DISSEMINATED KAPOSI’S SARCOMA IN A RENAL TRANSPLANT PATIENT: A CASE REPORT
Laurence J. Vaitekunas¹, Tahira, C Scott¹, and Edwin WH Tan²
¹Townsville University Hospital, Townsville, Queensland, Australia
²Department of Pathology, Townsville, Queensland, Australia

Background: Kaposi’s sarcoma is more prevalent in immunosuppressed individuals compared to the general population. Patients on immunosuppressive therapy post renal transplant have weakened innate and adaptive immunity leading to infection of human herpes virus 8 (HHV8), a recognised oncogenic virus responsible for causing Kaposi’s sarcoma. Traditionally, it is recognised as an AIDS-defining presentation. In the transplant setting, depletion of T cell immunity by immunosuppression can permit opportunistic infections like HHV8, especially if the patients immunosuppression drug levels are targeted to high. Clinical manifestations are often limited to cutaneous lesions described as purple plaques or nodules of various sizes in lower extremities. Infrequently, Kaposi’s sarcoma may also affect the lymphoid tissue and alimentary tract. Management of Kaposi’s sarcoma generally includes radiotherapy for focal disease and chemotherapy such as pegylated liposomal doxorubicin for systemic disease. In renal transplant patients, switching calcineurin inhibitors to mammalian target of rapamycin inhibitors is key, as well as aiming for lower serum drug trough levels. We report a case of a rare presentation of systemic disseminated Kaposi’s sarcoma in a renal transplant patient.

Clinical Case: A 73-year-old Torres Strait Islander male presented with bilateral palm and finger lesions These nodules were first noticed four weeks after receiving a cadaveric kidney transplant with a six HLA mismatch for End Stage Kidney Disease from renovascular hypertension. He received Basiliximab to prevent acute rejection. His discharge maintenance immunosuppression once month post comprised of tacrolimus 4 mg BD, mycophenolate 720 mg BD and prednisolone 9 mg OD. Physical examination revealed mildly tender large protuberant, red-pink raised plaques on bilateral palms with no bleeding and surrounding oedema. Skin punch biopsy was performed. Histopathology revealed extravasated erythrocytes, atypical spindle cells with mitotic figures. Immunohistochemical staining revealed positive labelling for CD34 and HHV8. The diagnosis of KS was made. His treatment included a prescription of 35.5 Gy and 16# of radiotherapy, substitution of tacrolimus for sirolimus 2 mg OD and halving the dose of mycophenolate to 360 mg BD. This did not significantly regress his tumour. Clinically, lymphadenopathy was detected leading to Computed Tomography staging of his neck, chest, abdomen and pelvis showing multiple pathologically enlarged lymph nodes above and below the diaphragm. A lymph node biopsy was expedited and was consistent with Kaposi’s sarcoma, rendering the patient’s disease as disseminated. The decision was made for monotherapy immunosuppression with 25 mg prednisolone OD further putting his graft at risk of failure. Systemic chemotherapy with pegylated liposomal doxorubicin was offered which would heighten his risk of neutropenic sepsis and cardiac toxicity. With no option guaranteeing disease control, restarting dialysis is a potential reality for the patient.

Conclusions: The complex dynamic of immune suppression brings the responsibility of balancing risk of opportunistic infection and organ rejection. This case serves as a reminder to be vigilant of the complications from immunosuppression such as opportunistic infection and malignancy in the transplant cohort.

References
The primary outcomes were change in Functional Independence Measure (FIM) and length of stay (LOS). Multiple linear regression analysis models were used to explore the relationships between the primary outcomes and a range of covariates.

**Results:** There was a statistically significant improvement in the FIM score amongst patients who underwent inpatient rehabilitation following cardiac surgery. Age was not significantly related to the magnitude of change in FIM (Coef. -0.01, 95% CI -0.12 to 0.20, p=0.85). The only significant predictor of change in function was FIM score on admission, with a higher FIM score on admission associated with less improvement on discharge. Change in FIM score over admission was reduced by 0.53 points (95% CI -0.60 to -0.47, p=0.001) for each 1 point increase in FIM score on admission.

Age had a statistically significant impact on length of stay, although the magnitude of this effect may not be clinically significant. For every 1 year increase in age, there was a 0.05 day reduction in LOS (Coef. -0.0489, 95% CI -0.092 to -0.01, p=0.025). Other factors shown to significantly reduce length of stay included higher FIM score on admission (Coef. -0.29, 95% CI -0.32 to -0.26, p=0.001), and the absence of comorbidities or complications that impacted on rehabilitation. Patients without significant comorbidity had 1.19 day shorter LOS (95% CI -2.02 to -0.35, p=0.006) while patients who did not suffer a complication had a 2.37 day reduction in LOS (95% CI -3.46 to -1.28, p=0.001).

