

**Conclusions:** The presence of posterior MAC, which is cheap and easy to detect with echocardiography, can predict all causes of death and cardiovascular death. This findings may further help risk stratification of maintenance hemodialysis patients in any dialysis center, including small dialysis center with limited medical resources, such as developing countries.

## SUN-226

### AUDIT OF DEATHS IN THE NEPHROLOGY DEPARTMENT OF THE ZINDER NATIONAL HOSPITAL

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**Introduction:** Mortality is one of the most important demographic phenomena in public health and its rate is the first indicator of a population's health status.

The purpose of our audit is to determine the epidemiological profile of the deaths, and to assess the management of the risk factors related to the occurrence of this unfortunate event.

**Methods:** The study is a retrospective, descriptive and analytical cross-sectional study over a period of 5 years from January 2013 to December 2017, which is a census of all deaths of patients on dialysis or not in the Nephrology Department of HNZ. All patients who died while in hospital in nephrology and dialysis, or who were transferred to intensive care for renal complications, are included; and deaths outside these services and deaths at home are excluded.

**Results:** Our study showed an increase in the percentage of deaths in 2017 to 22.35% and a higher percentage in the 41-60 age groups to 36.87%. Men accounted for 74.46% of deaths. 80.15% of patients had an indication for first dialysis 55.32% of patients had ARF. Uremic complications accounted for 56.02% and anemia 42.55%. Mortality was high in the first 24 hours and beyond a week, at 24.82 and 61% respectively. The deaths occurred in 55.32% between 6pm - 8am, i.e. during the on-call period.

**Conclusions:** We were able to evaluate the overall functioning of the nephrology hospitalization service at Zinder Hospital.



## SUN-227

### AUDIT OF DEATHS IN THE NEPHROLOGY DEPARTMENT OF ZINDER NATIONAL HOSPITAL (HNZ)

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**Introduction:** Mortality is one of the most important demographic phenomena in public health and its rate is the first indicator of the health status of a population.

**Objective:** To evaluate the management of the risk factors associated with the occurrence of deaths

**Methods:** The study was retrospective, descriptive and analytical over a period of five years from January 2013 to December 2017. This was a census of all deaths of dialysis patients or not, in the department of Nephrology of Zinder National Hospital (HNZ). All patients who died in hospitalization in nephrology and dialysis, and / or transferred to intensive care for renal complications are included. Were excluded, the deaths outside these services or at home.

**Results:** The frequency of deaths in 2017 was 22.35%. By age, the death among group of 41-60 years was 36.87%. Men accounted for 74.46% of deaths. An indication of first dialysis concerned 80.15% of patients, and 55.32% of patients had an acute, renal failure. Uremic complications accounted for 56.02% and anemia 42.55%. Mortality was high in the first 24 hours and beyond one week, respectively 24.82 and 61%. The deaths occurred in 55.32% between 18 hours - 8 am,

**Conclusions:** It allowed us to evaluate the overall functioning of the Nephrology Hospitalization Service of Zinder Hospital.

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## SUN-228

### EPIDEMIOLOGY, RISK FACTORS AND 6 MONTHS OUTCOME OF PATIENTS WITH END STAGE RENAL DISEASE AT CHUK, CHUB AND RMH BETWEEN OCTOBER 2017- OCTOBER 2018

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**Introduction:** End stage renal disease is a rising major concern associated with increasing death rates and costly treatments. In Sub Saharan Africa, the rise of both non communicable diseases and infections are responsible for the increase of ESRD ( end stage renal disease) which occurs in young adults and most patients cannot afford renal replacement therapy. Our study assessed the epidemiology, risk factors and 6 months outcomes of patients with ESRD in three referral hospitals in Rwanda.

**Methods:** The study was conducted in three tertiary hospitals in Rwanda: Centre Hospitalier Universitaire de Kigali (CHUK), Centre Hospitalier Universitaire de Butare (CHUB) and Rwanda Military Hospital (RMH). A sample of 88 participants with ESRD was selected between October 2018 to October 2019 prior to starting any form of renal replacement therapy. We collected and analysed demographic data on age, sex, mode of insurance and socio economic status. Clinical data included history of risk factors such as diabetes, hypertension, HIV, chronic non-steroidal anti-inflammatory drugs (NSAIDs) and traditional drug use. At enrollment we measured urea, creatinine, proteinuria, HbA1c (where applicable), measured urine output and did kidney imaging (ultrasound). Patients were then called after a period of 6 months to assess the overall survival with and without RRT. Logistic regression was done to test the measures of associations and odds ratios were used to compare the occurrence of outcomes in different groups.

