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Prescription Opioid Use Before and After Kidney Transplant

Lentine KL, Lam NN, Segev DL, Axelrod DA,
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Disclosures

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I have no financial relationships to disclose within the past 12 months relevant to my presentation. The ACCME defines 'relevant' financial relationships as financial relationships in any amount occurring within the past 12 months that create a conflict of interest.

My presentation does not include discussion of off-label or investigational use.

I do not intend to reference unlabeled/unapproved uses of drugs or products in my presentation.

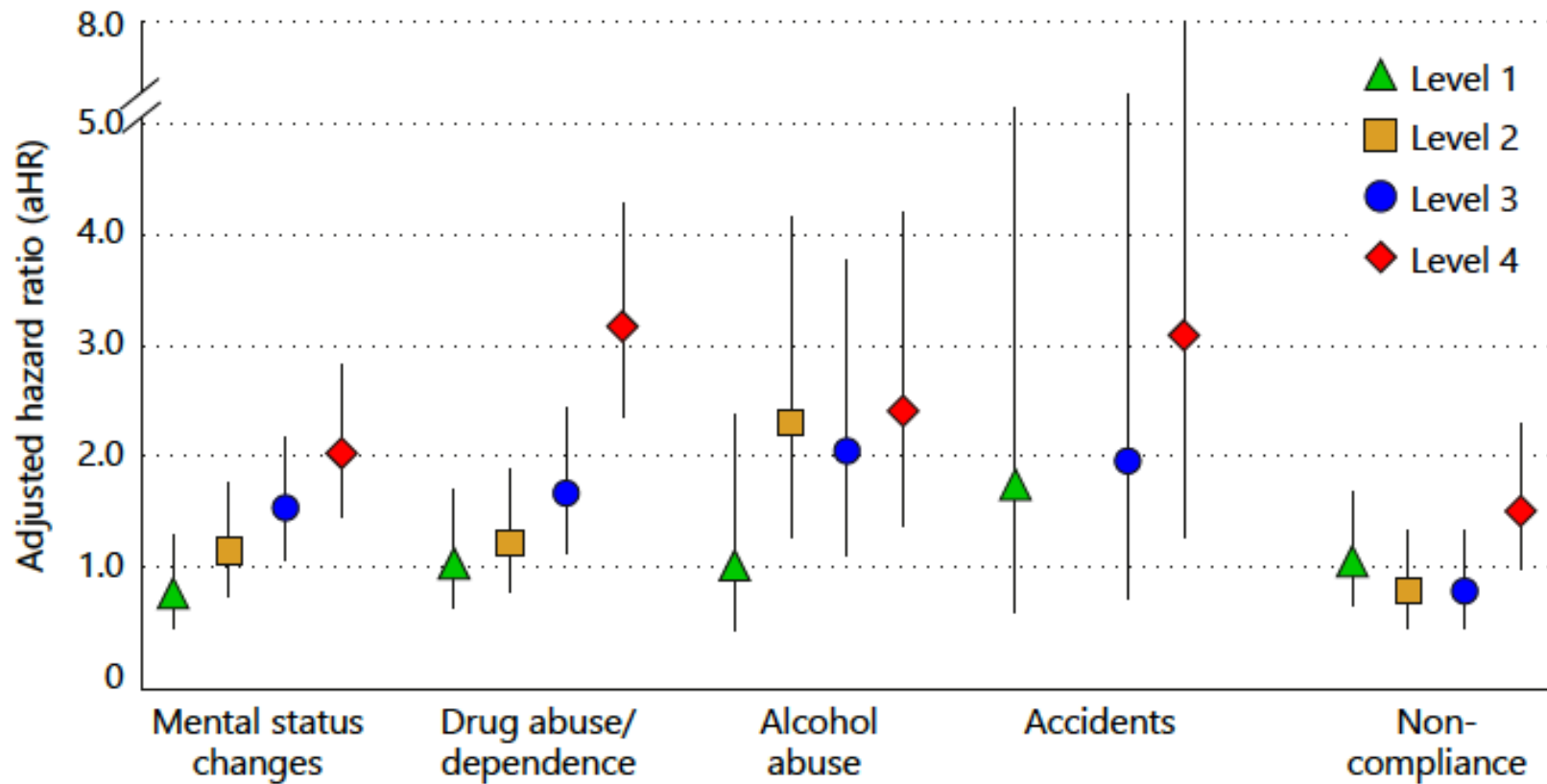
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Background

Opioid use in the general population is associated with addictions, overdoses, and death.

Opioid use in the transplant population is not well studied.





Lentine *et al.*, AJN, 2015

High-level opioid use pretransplant is associated with a **2- to 4-fold increased risk of complications** in the first 3 years posttransplant.

