blood sampling.

METHODS:

Fifty-one maintenance hemodialysis patients were recruited for this study. All patients were on maintenance hemodialysis for at least 3 months. Dialysis machines used were Fresenius 4008S and Gambro AK96, both were of EID-Na+-based. No changes were made to dialysis prescriptions. All patients were on Elisio-19H dialyzer. Values of blood-sampling Kt/V and machines Kt/V were collected from same patient during same dialysis treatment. Results were analyzed using SPSS version 23. After validities were determined, corrective formulas were developed using linear regression analysis to project spKt/V. These formulas were tested against the actual blood-sampling spKt/V for its utility.

RESULTS:

Machine Kt/V of both Fresenius and Gambro are significantly different from calculated spKt/V with modulated difference of 16.911.4% (p=0.001) and 18.311.2% (p<0.001) respectively. Formulas developed to mitigate the difference were spKt/V=0.498+0.782 (Fresenius kt/v) for Fresenius machine and spKt/V=0.798+0.515(Gambro Kt/V) for Gambro machine. These formulas correlate well with actual spKt/V in Fresenius and Gambro (r2= 0.587 and 0.214 respectively). Corrected modulated difference with application of formula were smaller for both Fresenius, 15.7±12.1% (p=0.635) and Gambro, 8.5±7.6% (p= 0.007).

CONCLUSIONS:

Machine Kt/V can be used for dialysis dose quantification when frequent blood-sampling spKt/V is difficult to achieve. Corrective formulas may assist us to mitigate the difference between spKt/V and machine Kt/V.

Session: Poster

Topic: MSN - Hemodialysis
Abstract ID: 96

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

EVEROLIMUS INDUCED PNEUMONITIS

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INTRODUCTION AND AIMS:

Everolimus is an inhibitor of mammalian target of rapamycin (mTOR) and has been increasingly used to prevent allograft rejection after solid organ transplantation. Although a few cases of Everolimus induced pneumonitis have been reported, diagnosis is often difficult due to heterogenous presentation.

METHODS:

A 67 year old man with end stage renal failure underwent a living donor kidney transplant in 1998. His medication was changed from Azathioprine to Everolimus 2 years ago after he developed squamous cell carcinoma.

RESULTS:

After 5 months of being on Everolimus, he presented with respiratory symptoms of cough and reduced effort tolerance. Sputum culture was positive for Pseudomonas aeruginosa and Herpes Simplex Virus. He was treated with antibiotics and antiviral drugs. He showed minimal improvement. He had 2 more hospital admissions with similar presentations. High Resolution Computed Tomography scans of his chest revealed ground glass opacities with patchy consolidations. During his third admission, sputum and blood cultures were negative for bacteria, viruses, AFB, and fungi. This was suspicious for mTOR related pneumonitis therefore Everolimus was discontinued. He showed remarkable clinical improvement during his follow up 3 months later. Repeated chest X-ray revealed near complete resolution of the opacities.

CONCLUSIONS:

Everolimus can result in drug related toxicity. Once opportunistic infections, neoplasms and autoimmune related conditions have been ruled out, Everolimus induced pneumonitis should be considered as a differential diagnosis in patients who present with respiratory symptoms while on this drug. The near normal imaging findings and total resolution of his respiratory symptoms after the discontinuation of Everolimus made the diagnosis very likely. A BAL sample or a bronchial biopsy will be helpful to make sure no other aetiologies are not missed which was not done in this case as the patient responded very well after stopping the medication.

Session: Poster

Topic: MSN - Transplant
Abstract ID: 97

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

MODIFIABLE RISKS FACTORS IN CKD PROGRESSION: WHAT SHOULD WE AIM?

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INTRODUCTION AND AIMS:

The principal of managing Chronic Kidney Disease (CKD) is to prevent progression to end-stage renal disease (ESRD). This disease is usually progressive and requires intervention to slow the progression. Non-modifiable risks for progression is well established; age, ethnicity, gender and family history. However, modifiable risks are erratic and not fully explored.

METHODS:

A 10-year retrospective analysis was done to all new CKD patients referred to our clinic in 2007. The cohort was followed-up until 2017 and we observed their disease progression. Data was collected from eHIS Hospital Serdang. Outcome of patients and the disease progression i.e. doubling of creatinine and dialysis initiation were evaluated.