**Results:** Majority of participants were relatively young with a mean age of  $45.72 \pm 16.9$ . Hypertension was the most common co-morbidity in 80.6% of participants followed by diabetes in 34.1%. Use of traditional drugs was reported in 21.6%, and 8% were HIV positive. As much as 83% of participants could not afford any form of RRT (Hemodialysis in this case) and for those who did 42.8% stopped HD due to financial reasons while 57.2% died. After 6 months of follow up, 57.7 % of participants who completed the follow up had died and there was no statistically significant association between the various risk factors and the outcome.

**Conclusions:** Our study on patients with ESRD found the patients to be relatively young with hypertension as the most common co-morbidity/ risk factor. Majority of patients could not afford renal replacement therapy regardless of their socio economic status and mortality was high after 6 months of follow up.

## SUN-229

### CLINICAL OUTCOMES OF HEMOPERFUSION USING HA 330 FILTER AMONG PATIENTS WITH SEPSIS IN ST. LUKE'S MEDICAL CENTER

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**Introduction:** Hemoperfusion is among the extracorporeal blood purification therapies proposed to improve outcomes in sepsis by removing inflammatory mediators from the blood. Results of earlier studies are conflicting and more studies are needed to validate the efficacy of hemoperfusion in improving the outcome among patients with sepsis. The aim of this study is to determine the clinical outcomes of hemoperfusion using sepsis (Jafron HA 330) filter among patients with sepsis.

**Methods:** There were 49 patients with severe sepsis and septic shock who underwent hemoperfusion with sepsis (Jafron HA 330) filter, 8 patients were excluded based on the exclusion criteria. We retrospectively investigated 41 patients and reviewed their demographic data, routine biochemistry, microbiological data, focus of infection, Acute Physiology and Chronic Health Evaluation (APACHE) II score, procalcitonin level, mean inotropic score, duration of mechanical ventilation and intensive care unit (ICU)



stay, and ICU and 28- day mortality rate. We compared the characteristics of patients who survived and did not survive after 28 days and their mean arterial pressure (MAP), inotropic score, creatinine, APACHE II score, procalcitonin before and after hemoperfusion treatment.

**Results:** The ICU mortality rate and 28-day mortality rate were 46.34% and 41.6% respectively which are lower than the predicted mortality rate of 49.70% based on the APACHE II score before hemoperfusion treatment and 54% among patients with septic shock. The mean duration of ICU stay is  $23.0 \pm 26.66$  and the mean duration of mechanical ventilation is  $21.0 \pm 27.02$ . There is a significant difference between the non-survivors and the survivors in terms of duration of ICU stay ( $p = 0.006$ ), duration of mechanical ventilation ( $p = 0.029$ ), number of hemoperfusion treatments ( $p = 0.007$ ) and timing of hemoperfusion ( $p = 0.006$ ). Among the survivors, 11 (45.83%) had early hemoperfusion (treatment has significant effect on the duration of ICU stay ( $p = 0.008$ ) and duration of mechanical ventilation ( $p = 0.016$ ). The result shows no significant difference in APACHE II score, inotropic score, hospital stay and renal recovery between early and late hemoperfusion (>48 h) treatment. One patient had bleeding after hemoperfusion treatment. Among the survivors and non-survivors, there was no significant reduction in platelet count before and after hemoperfusion treatment ( $p = 0.179$ , 0.791 respectively). Other reactions such as fever and chills were not observed.

