The Utility of Repeat Bone Densitometry in Women on Treatment for Low Bone Mineral Density

Brandon P. Combs, MD,1 Tannier J. Caverly, MD,1 Stephen E. Ross, MD,1 Wendolyn Gozansky, MD, MPH2, Trina Mizrahi, BA1, Daniel D. Mallick, MD, MPH1

1. University of Colorado School of Medicine1
2. Institute for Health Research, Kaiser Permanente Colorado2

Introduction

- 98% of patients initiated on bisphosphonate therapy have an increase in bone mineral density (BMD) and routine monitoring may not be necessary1
- Once treatment is started changes in BMD may be misleading as they can vary widely between individual dual energy x-ray absorptiometry (DXA) scans
- Interventions as a result of random variation (or noise) as opposed to systematic variation (or true variation) are known as tampering2

HYPOTHESIS: Repeat DXA in average risk women on treatment will rarely lead to changes in therapy and increase tampering

Methods

- 1782 patients received ≥1 DXA between Jan 1, 2003 and August 1, 2011 seen at University of Colorado primary care clinics
- Men (n=120) and patients on medications or with conditions known to cause secondary osteoporosis (n=580) were excluded
- Of 1082 patients remaining, 552 were on therapy

Results

- Change not due to DXA
- Due to DXA
- Change in drug class
- Change within class
- Stop drug
- Change not due to DXA

Discussion and Conclusions

- Repeat DXAs rarely led to changes in drug management
- Clinician tampering was evident in response to monitoring DXA
- Conclusion: This study highlights need for additional studies assessing the utility of routine repeat DXA in patients on treatment before this practice can be justified.