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CROSS-SECTIONAL STUDY OF THE ADIPOKINE RESISTIN FOLLOWING KIDNEY TRANSPLANT

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INTRODUCTION AND HYPOTHESIS

- Cardiovascular disease has surpassed kidney rejection as the number one cause of mortality post kidney transplant [1]
- Resistin is an adipokine associated with inflammation and is a potential risk factor for cardiovascular disease [2]
- In chronic kidney disease patients, declining glomerular filtration rate is associated with increased resistin [3]
- Because of cardiovascular disease prevalence in kidney transplant patients, we hypothesize resistin levels are elevated when compared to normal controls
- We also want to see what covariates are related to resistin levels in the kidney transplant population

METHODS FOR STUDY RECRUITMENT

- **Study Population** Ongoing single-center cohort at Vanderbilt University. Inclusion criteria for patients include: age 18 or over, understands and provides consent, and scheduled or completed transplant. Patients were not screened out on race, sex, or disease etiology
- **Control Population** Individuals not suffering from any kidney disease

DESIGN AND ANALYSIS

- Cross sectional study of plasma resistin levels in kidney transplant recipients and available controls
- Data collected: medical history, vitals, and blood samples
- Measured values: resistin, IL-6, and serum creatinine levels
- Glomerular filtration rate (GFR) determined by CKD-EPI equation [4]
- Statistical analyses include correlations assessed by Spearman's test and multivariate linear regression to identify independent predictors of resistin levels. Analysis done in R, statistical package
- Covariates include: age, sex, race, BMI, and diabetes

GRAPHS

Figure 1: Increased Resistin Levels Not Explained by Decreased Clearance (CKD-EPI)