RESULTS:

A total of 296 new CKDs were referred in 2007, however we excluded 176 (59%) patients who had CKD stage 5 upon referral. We analysed 120 patients on their outcome and disease progression since 2007 to 2017. Majority of them are diabetic(58%), hypertensive(17%) and had glomerulonephritis(12%). Presence of proteinuria and hyperkalaemia (K+ >5) were identified as modifiable risks. Sixty-seven percent (134) patients had proteinuria and 25% had hyperkalaemia at their first encounter. After 10-year follow-up, 35% (42) developed ESRD. Patients with incident proteinuria and hyperkalaemia develop ESRD as early as 49 months compared to patients without the risks (p=0.046, 0.01). Diabetes control analysis showed that 70% had poor sugar control (Hba1c (>7.5) with mean Hba1c of 8.4%, and they progressed to ESRD faster compared to the good sugar control group (p=0.04).

CONCLUSIONS:

Incident hyperkalaemia, proteinuria and poor diabetic control were modifiable risks among CKD patients for CKD progression. These risks must be intervened early as an integral step in retarding disease progression and ensuring better patients outcome.

Session: Oral

Topic: MSN - Hemodialysis
Abstract ID: 99

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

DOES DELAY IN RENAL BIOPSY WORSENS THE HISTOLOGICAL FINDINGS IN LUPUS NEPHRITIS?

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INTRODUCTION AND AIMS:

Lupus nephritis (LN) is a major risk factor for overall morbidity and mortality in SLE. Effective treatment of LN base on histological assessment have been shown to improve prognosis. However in some patients, the decision for biopsy was delayed.There have been no studies looking at whether delay in biopsy affects the histological findings in terms of severity.
Objective: To evaluate whether delay in biopsy affects the histological findings in LN.

METHODS:

This was a retrospective review of biopsied confirmed LN patients between January 2016 and March 2019. Date of counselling and biopsy date were recorded. A delay in biopsy is defined as renal biopsy done more than one week after counselling.

RESULTS:

A total of 77 LN patients were counselled and had renal biopsy. 67 patients (87%) had proliferative LN (Class III, IV or mixed with V) and 10 patients (13%) had non-proliferative LN (Class II or V). In patients presenting with nephrotic range proteinuria, proliferative LN and non-proliferative LN accounted for 90% and 10% of patients respectively.
The median time between the date of counselling and biopsy was 2 weeks (1+4.6 weeks). 45 patients (61%) had renal biopsy done more than 1week. The causes of delay are due to heathcare factors (44%), patients request, 38% and 18% are due to other contraindications.
There was no difference between the two groups with reference to proliferative findings, presence of crescents or presence of thrombotic microangiopathy (TMA) and acute kidney injury (AKI). However there are more AKI in those with crescent and TMA.

CONCLUSIONS:

Delay in diagnosing LN from renal biopsy does not show significant difference in histological findings, nor increase incidence of AKI. However those with AKI at presentation had more severe histological findings, and should undergo early renal biopsy.

Session: Oral

Topic: MSN - Glomerulonephritis
Abstract ID: 161

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Abstract Open Access

LONG-TERM OUTCOME OF IDIOPATHIC STEROID-RESISTANT NEPHROTIC SYNDROME IN CHILDREN

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INTRODUCTION AND AIMS:

10% of children with idiopathic nephrotic syndrome (INS) show steroid resistance. Studies have shown that 30-40% of children with steroid-resistant nephrotic syndrome (SRNS) progress to end stage kidney disease during 10 years follow up. Objective is to determine long term renal survival of steroid-resistant nephrotic syndrome in children comparing between different histopathological pattern and with various treatments.

METHODS:

Retrospective cohort study of forty paediatric patients with idiopathic steroid-resistant nephrotic syndrome and follow up at the Paediatric department, Kuala Lumpur Hospital from January 2003 to December 2015.

RESULTS:

Male to female ratio was 1.5. Median age of diagnosis of INS and SRNS was 3 years and 3.7 years respectively. There were 29 patients (72.5%) with late steroid resistance whereas 11 patients (27.5%) with initial steroid resistance. Most histopathological examinations showed minimal change (67.5%) and only 13 patients (27.5%) were focal segmental glomerulosclerosis. High dose methylprednisolone with or without cyclophosphamide was the commonest immunosuppression used as the initial immunosuppression. It was used in 29 patients (72.5%) compared to cyclosporine usage in 6 patients (15%). There was 8 patients (20%) developed end stage renal failure. Male has better 10 years renal survival (p=0.035). Minimal change disease has better 10 years renal survival than focal segmental glomerulosclerosis (p=0.036). Patients with at least 2 months of remission per year has better 10 years renal survival (p=0.001) and patients who achieved remission within 6 months of starting immunosuppression did better in 10 years renal survival (p<0.001).

