

The Impact of Succimer Chelation on Blood Cadmium in Children with Background Exposures: A Randomized Trial

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Conclusion

Our results come from the largest multicenter, placebo-control randomized trial of succimer (or any chelating agent) so far, and show that succimer has no effect on blood cadmium (BCd) after one week, the time point at which succimer shows maximum efficacy for reducing blood lead.

Background

- Cadmium: renal toxicity, hypertension, skeletal disorders
- Early-life low-level exposure: lower IQ
- No known drug to reduce body stores of cadmium in children

Objective

To examine the effect of succimer in reducing blood cadmium concentrations

Methods

- 780 children were randomized to succimer and placebo group
- Inductively coupled plasma mass spectrometry
- Linear quantile regression model

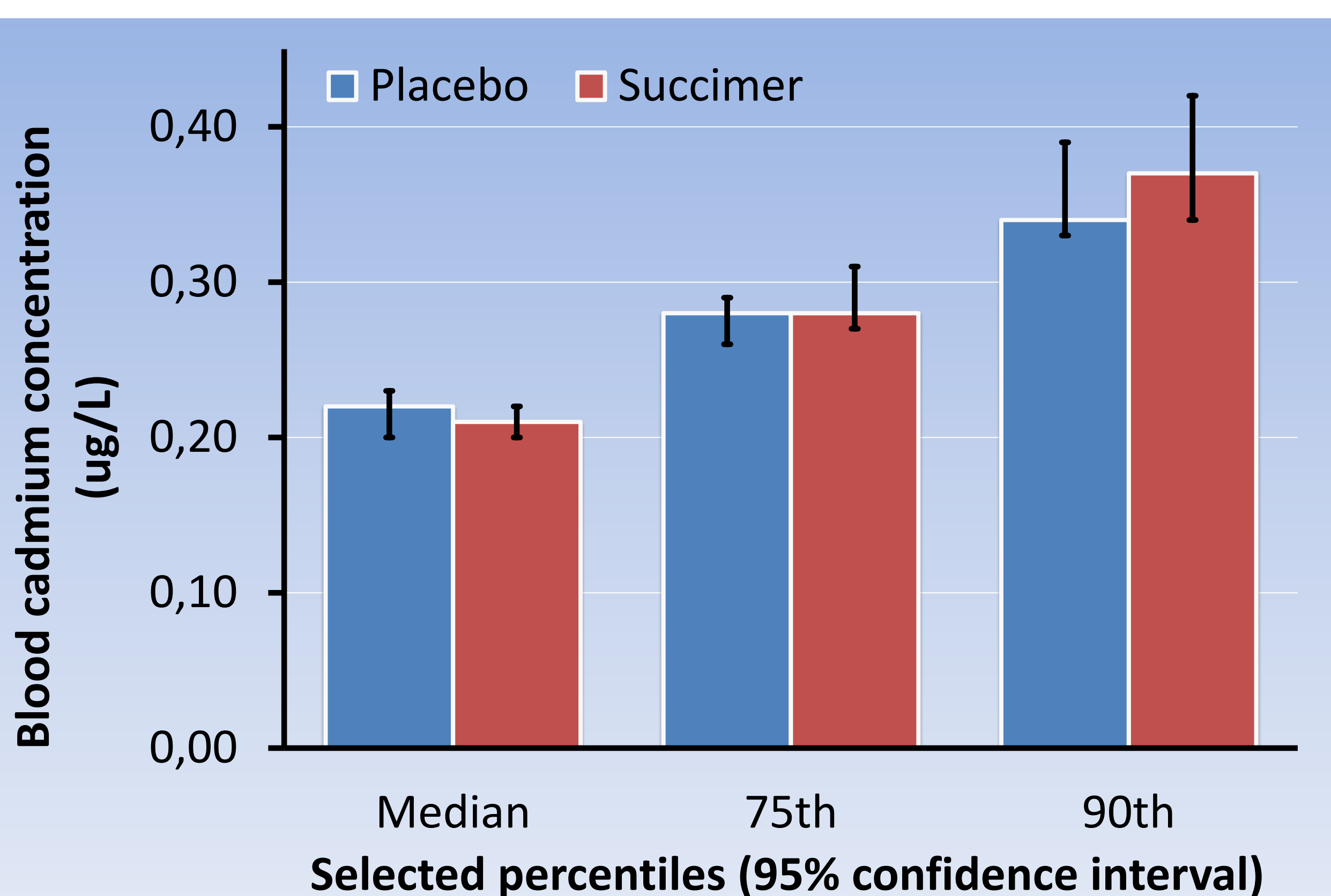


Fig 1. Blood Cadmium concentrations at baseline

Results

- Baseline BCd (median): placebo group 0.22 $\mu\text{g/L}$, succimer group 0.21 $\mu\text{g/L}$ (Fig 1)
- Post-treatment BCd (median): placebo group 0.22 $\mu\text{g/L}$, succimer group 0.21 $\mu\text{g/L}$
- No statistically significant difference between groups in the median, 75th and 90th percentiles, adjusting for age, gender, race, center, body surface area and socioeconomic factors (Fig 2)