Objective: To study the association of prescription opioid use before and after transplant and the risk of death and graft loss



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Donors
Waitlist candidates
Transplant recipients

Prescription claims for
~60% of U.S. pharmacies

Inclusion: Kidney transplant recipients in the U.S.
2007-2015
Evidence of pharmacy fill records in the years
before and after transplant

Methods

Exposure: Pharmacy fill for **prescription opioids** in the years before and after transplant, normalized to morphine equivalents and ranked by annual level of use:

Level 1: ≤ 300 mg

Level 2: 301-600 mg

Level 3: 601-1000 mg

Level 4: >1000 mg

Outcomes: Death

Graft failure



Results

SRTR (2007-2015): 117,931 recipients

SRTR + SHS:

75,430 (64.0%) recipients with pretransplant data

Mean age: 49.8 years (SD 15.8)

Sex: 39.3% female

Race: 53.1% white, 26.7% African American

76,187 (64.6%) recipients with posttransplant data

Results

32,483 (43.1%) recipients filled an opioid prescription in the year before transplant

Compared with non-users, users with the highest level of use (level 4) were more often:

Aged 45-59 years

Women

White

Unemployed

Publicly insured

Less likely to be college educated

Obese

CAD, DM, CVD, PVD, COPD

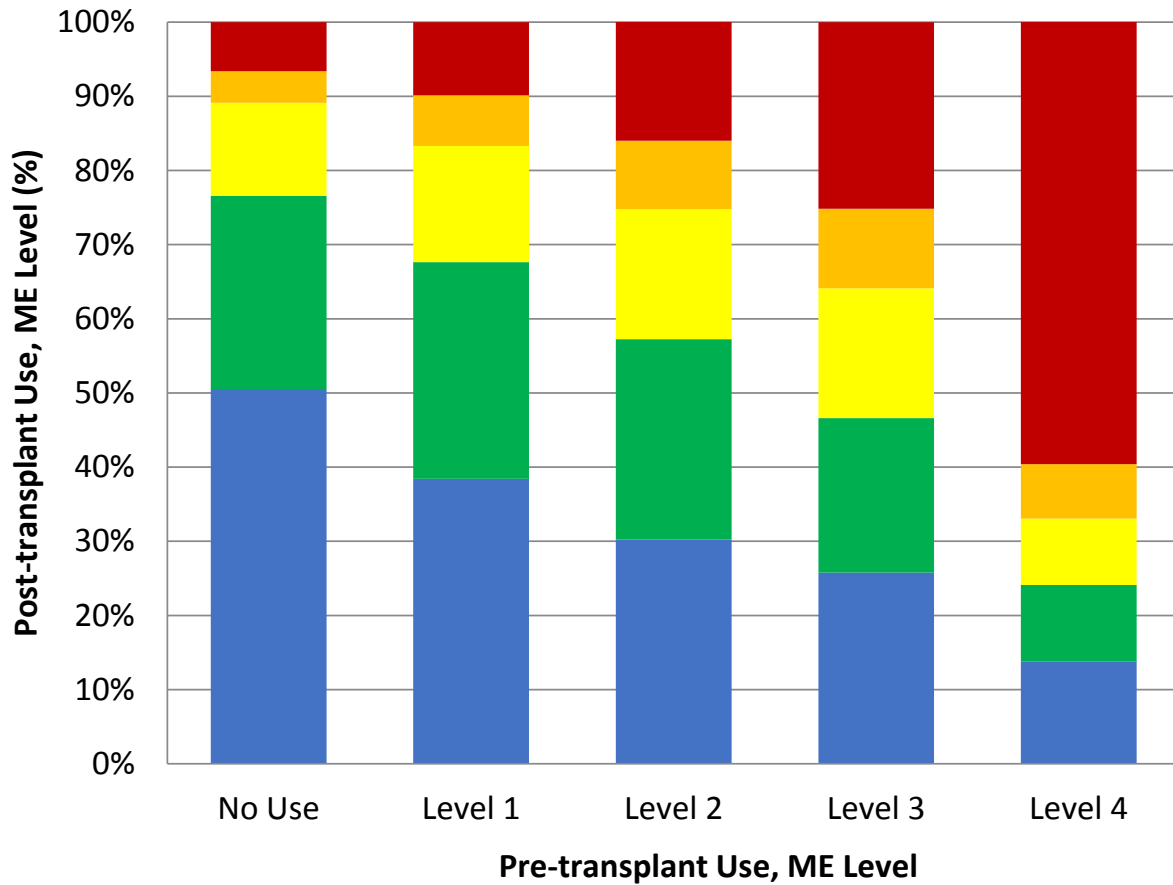
Longer dialysis duration

Higher sensitization



High level opioid use pretransplant is associated with an **increased risk of death and graft failure** in the first year posttransplant