CONCLUSIONS:

Male patients, patients with minimal change diseases, patients with 2 months of remission per year and remission within 6 months of starting immunosuppression has a significantly better long term renal outcome.

Session: Oral

Topic: MSN - Pediatric Nephrology
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Abstract Open Access

A COMPARISON OF MEDICAL INTERVENTION IN CUFFED CATHETER OCCLUSION: UROKINASE VERSUS STREPTOKINASE

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INTRODUCTION AND AIMS:

Haemodialysis catheter malfunction due to poor flow is a common problem. Management of catheter-occlusive dysfunction includes the use of thrombolytic agents, invasive procedures or catheter replacement. The study aimed to compare the use of thrombolytic agents in the occluded cuffed catheter among haemodialysis patients.

METHODS:

A retrospective cross sectional study was conducted involving patients admitted to HRPZII from January 2016 to March 2019. Patients with age over 18 years old with occluded cuffed catheter and have complete documentation of the intervention outcome were included in the study. Data collection forms were used to record data retrieved from Record Office.The data was analysed using IBM SPSS version 23.0.

RESULTS:

A total of 52 patients admitted with occluded cuffed catheter were included into the study with mean (±SD) age of 49.9 (±15.52) years and mostly Malay (96.2%). On the type of medical intervention, 32 (65.5%) patients were given urokinase and 20 (38.5%) were on streptokinase. The success rate of urokinase and streptokinase usage is 81.2% (26/32) and 55.0% (11/20) respectively (P=0.042). Only two patient experienced adverse event (hematoma and local bleeding) following medical intervention (from streptokinase group). Sixteen (30.8%) patients needed further surgical intervention upon unsuccessful medical intervention; seven from urokinase group and nine from streptokinase group. The types of surgical intervention employed were catheter site change (50.0%), catheter change via guidewire (43.8%) and change of dialysis modality (6.2%).

CONCLUSIONS:

This study suggests urokinase significantly has higher success rate compared to streptokinase in the treatment of catheter thrombosis. Minimal adverse events observed with the use of thrombolytics. One third of patients needed further surgical intervention upon unsuccessful medical intervention. Further study with larger sample size needed to evaluate the results of this study.

Session: Poster

Topic: MSN - Hemodialysis
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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

PREVALENCE OF NON-ALBUMINURIC DIABETIC KIDNEY DISEASE IN CHRONIC KIDNEY DISEASE CLINIC OF A TERTIARY TEACHING HOSPITAL

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INTRODUCTION AND AIMS:

Non-albuminuric diabetic kidney disease (NA-DKD) is a group of diabetes mellitus patients who have a decreased glomerular filtration rate (GFR) without significant albuminuria. There is no published data on the prevalence and characteristics of NA-DKD in our Malaysian population.

METHODS:

A retrospective observational study was conducted in Chronic Kidney Disease Clinic in University Malaya Medical Centre. All the patients who attended the clinic during a 6-week duration between December 2018 to January 2019 were included. Patients socio-demographic data, diabetes status and control, albuminuric status, serum creatinine and eGFR values for the past 3 years were recorded from the electronic medical records (eMR). Data was analysed using SPSS Version-22.

RESULTS:

Out of 1185 patients, 52.7% was male with mean age of 61.1±15.8 years. Majority were Chinese (44.1%), followed by Malay (37.0%) and Indian (17.6%). Half (49.8%) of the cohort were diabetic and out of 568 diabetic patients, 23.6% was NA-DKD. The mean serum creatinine was lower in NA-DKD compared to albuminuric diabetic kidney disease (A-DKD) (142.7±67.8µmol/l vs 226.8±143.2µmol/l; $p<0.05$) while mean eGFR was higher in NA-DKD (46.3±21.5ml/min/1.73m2 vs 30.8±16.95ml/min/1.73m2; $p<0.05$). The mean decline in eGFR over the 3-year duration was -1.8±7.6ml/min/1.73m2 per year in the NA-DKD while it was -5.5±8.9ml/min/1.73m2 per year in A-DKD ($p<0.05$). By defining rapid progression as a drop of eGFR > -5ml/min/1.73m2 per year, 39.8% of A-DKD were rapid progressors while only 20.9% of NA-DKD were rapid progressors. The glycaemic control (HbA1c) was not different between NA-DKD and A-DKD (8.0±7.5 vs 7.6±1.8; $p=0.268$). Renin-angiotensin system (RAS) blockers were still used in 75.4% of NA-DKD patients.

CONCLUSIONS:

A significant proportion (23.6%) of our diabetic kidney disease patients are NA-DKD. This is in accordance with other studies that found a prevalence of 13-69.4% of NA-DKD. In our cohort, NA-DKD has a slower disease progression compared to A-DKD.