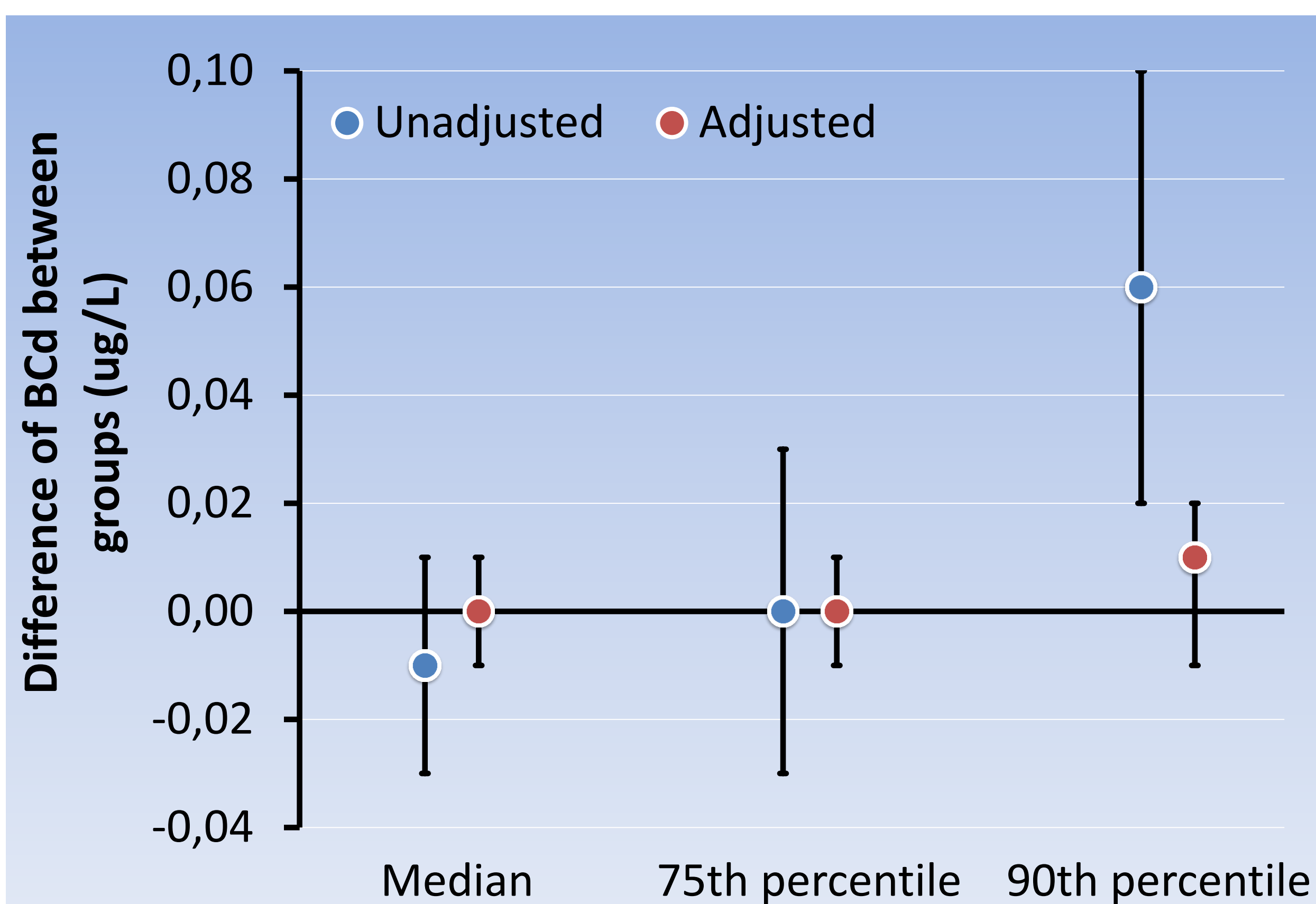
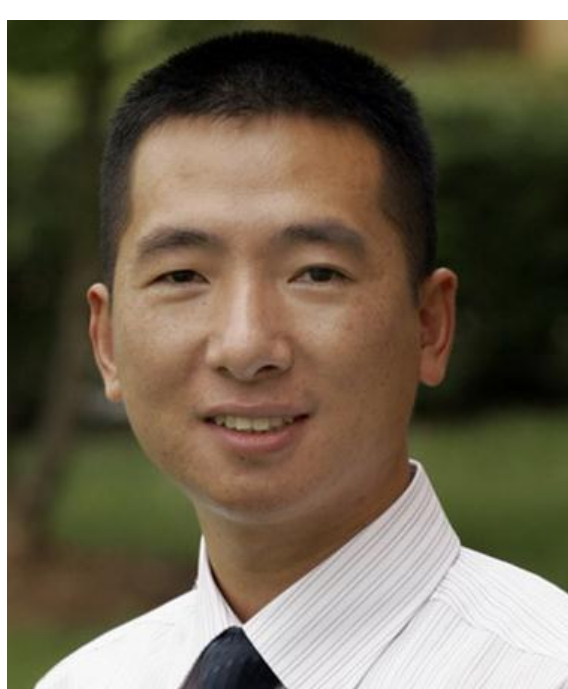


Fig 2. Difference between groups in the median, 75th, and 90th percentile of blood Cadmium concentrations ($\mu\text{g/L}$) after treatment

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