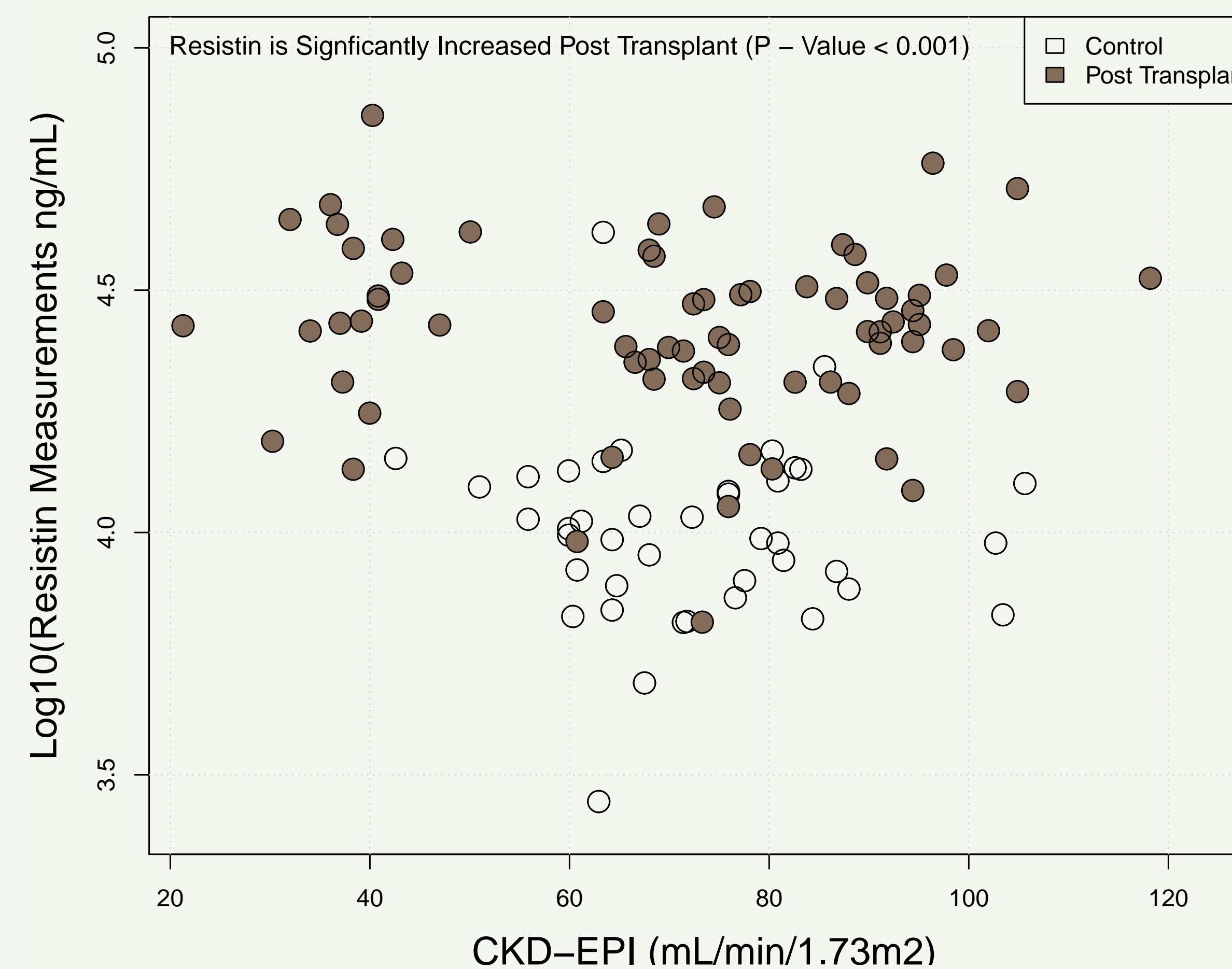
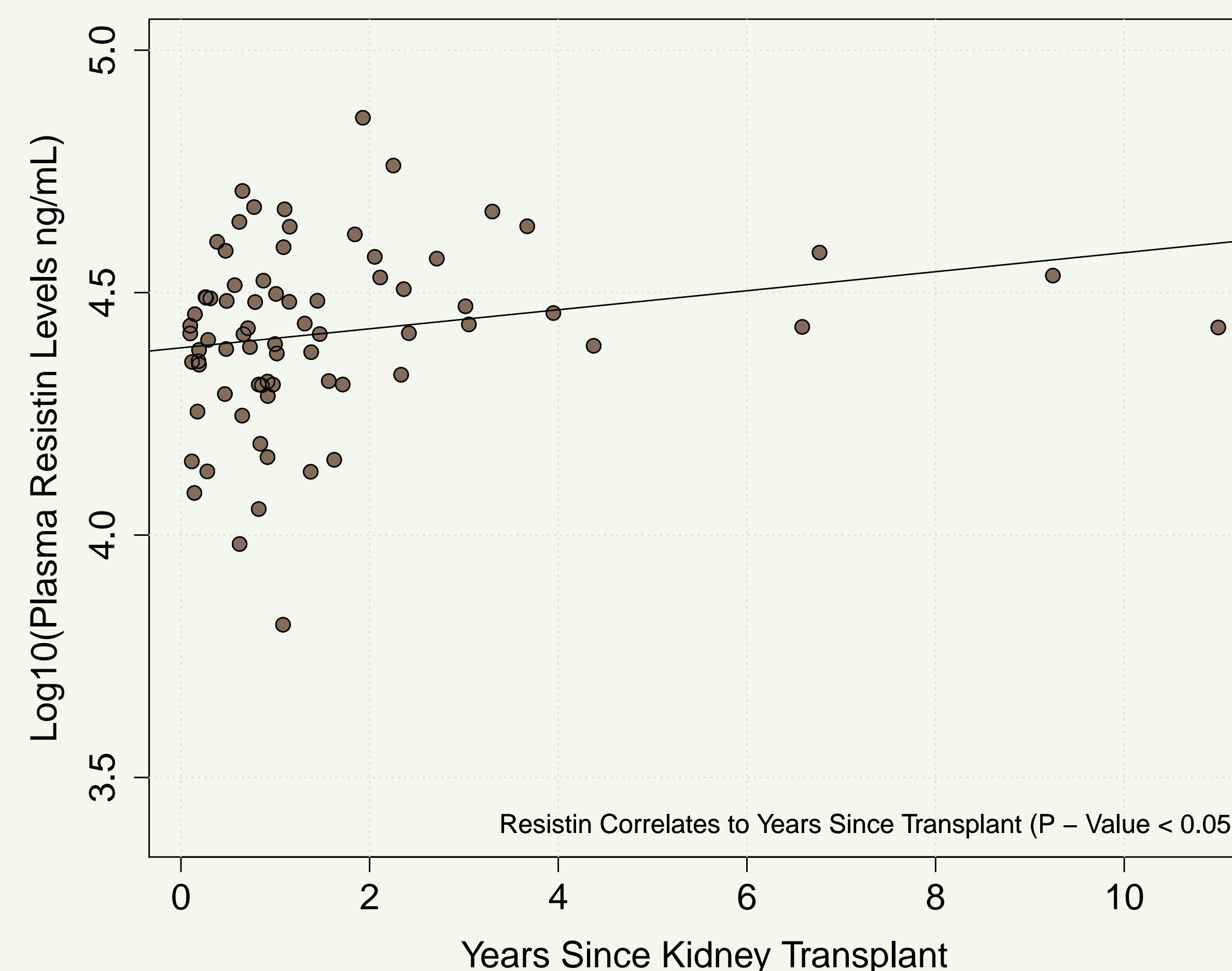


Figure 2: Increased Resistin Levels Correlate to Days Post Transplant



RESULTS

We found that:

- Resistin is significantly higher in kidney transplant recipients one year after transplant than in controls ($P < 0.001$)
- Univariate analysis shows resistin positively correlated with years since transplant ($P < 0.05$)
- Controlling for age, race, BMI, glomerular filtration rate, and diabetes type I and type II, shows that receiving a transplant and years since transplant are still significant factors related to resistin levels
- Controlling for the same variables in the kidney transplant group shows CKD-EPI is not a significant correlate of resistin

CONCLUSIONS

In kidney transplant recipients:

- Increased resistin may be a marker of increased cardiovascular risk in this group
- Improvement in glomerular filtration rate (GFR) compared to chronic kidney disease patients does not explain resistin levels [3]
- Future prospective studies should have longer follow up to measure cardiovascular events and association with resistin

REFERENCES

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- [4] Levey, A.S., Stevens L.A., and Others. A New Equation to Estimate Glomerular Filtration Rate, Annals Of Internal Medicine 150(9) 604-612, 2009

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