

Relationship of 25(OH)D Testing on MBD Outcomes and Medication Utilization in Hemodialysis Patients

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INTRODUCTION

KDIGO recommends evaluation of 25-hydroxyvitamin D [25(OH)D] in patients with stage 5D CKD and repletion with ergocalciferol or cholecalciferol (nutritional) vitamin D given the low serum 25(OH)D levels in this population. Small studies have shown nutritional vitamin D use may improve mineral and bone disease (MBD) outcomes and decrease active vitamin D and erythropoiesis stimulating agents (ESAs) requirements. We evaluated 25(OH)D testing at a dialysis facility level and correlated the percent of patients being tested with MBD outcomes.

METHODOLOGY

- We assessed the 25(OH)D testing patterns of 1393 hemodialysis (HD) facilities.
- All patients treated more than 13 times in 2009 and at a single facility throughout 2009 were included (Tables 1 and 2).
- Of those, the 730 that tested for 25(OH)D deficiency in their patients were grouped by percent of patients in the facility tested in 2009 at any one point in time.
- This was correlated with MBD target outcomes (phosphorus <5.5 mg/dL; corrected calcium <9.5 mg/dL and PTH 150-300 ng/ml) and medication utilization for December 2009.

RESULTS

Table 1. Patients Demographics

Mean ± SD	Treatment
N	119,359
Age (yr)	62.1 ± 15.1
% Male	55.7%
<i>Race and Ethnicity</i>	
% African American	36.8%
% Hispanic	15.8%
% Asian, Pacific Islander	3.8%
% Native American	1.4%
% Unknown	0.1%
% Diabetic	71.6%
Vintage (yr)	3.9 ± 3.7
BMI	27.6 ± 7.2

Table 2. Vitamin D Testing Patterns by Facility

% of Patients in Facility with 25(OH)D Tested	Facilities
None	663
1% to 24%	518
25% to 49%	44
50% to 74%	48
75% to 100%	120

