

# Hyponatremia Is Uncommon In Levamisole-Positive Patients

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## Background

- Large amounts of cocaine in the US contain levamisole
- Levamisole is a veterinary antihelminthic and immunomodulating agent
- Cocaine has not previously been associated with hyponatremia
- Recent series of 3 cases described patients with:
  - Positive screens for cocaine
  - Positive testing for levamisole
  - Hyponatremia
- Despite ubiquity of cocaine use and levamisole adulteration of cocaine, hyponatremia only reported in these 3 cases
- Hypothesis: The incidence of hyponatremia in levamisole-positive patients will be low and similar to the incidence in levamisole positive patients

## Methods

- Retrospective chart review from single institution
- Cases identified from database of patients with a documented laboratory test result for levamisole
- Charts reviewed for:
  - Demographics
  - Comorbidities
  - Home medications
  - Urine drug screen for cocaine
  - Serum sodium on arrival and at nadir
  - Previously recorded serum sodium, when available
- Population of patients testing positive for levamisole compared to those testing negative for levamisole

Variable	Levamisole – Negative (N=14)	Levamisole-Positive (N=8)	P-Value
Age, years (mean, range)	44 (28-61)	51 (37-63)	
Male, %	36%	50%	
UDS for Cocaine, % positive	71%	100%	
Serum Sodium on Arrival, mEq/L (median, IQR)	135 (132-138)	137 (134-141)	0.47
Lowest Serum Sodium, mEq/L (median, IQR)	135 (133-136)	134 (130-139)	0.82

**Table 1.** Demographic information and serum sodium levels for levamisole-negative and levamisole positive patients.

## Discussion

- Hyponatremia was uncommon in both levamisole-positive and levamisole-negative patients
- Serum sodium levels were similar for both patients testing positive for levamisole and negative for levamisole
- Patients with serum sodium less than 130mEq/L often had other comorbidities that likely explained the hyponatremia

## Conclusions

- Hyponatremia is uncommon in this population of levamisole-positive patients
- Rates were similar between levamisole-positive and levamisole-negative patients in this population

## Limitations

- Small number of cases for comparison
- Retrospective chart review
- Low incidence of hyponatremia in both populations