**POST-TRANSPLANT OPIOID FILLING PATTERNS
ACCORDING TO PRE-TRANSPLANT OPIOID USE**

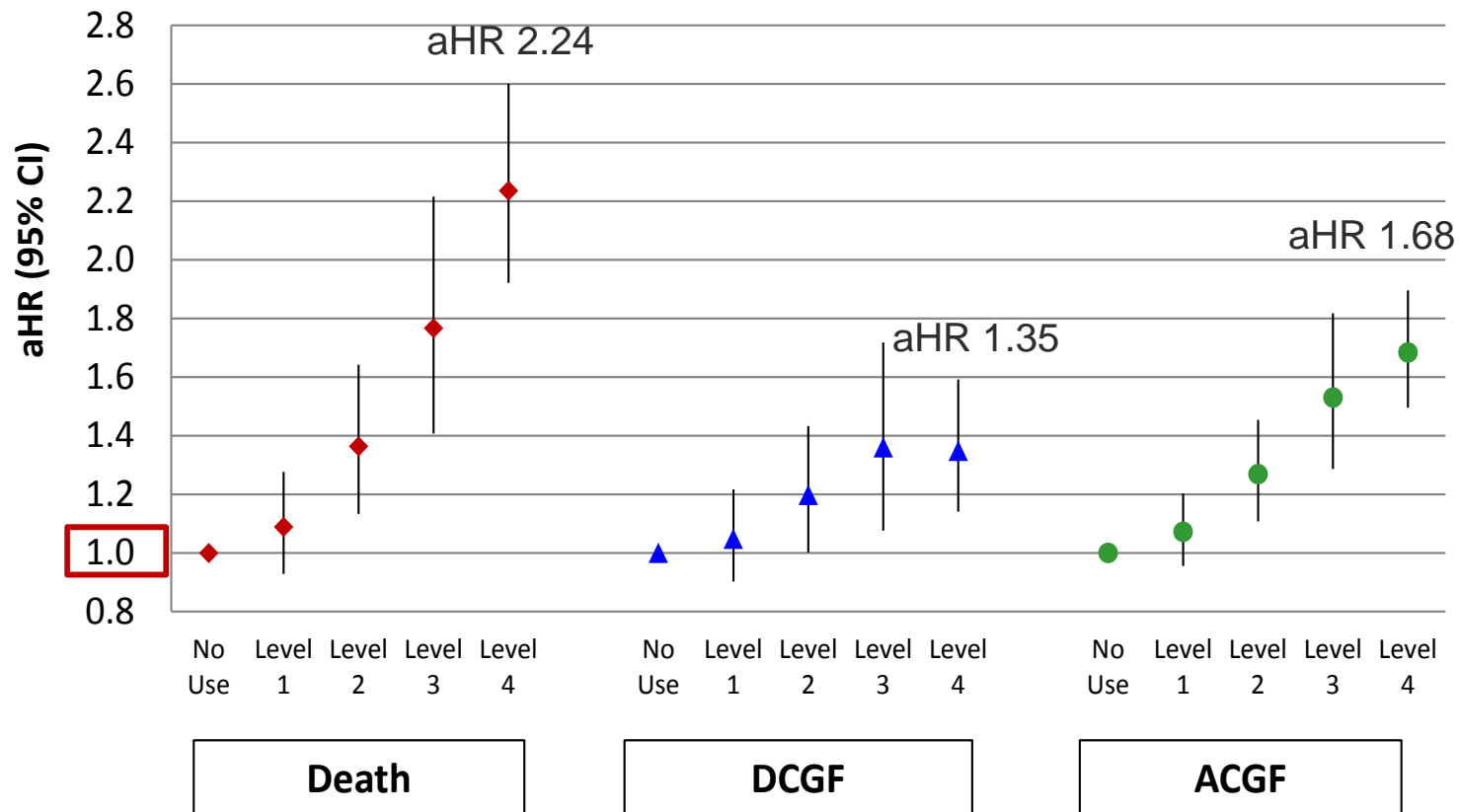


70.5% of recipients had continued use posttransplant

47.0% of recipients were new users posttransplant

60.0% of high level users pretransplant continued high level use posttransplant

Post-transplant Use ME ■ No Use ■ Level 1 ■ Level 2 ■ Level 3 ■ Level 4



High-level opioid use in the first year posttransplant is associated with an **increased risk of death and graft failure** within the subsequent year.

Discussion

Strengths

Novel linkage of large databases

Prescription fill records vs. self-reported use

Limitations

Associations, not causations

Unable to account for illicit drug use

Lack of data (biopsy results, non-compliance)

Conclusion

43% of kidney transplant recipients filled an opioid prescription in the year prior to transplant.

The majority of recipients continue opioid use posttransplant, particularly high level users.

Opioid use pre- and posttransplant is associated with an **increased risk of death and graft failure** in the subsequent year.