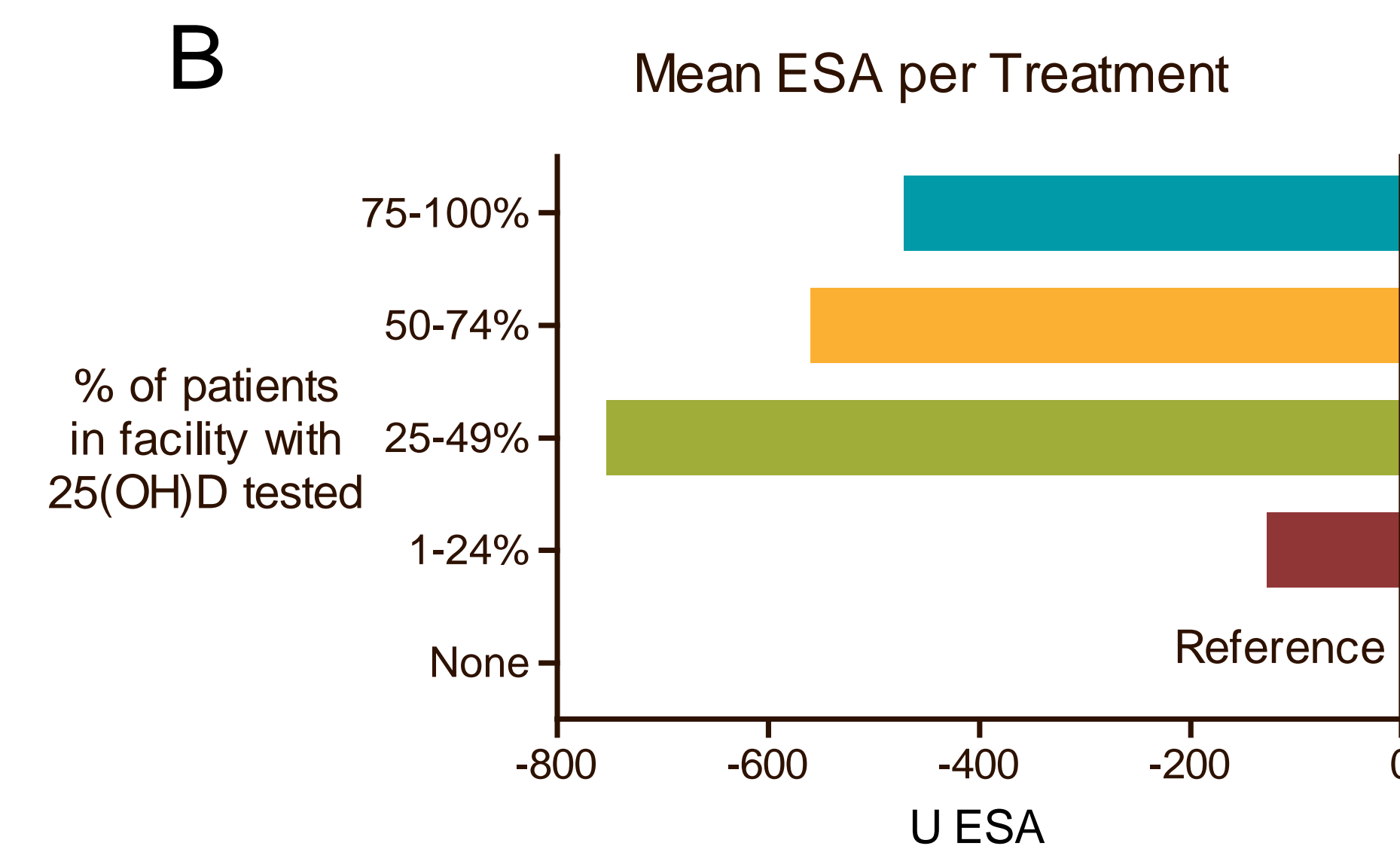
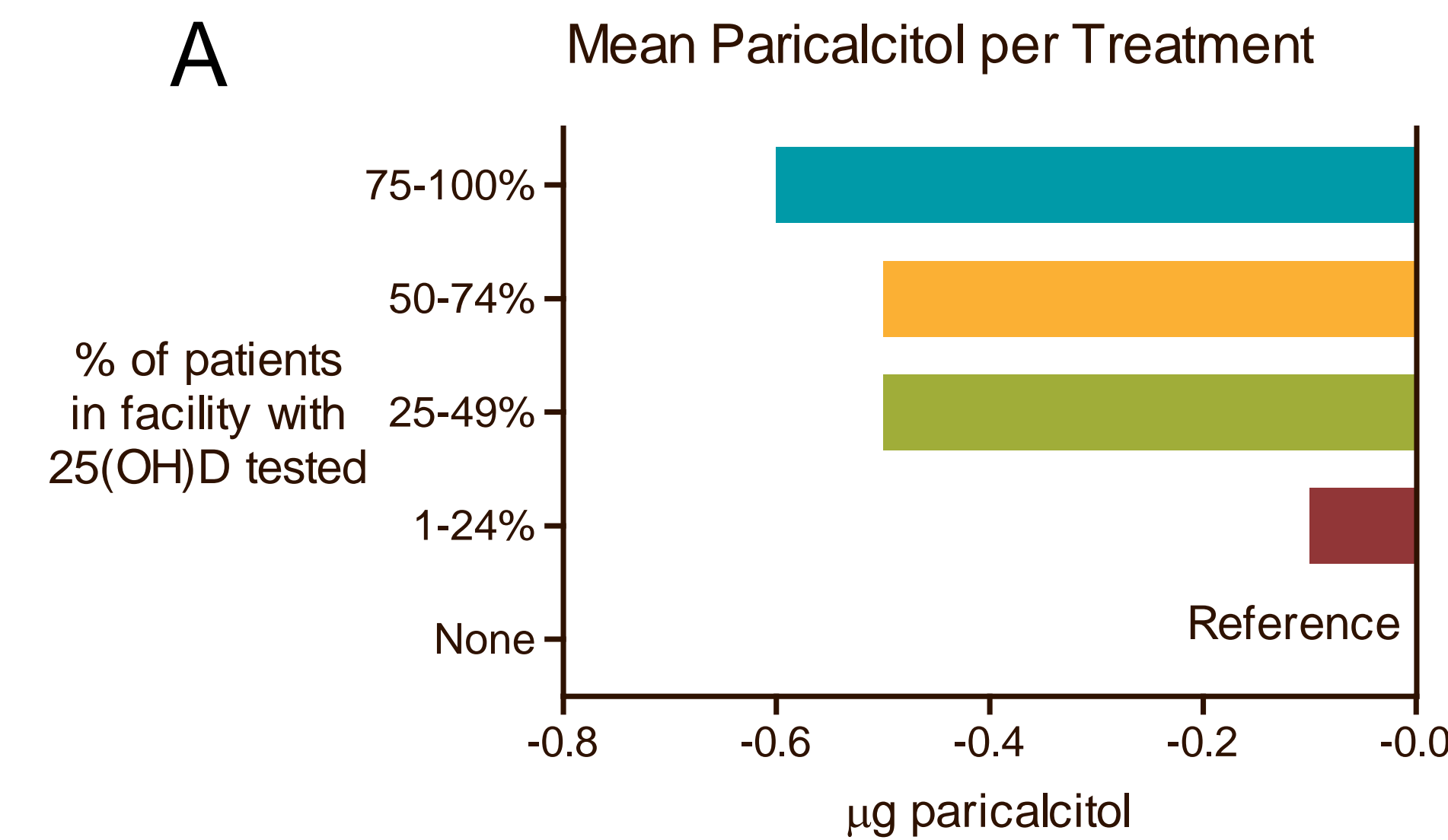


Figure 1. Medication Use by Facility Testing

SUMMARY of RESULTS

- When facilities are stratified by the percent of patients being tested for 25(OH)D levels, the percent of patients meeting the MBD target outcomes (P, Ca and PTH) did not differ.
- Medication use varied with facility testing patterns (Figure 1A and 1B).
- Patients in facilities that selectively test 25(OH)D show lower paricalcitol and ESA doses than those that do not test, despite comparable MBD outcomes.

KEY LEARNINGS

- ✓ We used 25(OH)D testing as a surrogate for detection and treatment of vitamin D deficiency with cholecalciferol or ergocalciferol.
- ✓ Our findings are consistent with those of smaller clinical trials regarding the potential benefits of testing and treatment of 25(OH)D deficiency in ESRD pts.
- ✓ Further prospective clinical trials are warranted.

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