EFFECT OF ALBUMIN ON ASSOCIATION OF SERUM AND MORTALITY IN HEMODIALYSIS PATIENTS

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Introduction

- In contrast to the general population, studies have found an inverse or non-significant association of serum total cholesterol and mortality in chronic hemodialysis (HD) patients, also known as a "lipid paradox".

- We hypothesize that the association between cholesterol and mortality in HD patients may be modified by serum albumin levels.

METHODS

- Across 4 categories of serum albumin (ALB) levels (<3.5, 3.5-3.8, 3.8-4.0, >4.0 g/dL), we examined the associations of cholesterol with 6-yr (2001-2007) all-cause mortality among 53,041 adult HD patients.

- We used continuous time-dependent cholesterol in restricted cubic spline models adjusted for case-mix and markers of the malnutrition-inflammation complex (MICS).

RESULTS

- Patients were 62±16 years old and included 45% women, 31% blacks, and 55% diabetics.

- There were 12,505 patients ALB <3.5 g/dL, 15,272 ALB 3.5-3.8 g/dL, 11,900 ALB 3.8-4.0, and 13,364 ALB >4.0 g/dL

- Using restricted cubic splines with 2 degrees of freedom, we found no significant associations between both lower and higher levels of cholesterol with all-cause mortality in HD patients in any strata of ALB < 4.0 g/dL