Baseline Characteristics	N=41
Age (year)	66.3 ± 13.32
Sex (%) (Male:Female)	26 (63.4):15 (36.6)
Number of Comorbidities	2.4 ± 1.41
Comorbidities (%)	
Hypertension	29 (70.7)
Diabetes	27 (65.9)
Cancer	13 (31.7)
Recent Surgery	10 (24.4)
Myocardial Infarction	3 (7.3)
ESRD	9 (22.0)
Heart Failure	4 (9.8)
Pancreatitis	2 (4.9)
Mean APACHE II score	23.5 ± 4.88
Baseline Procalcitonin	62.3 ± 192.7
Mean Duration of Mechanical Ventilation (days)	21.0 ± 27.02
Mean Duration of ICU Stay (days)	23.0 ± 26.66
Mean number of hemoperfusion treatment	3.4 ± 1.64
Site of Infection (%)	
Lungs	32 (78.0)
Abdominal cavity	14 (34.1)
Urinary tract	7 (17.1)
Catheter Related	2 (4.9)
Septic Infection	5 (12.2)
Others	7 (17.1)
Blood Culture	17 (41.5)
Gram negative (%)	
Stenotrophomonas	9
Klebsiella coli	7
Klebsiella species	4
Pseudomonas species	4
Enterobacter species	2
Acinetobacter	2
Others	2
Gram positive	8 (19.5)
Staphylococcal species	12
Enterococcus species	7
Streptococcus pneumoniae	1
Mixed	13 (31.7)
Negative	3 (7.3)
Fungi	
Candida	10 (24.4)

Table 2. Characteristics of survivors and non-survivors

	Non-Survivors (n=17)	Survivors (n=24)	P Value
Age (mean year)	70.1 ± 13.33	63.4 ± 13.02	0.182
Sex (%) (Male:Female)	12 (69):5 (29)	14 (58):10 (42)	0.539
Comorbidities			
Hypertension	11 (64.7)	18 (75.0)	0.507
Myocardial Infarction	2 (11.8)	1 (4.2)	0.519
Heart Failure	4 (23.5)	9 (37.5)	0.212
Diabetes	11 (64.7)	14 (58.3)	1.000
Recent Surgery	3 (17.6)	7 (29.2)	0.489
ESRD	3 (17.6)	6 (25.0)	0.711
Cancer	5 (29.4)	8 (33.3)	1.000
Baseline WBC	20304.7 ± 4394.30	10279.7 ± 3777.97	0.063
Baseline Platelet count	127267.7 ± 40332.33	150000	0.056
Baseline MAP	79.9 ± 49.68	82.0 ± 16.19	0.940
Post Treatment MAP	81.8 ± 41.33	81.47 ± 13.05	0.927
Baseline Inotropic Score	69.1 ± 127.12	24.14 ± 47.06	0.120
Post Treatment Inotropic Score	75.5 ± 103.53	19.9 ± 11.11	0.061
Baseline Creatinine (mg/dl)	3.9 ± 2.08	4.13 ± 2.36	0.237
Post Treatment Creatinine	2.9 ± 1.61	3.4 ± 2.02	0.094
Baseline APACHE II score	23.1 ± 44.39	23.8 ± 15.27	0.981
Post Treatment APACHE II score	22.1 ± 47.13	18.35 ± 9.9	0.037
Score			
Baseline Procalcitonin	142.5 ± 304.60	55.9 ± 79.89	0.254
Post Treatment Procalcitonin	87.2 ± 228.73	22.8 ± 42.91	0.403
Mean Duration of ICU stay	11.1 ± 48.26	31.1 ± 31.81	0.006
Mean Duration of Mechanical Ventilation	11.5 ± 48.00	27.9 ± 43.31	0.029
Mean Number of Hemoperfusion Treatment	2.6 ± 0.71	3.9 ± 1.9	0.007
Mean Duration of Mechanical Ventilation	1 (6.0)	11 (45.83)	0.006

Table 3. Effect of timing of hemoperfusion

	Early Hemoperfusion (<48 hours)	Late Hemoperfusion (>48 hours)	P value
APACHE II	18.4 ± 4.61	17.4 ± 3.28	0.663
Mean Duration of ICU stay	31.5 ± 47.94	9.9 ± 12.42	0.371
Mean Duration of Mechanical Ventilation	13.9 ± 47.54	4.6 ± 10.07	0.008
Mean Number of Hemoperfusion Treatment	11.0 ± 418.83	4.2 ± 4.60	0.016
Mean Duration of Mechanical Ventilation	56.7 ± 47.12	89.46 ± 38.73	0.075
Mean Duration of Mechanical Ventilation	6 (24.33)	5 (20.83)	0.880

The patients' age, gender, medications and present cutaneous symptoms were noted. We performed for each patient a peer review including: a careful history and the details about the onset of skin lesions, the circumstances of their discoveries, triggering factors, their clinical characteristics and evolution. Then we completed a full clinical examination including a specialized mucocutaneous examination. Data were entered and analyzed using SPSS software. Chi-squared test with a level of significance of 0.05 was used for the qualitative variables.