Session: Oral

Topic: MSN - Others
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Abstract Open Access

RATE OF GFR DECLINE PRIOR TO CKD STAGE 5 AMONG DIABETIC AND NON-DM AND ITS ASSOCIATED FACTORS: A RETROSPECTIVE REVIEW

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INTRODUCTION AND AIMS:

Chronic kidney disease (CKD) is a worldwide public health problem, with increasing prevalence, poor outcomes, and high treatment costs. The rate of Glomerular Filtration Rate (GFR) decline however is described differently with wide variation in previous studies.

METHODS:

This cross-sectional study was conducted in 2019 involving patients who had been diagnosed with CKD stage V in Hospital Raja Perempuan Zainab II and Hospital Universiti Sains Malaysia, Kelantan. Clinical notes and medical records from 2012 to 2018 were reviewed. Mean rate of GFR decline three years prior to diagnosis of CKD stage V was calculated. Univariable and multivariable analysis by linear regression were conducted to identify factors associated with rate of GFR decline.

RESULTS:

A total of 163 subjects were included. Mean age of the study subjects was 58.66 years, 76 (46.6%) of them were male and majority of subjects were Malay patients (94.5%). At baseline, more than half of subjects were diagnosed with CKD stage 4 [92 (56.4%)]. The ratio of subjects with diabetic [112 (68.7%)] and non-diabetic [51 (31.3%)] was around 2:1. The mean rate of GFR decline (ml/min/1.73m2 per year) was significantly higher in diabetic patients [mean=10.76 (SD=5.81)] compare to non-diabetic [8.27 (6.54)] prior to CKD stage 5 (95% CI: 0.47, 4.53, P=0.016). At univariable analysis, age, baseline Hba1c and proteinuria were found to be associated with progressive GFR decline in DM group. In non-DM group, only age was associated with progressive GFR decline. At multivariable analysis, for both groups, only age was found to be significantly associated with GFR decline (β = -0.26, 95% CI: -0.35, -0.18, $P < 0.001$ in DM group and β= -0.23, 95% CI: -0.32, -0.13, $P < 0.001$ in non-diabetic group)

CONCLUSIONS:

Rate of GFR decline in CKD patients with DM was greater than non-DM. Age was the only significant factor associated with GFR decline in both groups with slower rate of GFR decline was observed in the older population.

Session: Poster

Topic: MSN - Others
Abstract ID: 105

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

VITAMIN K STATUS AMONG STAGE 3-5 DIABETIC KIDNEY DISEASE AND ITS EFFECTS ON CHRONIC KIDNEY DISEASE MINERAL BONE DISORDER.

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INTRODUCTION AND AIMS:

Diabetic kidney disease (DKD) is common in Malaysia. Vitamin-K deficiency among DKD-patients is associated with higher incidence of chronic kidney disease-mineral bone disorder (CKD-MBD). We wanted to determine the prevalence of vitamin-K deficiency in DKD-patients and to correlate it with baseline demographic and biochemical results, and its association with CKD-MBD.

METHODS:

This was a single centre cross-sectional study on stage 3-5 DKD-patients. Demographic profiles were recorded, blood samples were measured for vitamin-K level (phylloquinone, proteins induced vitamin-K absence II (PIVKA-II), prothrombin time) and bone markers (intact parathyroid hormone (iPTH), alkaline phosphatase, corrected calcium and phosphate). Statistical analysis was performed using SPSS v25. This study was approved by UKM ethic and research committee (FF-2018-375).

RESULTS:

Forty-five patients with a median age of 70±13 years were recruited. Majority were females (53.3%) and Malays (64.4%). Prevalence of patients with insufficient vitamin-K was 28.9% based on the low level of phylloquinone (0.66ng/ml) and 2.2% based on prolonged prothrombin time (>14.5 seconds). PIVKA-II was found to be positively correlated with serum creatinine and iPTH levels. There were positive correlations between phylloquinone and serum triglyceride and total cholesterol. High serum triglyceride ($p < 0.007$) and total cholesterol ($p < 0.038$) levels were significantly associated with higher phylloquinone concentrations. Malay race ($p < 0.039$) and high serum iPTH ($p < 0.016$) were significantly associated with higher PIVKA-II concentrations. Multivariate analysis showed serum triglyceride [OR 0.112; CI 95% (0.02-0.66); $p = 0.017$] and serum iPTH [OR 1.997; CI 95% (1.01-3.95); $p = 0.047$] were independent predictors for phylloquinone and PIVKA-II levels respectively.

