2661. Sarcopenia Increases Risk of Post-Surgical Infections in Kidney Transplant Recipients
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Background: Sarcopenia (reduced skeletal muscle mass) has been associated with serious infection in liver transplant recipients. We analyzed the association of sarcopenia and early post-surgical infections in kidney transplant recipients.

Methods: Retrospective cohort study of 125 patients underwent kidney transplantation from 2010 to 2014 at University of Kentucky Medical Center. Sarcopenia was diagnosed by measuring the skeletal muscle mass on computed tomography imaging obtained during the pre-transplant evaluation using SliceOmatic 5.0 software at L3 level (< 52.4 cm²/m² in males and ≤ 38.5 cm²/m² in females). Early post-transplant infections were confirmed by positive culture from blood, urine, and/or peritoneal fluid within 30 days after kidney transplantation. A generalized linear model (GLM) was used to identify variables predictive of post-surgical infection and Risk Ratio (RR) was obtained, with a P-value of < 0.05. The statistical analysis was performed with STATA version 12.0 (College Station, Texas).

Results: Among 125 patients, 52 (41.6%) were identified with sarcopenia, 110 (88.0%) patients were white, 76 (60.8%) male, with a median age of 56 (range 20–72) at the time of transplant. Diabetes was reported in 50 (40.0%) patients, obesity in 64 (51.6%) patients and smoking in 43 (34.6%) patients. Six (4.8%) patients had graft failure. Infections were identified in 22 (17.6%) patients, more than one source of infection was reported in 13 (10.4%) patients and bacteremia in 5 (4.0%) patients. The median time to development of infection was 9 days (range 1–27). In the bivariate analysis, sarcopenia was associated with high risk of post-surgical infections (RR 2.45; 95% CI 1.01–5.44). In multivariable analysis, sarcopenia was a significant independent predictor of infection (RR 2.58; 95% CI 1.20–5.52). None associations were found with other variables; age over 40 years, male sex, smoking, obesity and diabetes.

Conclusion: Our study suggested that sarcopenia was associated with an increased risk of early post-surgical infection in kidney transplant recipients.
the frequency of UTIs in selected non-transplant patients, but which is not recommended in renal insufficiency. We conducted a retrospective study to determine the efficacy of methenamine prophylaxis in our kidney transplant population, and identify subgroups for which efficacy is greatest.

**Methods:** Retrospective chart review of adult kidney transplant patients at Montefiore Medical Center who were prescribed methenamine during January 1, 2016–December 31, 2017, with extraction of clinical data in the year before and after prophylaxis. Variables included demographics, creatinine clearance and hemoglobin A1c levels at the time of prescription, incidence of UTIs as determined by standardized literature definitions, hospital admissions for infections, and antibiotic use.

**Results:** The incidence of UTIs per 1000 patient-days decreased significantly, from 9.66 (95% CI 7.53–12.40) the year before to 3.24 (95% CI 2.00–5.24) the year after (P < 0.001). The effect was significantly more pronounced in patients who were transplanted due to diabetic nephropathy, with a decreased incidence of 13.05 (95% CI 10.00–17.02) UTIs/1000 patient-days to 2.90 (95% CI 1.58–5.32) the year before to 49.78 (95% CI 31.74–78.07) the year after (P < 0.001). No significant differences in efficacy were seen based on sex or renal function. Three patients with indwelling urinary catheters or who required intermittent catheterization did not appear to benefit.

**Conclusion:** Methenamine prophylaxis decreases the incidence of UTIs and number of antibiotic days in adult renal transplant recipients. This effect was seen even in patients with reduced creatinine clearance. Patients with diabetes benefited the most.

**Table 1: Demographics**

| Age group | n (%) | Mean age (SD) | Median age (IQR) | 25th percentile | 75th percentile |
|-----------|-------|---------------|------------------|----------------|----------------|
| All patients | 30 | 62.5 (10.5) | 60 (55–65) | 50 | 70 |
| Male | 15 | 65.5 (11.5) | 63 (57–70) | 55 | 75 |
| Female | 15 | 59.5 (9.5) | 59 (50–68) | 50 | 70 |

**Table 2: UTIs/1000 person days pre/post methenamine**

| Patient Population | n | Mean pre-methenamine (95% CI) | Mean post-methenamine (95% CI) | p-value |
|--------------------|---|-------------------------------|-------------------------------|---------|
| All patients | 30 | 12.58 (9.57–17.24) | 4.78 (3.17–8.70) | <0.001 |
| Male | 15 | 14.56 (9.26–23.08) | 7.61 (4.98–12.51) | 0.074 |
| Female | 15 | 10.94 (7.74–15.83) | 2.07 (1.16–5.10) | 0.001 |
| DM nephropathy | 12 | 17.62 (12.46–24.51) | 4.60 (2.24–7.86) | 0.001 |
| Other nephropathy | 12 | 9.69 (4.10–11.28) | 6.12 (2.94–12.92) | 0.001 |