- However, patients in the ALB ≥4.0 g/dL showed a significant increase in all-cause mortality for cholesterol >200 .
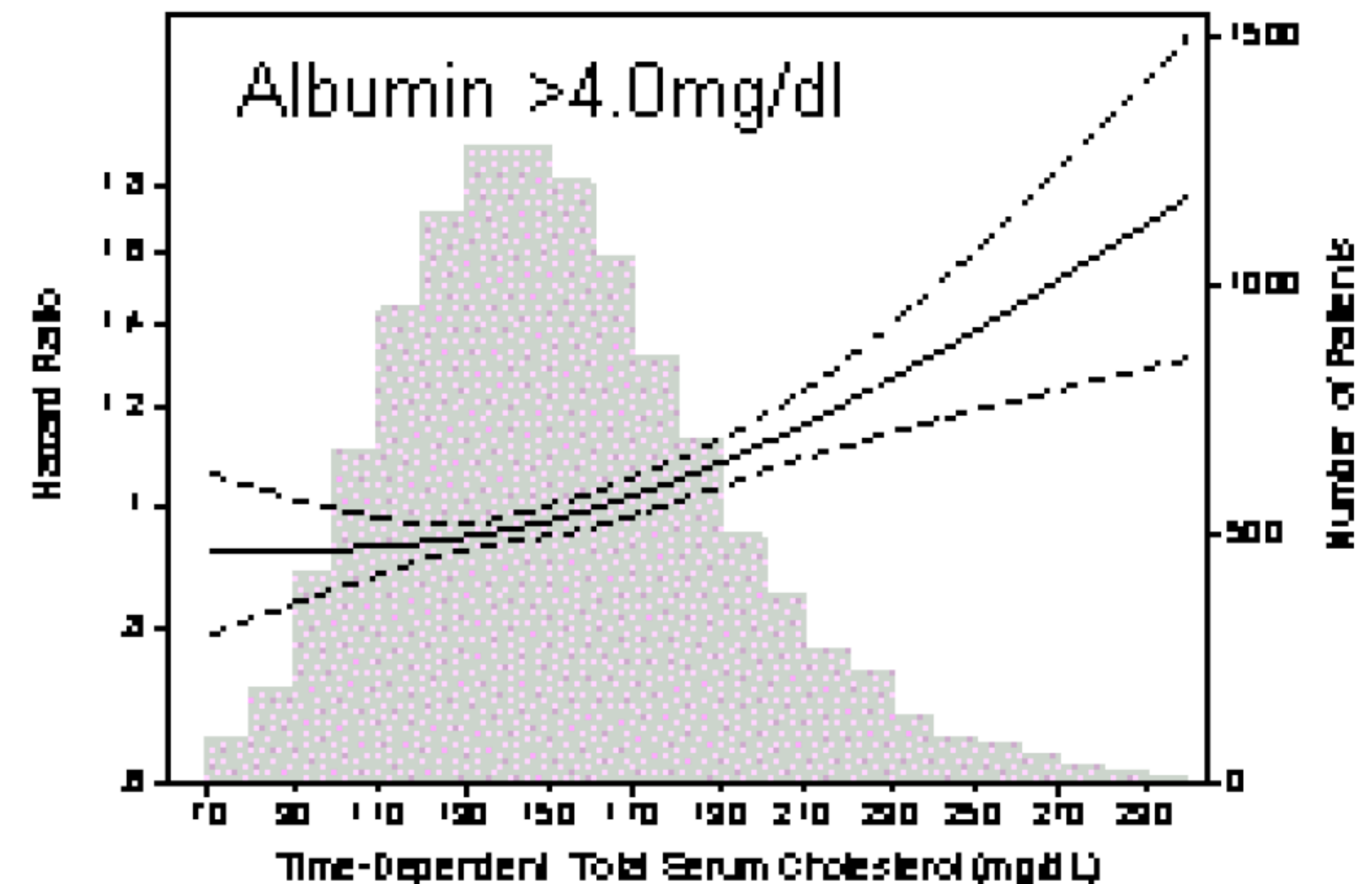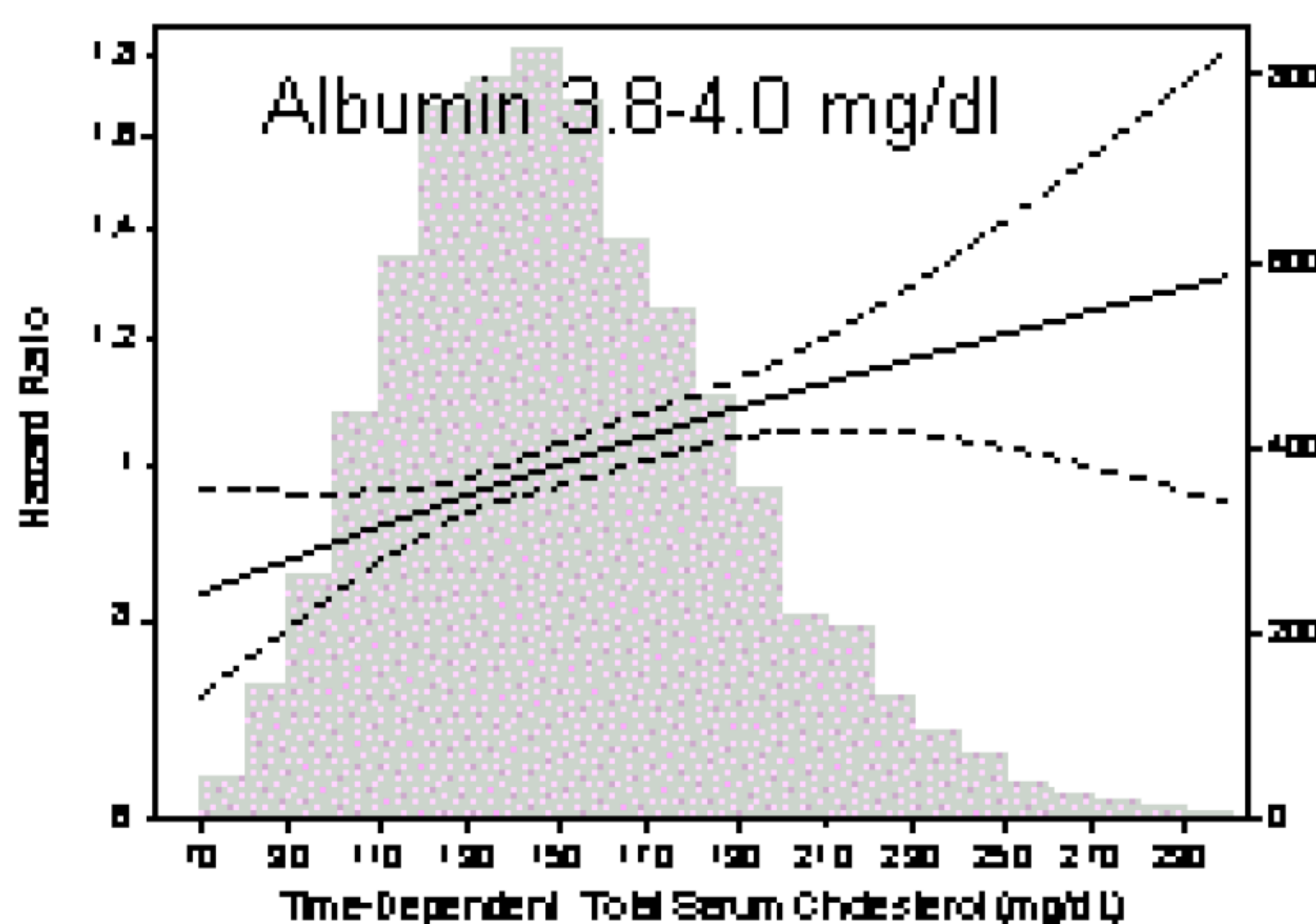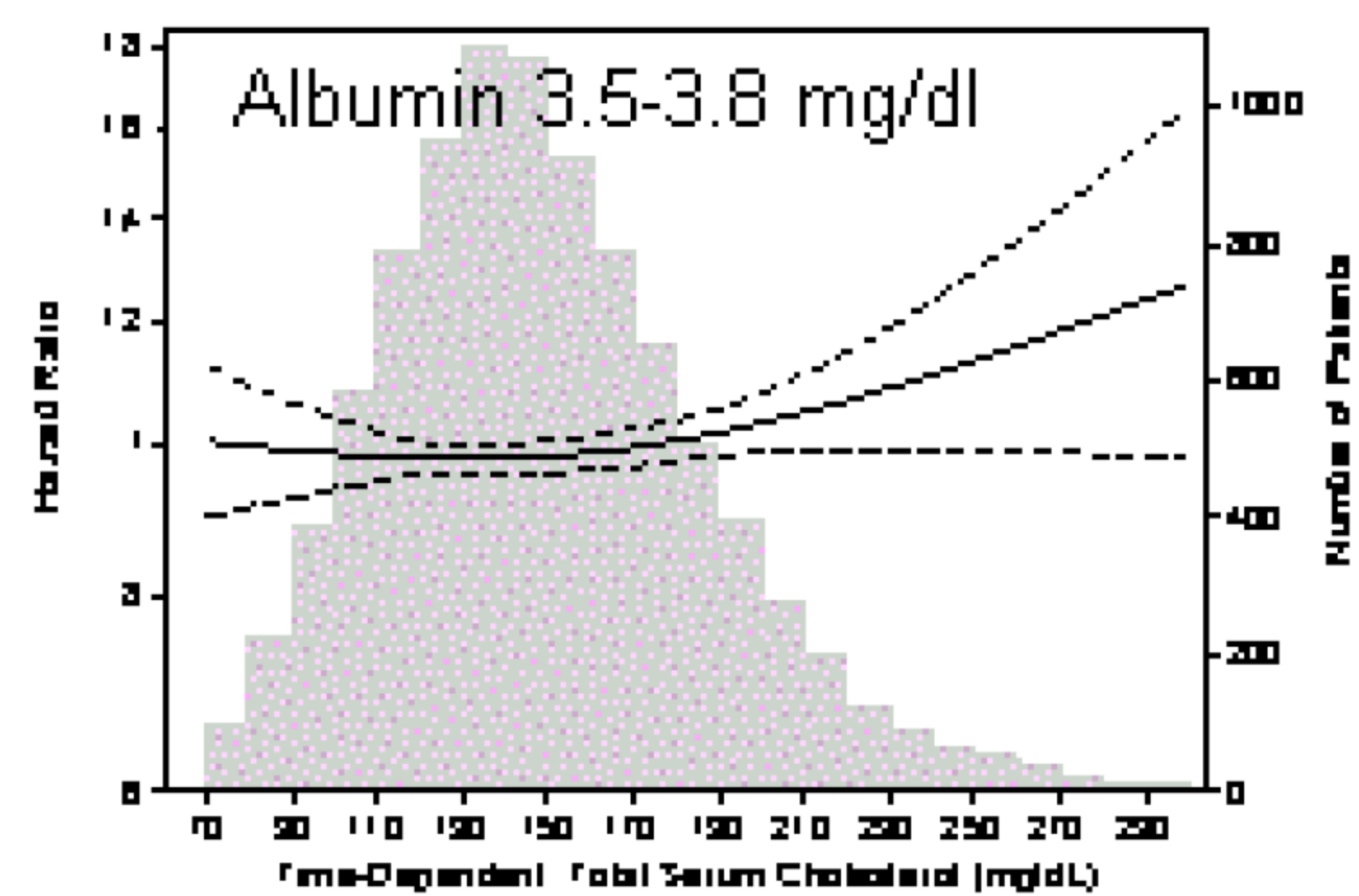