**Results:** We included 25 patients. They were 15 men and 10 women (sex ratio M/F = 1.5). The mean age was 45 years old (range 27 - 78). The mean dialysis duration was 31 months (range 3 - 228). Fourteen patients (56%) suffered from hypertension, five of them were diabetic. Ethylism was observed in 1 patient and smoking in 7 patients (28%). Initial causes of nephropathy were diabetic, vascular and undetermined in respectively 52%, 32% and 12% of cases. Uremic pruritus was reported in 20 cases (80%). Pruritus was continuous in 7 patients (28%), nocturnal increasing in 17 patients (68%) and diurnal increasing in 1 patient (4%). Xerosis was noted in 1 case (4%), hair loss in 8 cases (32%). Three patients had cutaneous manifestations of bullous dermatoses (4%). Four patients had dyspigmentation (16%). Staphylococcal pustulosis was noted in a patient after jugular catheter placement. Anemia was noted in 10 patients (40%). The mean hemoglobin level was 9 g/l. Hyperphosphoremia was observed in 18 patients (72%). Treatment was prescribed in 14 cases such as antihistamines in 05 cases (20%), emollient preparation in 3 cases (12%), parathyroidectomy for secondary hyperparathyroidism in 6 cases (24%). Diabetes, anemia and hyperphosphoremia were independent risk factors of cutaneous abnormalities with respectively ( $p=0.04$ ,  $p=0.008$  and  $p=0.01$ ).

**Conclusions:** Skin disorders are frequently the subject of patients' complaints. Factors such as diagnostic accuracy, climate, and early treatment are all required to decrease the morbidity and mortality of dermatological disorders in ESRD patients and improve their quality of life.

## SUN-231

### PERICARDITIS AND PERICARDIAL EFFUSIONS IN END-STAGE RENAL DISEASE

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**Introduction:** The etiology of pericarditis in chronic hemodialysis patients always appears to be related to a poorly adapted dialysis regime.

Our study aimed to evaluate the prevalence of pericarditis among dialysis patients, to identify its predictive factors and to watch the ongoing evolution after adequate management.

**Methods:** An observational retrospective study was undertaken in our unit of hemodialysis in Charles Nicolle's hospital in 2018 including 110 patients.

For each patient, we focused on clinical, biological and echocardiographic characteristics as well as survival factors.

**Results:** The sample included 9 cases of pericarditis with a mean age of 38.3 years, 7 of them where men.

The average period of hemodialysis was 29 months.

7 cases of pericarditis were revealed by clinical symptoms ; it was complicated by cardiac pretamponade or tamponade only in 2 cases.

Several factors associated with high prevalence of pericarditis among our patients were observed such as : hemodialysis via femoral catheter, weight gain in the interdialytic period over 4 kg and hemodialysis frequency below 3 times a week.

An increase in the dialysis program with regional heparinization was sufficient to control the pericarditis in 7 cases.

Subxiphoid pericardiectomy was carried out in the 2 cases with hemodynamic evidence of cardiac pretamponade or tamponade

**Conclusions:** Pericarditis in chronic hemodialysis patients is a treatable, but not always a preventable, condition. The successful treatment is based on a timely recognition with an efficient treatment.

**Conclusions:** Hemoperfusion treatment results in lower ICU and 28-day mortality rate. Hemoperfusion has significant effect on the duration of ICU stay and mechanical ventilation. We recommend early hemoperfusion (within 48 hours of diagnosis of sepsis) because it is a significant factor in decreasing ICU and 28-day mortality. Early hemoperfusion treatment also has significant effect on the duration of ICU stay and mechanical ventilation. There were no serious adverse reactions reported during the duration of observation.

## SUN-230

### CUTANEOUS MANIFESTATIONS IN HEMODIALYSIS PATIENTS

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**Introduction:** Cutaneous manifestations in end stage renal disease (ESRD) are polymorphic and diverse. Hemodialysis (HD) patients may suffer from different dermatological manifestations after initiation of dialysis. The aim of our study was to assess the prevalence and characteristics of different cutaneous manifestations in patients on hemodialysis.

**Methods:** We led a cross sectional investigation of all HD patients in our unit during three months ( from July to September 2019).