**Table 3: Hospitalizations for UTI/1000 person days pre/post methenamine**

| Patient Population | n | Mean pre-methenamine (95% CI) | Mean post-methenamine (95% CI) | p-value |
|--------------------|---|-------------------------------|-------------------------------|---------|
| All patients | 30 | 5.86 (4.06–6.45) | 2.53 (1.44–4.45) | 0.011 |
| Male | 15 | 6.59 (4.0 – 11.9) | 3.58 (1.78–7.16) | 0.056 |
| Female | 15 | 4.58 (3.10–6.78) | 1.44 (0.58–3.56) | 0.056 |
| Diabetic nephropathy | 14 | 7.27 (4.64–11.38) | 2.09 (1.03–4.25) | 0.014 |
| Other nephropathy | 12 | 4.13 (2.71–7.84) | 3.27 (1.31–8.13) | 0.001 |

**Table 4: Antibiotic days/1000 person days pre/post methenamine**

| Patient Population | n | Mean pre-methenamine (95% CI) | Mean post-methenamine (95% CI) | p-value |
|--------------------|---|-------------------------------|-------------------------------|---------|
| All patients | 30 | 12.58 (9.57–17.24) | 4.78 (3.17–8.70) | <0.001 |

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2663. Impact of Pre-Transplant Microbiology on Acute Outcomes in Cystic Fibrosis (CF) Patients

**Methods:** A retrospective cohort study was performed for all CF patients receiving bilateral lung transplants at a single center during the 2016–2018 period. Patient and microbiological data were collected and analyzed from 1 year pre-transplant to 3 months post-transplant. Patients were categorized according to pre-transplant microbiology, with consideration to multidrug-resistant organisms (MDROs) and chronic organisms (positive culture ≥15% of encounters).

**Results:** Twenty-seven CF patients received a transplant during this time period. Twenty-five patients (92.6%) had re-isolation with ≥1 pre-transplant organism in the 3 month period post-transplant, with 16 (59.3%) developing infectious complications, and 11 (40.7%) developing rejection. Isolates associated with chronic infections were the principal factor in determining re-isolation post-transplant (OR = 4.53, 95% CI = 7.53–12.40, P = 0.01). Chronic infections were not significant predictors of re-isolation. There was no difference in early post-transplant outcomes (infectious complications, rejection, FEV1% predicted, ICU stay, and hospital LOS) for patients chronically infected with MDROs vs. those who were not (P > 0.3). Chronic infections with Pseudomonas aeruginosa or methicillin-resistant Staphylococcus aureus were not predictors of poor outcomes (P > 0.3). However, chronic fungal infections (n = 7) produced more infectious complications (median 2 vs. 0, P = 0.0045) and longer ICU stays (median 22 days vs. 5 days, P = 0.019).

**Conclusion:** Chronic infections are associated with a greater risk of post-transplant re-isolation of pathogens in CF patients, more so than drug resistance or species. Chronic infections with fungi were associated with worse transplant outcomes.

**Disclosures. All authors:** No reported disclosures.

2664. Impact of Multidrug-Resistant Bacterial Infections in Solid-Organ Transplantation: The Value of Electronic Health Records-Based Registries and Data Extraction Tools

**Methods:** A retrospective cohort study was performed for all CF patients receiving bilateral lung transplants at a single center during the 2016–2018 period. Patient and microbiological data were collected and analyzed from 1 year pre-transplant to 3 months post-transplant. Patients were categorized according to pre-transplant microbiology, with consideration to multidrug-resistant organisms (MDROs) and chronic organisms (positive culture ≥15% of encounters).

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**Disclosures. All authors:** No reported disclosures.

2665. Impact of Pre-Transplant Microbiology on Acute Outcomes in Cystic Fibrosis (CF) Patients

**Methods:** A retrospective cohort study was performed for all CF patients receiving bilateral lung transplants at a single center during the 2016–2018 period. Patient and microbiological data were collected and analyzed from 1 year pre-transplant to 3 months post-transplant. Patients were categorized according to pre-transplant microbiology, with consideration to multidrug-resistant organisms (MDROs) and chronic organisms (positive culture ≥15% of encounters).

**Results:** Twenty-seven CF patients received a transplant during this time period. Twenty-five patients (92.6%) had re-isolation with ≥1 pre-transplant organism in the 3 month period post-transplant, with 16 (59.3%) developing infectious complications, and 11 (40.7%) developing rejection. Isolates associated with chronic infections were the principal factor in determining re-isolation post-transplant (OR = 4.53, 95% CI = 7.53–12.40, P = 0.01). Chronic infections were not significant predictors of re-isolation. There was no difference in early post-transplant outcomes (infectious complications, rejection, FEV1% predicted, ICU stay, and hospital LOS) for patients chronically infected with MDROs vs. those who were not (P > 0.3). Chronic infections with Pseudomonas aeruginosa or methicillin-resistant Staphylococcus aureus were not predictors of poor outcomes (P > 0.3). However, chronic fungal infections (n = 7) produced more infectious complications (median 2 vs. 0, P = 0.0045) and longer ICU stays (median 22 days vs. 5 days, P = 0.019).

**Conclusion:** Chronic infections are associated with a greater risk of post-transplant re-isolation of pathogens in CF patients, more so than drug resistance or species. Chronic infections with fungi were associated with worse transplant outcomes.

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