CONCLUSIONS:

Suboptimal vitamin-K status was prevalent in stage 3-5 DKD-patients. In the future, vitamin-K level among DKD-patients should be measured and corrected to prevent CKD-MBD complications.

Session: Oral

Topic: MSN - Mineral Bone Disease
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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

INCIDENCE OF SECONDARY HYPERPARATHYROIDISM IN KELANTAN PATIENTS DURING THE FIRST YEAR INITIATION OF DIALYSIS

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INTRODUCTION AND AIMS:

Secondary hyperparathyroidism (SHPT) is common among patients with end stage renal disease (ESRD). SHPT incidence among haemodialysis patients in a China study (2018) was 45.4% (at 2.6 years after haemodialysis initiation); almost similar to study in Iran (2008) which was 45.0% (at 2 years after haemodialysis initiation). In our population, we observed the onset of SHPT is earlier even during the first year of haemodialysis initiation. Therefore this study aims to determine the incidence of SHPT in ESRD patients during early phase of dialysis in Kelantan.

METHODS:

This is a retrospective cross sectional study using convenience sampling, carried out by retrieving data from Advanced Dialysis Nephrology Application Network (ADNAN) system at Hospital Raja Perempuan Zainab II. ADNAN is a database containing all data on patients undergoing haemodialysis in Kelantan for purpose of efficient medical records. Newly diagnosed ESRD patients who were initiated on haemodialysis from January to December 2016 were included. Data from January 2016 to March 2017 were captured and analysed using IBM SPSS version 22.0.

RESULTS:

A total of 77 patients were included into the study. The incidence of SHPT in ESRD patients during early phase of dialysis in Kelantan was 55.8%(43). Among patients with SHPT, the mean (SD) intact hyperparathyroid hormone (iPTH) level was 133.60 (127.796) pmol/L (range 33.50 - 630.00 pmol/L). There were no significant differences between patients with SHPT versus no SHPT in terms of calcium, phosphate and alkaline phosphatase (2.16 vs 2.22 mmol/L, P=0.261; 2.28 vs 1.89 mmol/L, P=0.064; 167.34 vs 103.73 u/L, P=0.073).

CONCLUSIONS:

We observed SHPT occurs early even in the first year of haemodialysis initiation with incidence of 55.8%. However the biochemical parameters in term of calcium, phosphate and alkaline phosphatase in patients with SHPT were no difference compared to those not having SHPT.

Session: Poster

Topic: MSN - Hemodialysis
Abstract ID: 109

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JOURNAL OF CLINICAL AND TRANSLATIONAL NEPHROLOGY (JCTN)

Abstract Open Access

INCIDENTAL RIGHT SUBCLAVIAN VEIN HEMODIALYSIS CATHETER TIP MALPOSITION: A COMMONLY UNCOMMON COMPLICATION

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INTRODUCTION AND AIMS:

Hemodialysis catheter malposition is not uncommon in clinical practice. Catheter reinsertion over same site after previous catheter removal will typically be opted, to preserve contralateral venous flow especially after or planned fistula creation.

METHODS:

We presented 3 cases of incidental right subclavian vein hemodialysis catheter tip placement. The first case is a 62-year-old lady, with ESRD secondary to diabetic kidney disease (DKD), who presented with a dislodged right uncuffed IJC after 5 months of HD initiation. She had her left RCF created 1 month ago. The second case is a 60-year-old man with ESRD secondary to DKD, who had dislodged right uncuffed IJC after 2 months of initiating HD and had left BCF created for 1 week. The third case is a 54 year-old man with ESRD secondary to DKD, who right uncuffed IJC was removed after 1 month of HD initiation for CRBSI and was planned for left sided BCF later. In all cases, we decided for right IJC insertion. Procedures were uncomplicated and done under ultrasound guidance. We used uncuffed curved 16 cm/11.5 Fr polyurethane double-lumen HD catheters in all patients.

RESULTS:

Upon reviewing the chest radiograph images, each catheter tip was in right subclavian vein. The first cases catheter was removed immediately and had left IJC inserted, while others were referred to interventional radiology for catheter readjustment, which showed right brachiocephalic vein stenosis during the process.

CONCLUSIONS:

Reinsertion of IJC over same site after removal has higher tendency for malposition due to central venous stenosis or thrombosis. The importance of chest radiography shouldn't be underestimated to determine correct placement before hemodialysis. Further prospective study should be done to determine incidence and risk factors for the complication. Consideration of interventional radiology referral is advised to prevent the occurrence of the complication.

Session: Poster

Topic: MSN - Hemodialysis
Abstract ID: 112