**Conclusion:** Increasing age was not predictive of failure to improve functionally in patients who completed inpatient rehabilitation following cardiac surgery. This study supports the adage that “age is just a number” when it comes to the ability to make meaningful functional gains in this patient group. More research is needed to determine if aggressive management of comorbidities and secondary prevention of complications has an impact on LOS.

**References**

Acknowledgements: Thank you to the ANZICS Datathon 2019, Brisbane, Queensland Australia and the ARQG data custodians Tara Alexander and Patrick Steele

---

**BEST POSTER PRIZE IN ADULT MEDICINE (TRAINEE) FINALIST**

**HYPONATREMIA - A POTENTIAL MARKER OF FRAILTY AND GERIATRIC SYNDROME**

**Jim Wong,1, Ru Hui New2, Daryl Wong3 and Shirantha Adikari1**

1. Cairns Hospital, Cairns, Queensland, Australia
2. University of Sydney, Sydney, New South Wales, Australia
3. University of Queensland, Brisbane, Queensland, Australia

**Background:** Hyponatremia is the most common electrolyte imbalance found in Australian hospitals, an effect which is accentuated in the geriatric population. Although mild hyponatremia is usually asymptomatic, studies have inferred that hyponatremia is associated with increased falls, frailty, delirium and dementia. Geriatric syndrome and frailty are often difficult to quantify in a clinical setting, especially by junior doctors working in emergency departments or acute medical units and if missed can lead to unnecessarily lengthy admissions without early allied health and rehabilitation focused input. Therefore, it would be useful to attain a reliable clinical marker of severity which can be obtained easily prior to consultant or geriatric review.

**Aim:** To investigate the prevalence of hyponatremia in the geriatric population, its impact on frailty as well its use as a potential surrogate marker for geriatric syndrome.

**Methods:** Retrospective study of 235 patients aged 70 and above who were admitted in the Geriatric Unit in Cairns Hospital from 1st January 2018 to 30th June 2018. Comparisons were made between patients with normal serum sodium, with those with mild, moderate and severe hyponatremia in several aspects of geriatric syndrome. Data collated was analysed using Microsoft Excel and presented in mean values, frequencies and percentages. Student t-test and N-1 Pearson’s Chi-squared test were used to determine statistical significance, which was defined as P < 0.05. Positive predictive value of frailty with respect to hyponatraemia of 129 mmol/L or less was 84.2%.

**Results:** Patients with hyponatremia were associated with higher CSHA (Canadian Study of Health and Aging) Clinical Frailty Scale scores1 with mean 3.79 ±1.79 in patients with normal sodium versus 4.29 ±1.75, P = 0.04 in patients with hyponatremia), history of falls (61.04% versus 74.68%, P = 0.03), and prolonged hospital admission (average 21.48 days ±18.51) versus 31.43 days ±18.31), P < 0.001. There also appeared to be a mild increase risk of delirium in patients with hyponatremia (31.17% versus 41.77%, P = 0.12).

**Conclusion:** Hyponatremia is associated with several aspects of geriatric syndrome. These findings support the use of hyponatremia as a potential surrogate marker of geriatric syndrome, in particular, frailty, future falls risk and prolonged length of stay. Such an objective clinical marker being utilised in an acute care setting could lead to early allied health related multidisciplinary input focused on restorative care, and therefore reduce hospital length of stay as well as the financial burden on Australia’s healthcare system.

**References**

Acknowledgements: Thank you to the ANZICS Datathon 2019, Brisbane, Queensland Australia and the ARQG data custodians Tara Alexander and Patrick Steele

---

**THE RELATIONSHIP BETWEEN OFF-SITE ON-CALL SHIFTS AND SLEEP, MOOD AND VIGILANCE AMONG DOCTORS – DOCTORS ON-CALL (DOC) STUDY**

**Raymond Wong1,2, Melinda Jackson3,4, and Christopher Worsnop5**

1. Department of Respiratory and Sleep Medicine, Austin Health, Melbourne, VIC, Australia
2. Institute of Breathing & Sleep (IBAS), Melbourne, VIC
3. Turner Institute for Brain and Mental Health, VIC
4. Sleep and Circadian Rhythms, School of Psychological Sciences, Monash University, VIC, Australia

**Background:** Being on-call is a crucial part of doctors’ work in Australia, especially those working in the public sector. However, on-call duties have been rated to be one of the most stressful aspects of doctors’ work. The negative impact of off-site on-call shifts on sleep in doctors is an area that has been greatly under-recognized in the literature. Currently, there is a research gap on the impact of off-site on-call shifts on sleep quality, mental