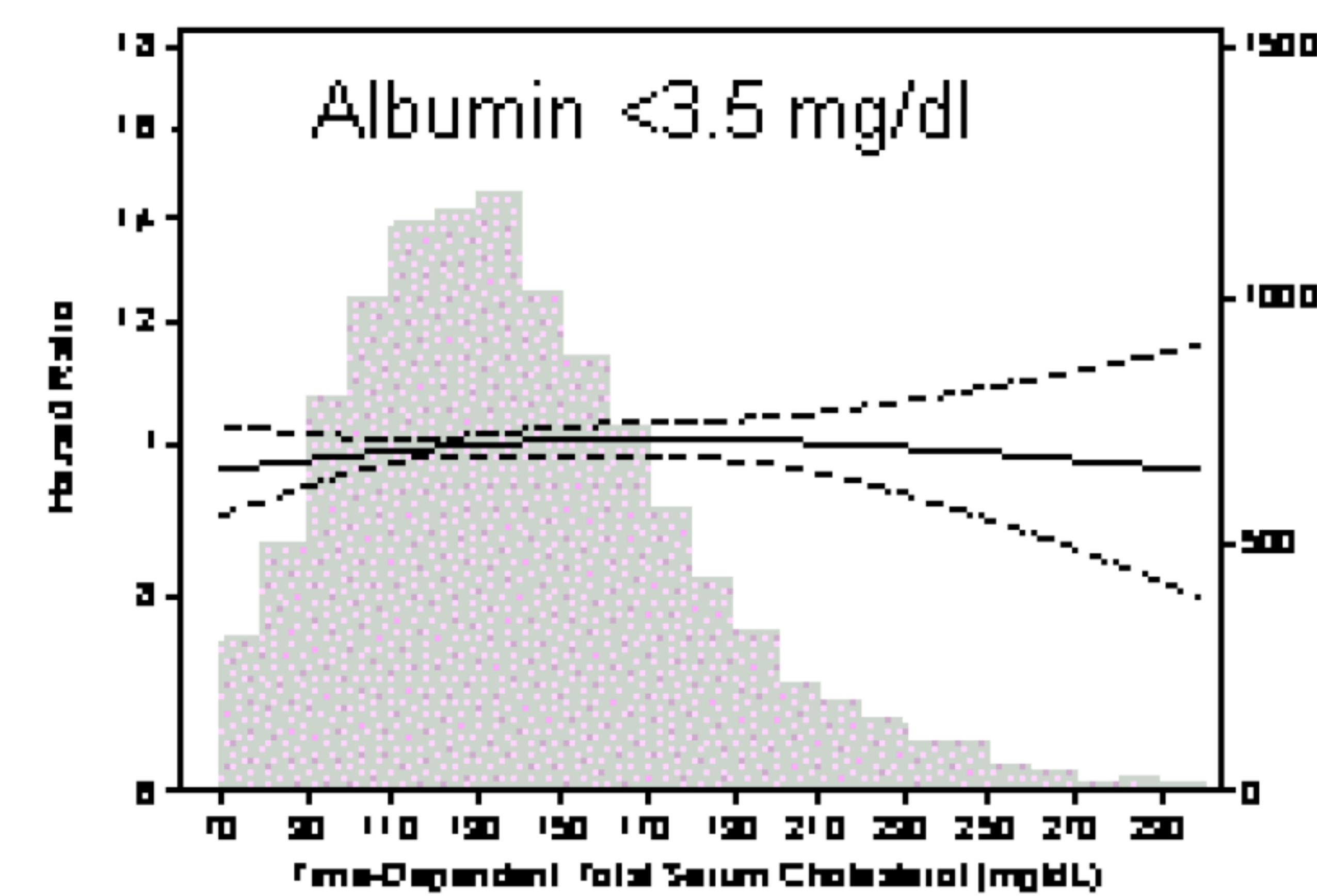
CONCLUSION

- In HD patients with serum albumin level ≥4.0g/dL demonstrate an exception to the lipid paradox where higher levels cholesterol appear associated with increased all-cause mortality.

- In HD patients, there appears to be effect modification of the association between cholesterol and mortality on the basis of serum albumin.

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