## **Foreword**

Virtual Symposium on Osteoporosis

Louis V. Avioli

Shoenberg Professor of Medicine, Professor of Orthopaedic Surgery, Director, Division of Bone and Mineral Diseases, Washington University School of Medicine



Epidemiologists are repeatedly recording the fact that the prevalence of osteoporosis is increasing at an alarming rate, not only in the United States, but in the international community as well (1-3). In fact, a third of postmenopausal white women in the United States can be expected to have lost significant bone in the proximal femur, vertebrae, or midradius (which is often asymptomatic!) at any point in time, resulting in a lifetime risk of hip, vertebral, or midradial fractures after age 50 yr of 35-40% (4). These complications of postmenopausal bone loss, many of which are often unrecognized or treated (5), result in escalating costs for acute medical care and nursing home services (6,7), in addition to chronic pain syndromes, significant performance impairments in physical, functional, and psychosocial domains and premature deaths especially in elderly populations (3,8-10). Consequently, the need for appropriate therapeutic intervention should be considered a priority by the medical community at large. Since the United States FDA has approved estrogens (with progesterone in patients with intact uteri), nasal spray calcitonin, and alendronate bisphosphonate as both "safe" and "effective" in the treatment of osteoporotic syndromes, this symposium was designed to explore the nature of the therapeutic responses to these agents, in order to exemplify how estrogens, nasal spray calcitonin, and/or alendronate can be incorporated into therapeutic regimens designed to minimize bone loss, and to decrease the morbidity and pain of the postmenopausal osteoporotic syndrome.

Although the prevalence of osteoporosis increases with age, the rate of bone loss is accelerated in most women in the decade following menopause as a result of ovarian failure and estrogen loss. A variety of studies have demonstrated that estrogen replacement therapy effectively prevents menopausal bone loss, not the least of which is the recent postmenopausal estrogen/progestin intervention (PEPI) trial, which documented that a 3-yr course of estro-

gen replacement therapy increased bone mineral density in the vertebrae and hip in healthy women 45–64 yr of age (11). Because of uncontrollable side effects, lack of education regarding a variety of established health benefits of estrogen replacement therapy, and/or fear of developing breast cancer, compliance with postmenopausal therapy is characteristically low. In a recent review of 2106 women designed to assess compliance with postmenopausal therapy, 38% of women discontinued therapy 1 yr after it was initiated, and 76% used <80% of the prescribed medication (12).

The availability of nonestrogenic drug regimens that are considered safe and to have established efficacy in osteoporotic populations currently affords physicians viable alternative therapeutic modalities for preventing and treating osteoporotic syndromes in postmenopausal populations.

## References

- Lau, E. M. C. and Cooper, C. (1996). Clin. Orthopaedics Related Res. 323, 65-74.
- 2. Avioli, L. V. (1991). Calcified Tissue Int. 49, S5-S7
- 3. Melton, III, L. J. (1993). Bone 14, S1-S8.
- 4. Cooper, C. and and Melton, III, L. J. (1996). In Osteoporosis (Academic Press, Inc.), pp. 419-434.
- Abbasi, A. A., Rudman, D., Wilson, C. R., Drinka, P. J., Basu, S. N., Mattson, D. E., and Richardson, T. J. (1995). Am. J. Med. Sci. 310, 229-234.
- 6. Norris, R. J. (1992). Bone 13, S11-S16.
- Chrischilles, E., Shireman, T., and Wallace, R. (1994). Bone 15, 377–386.
- 8. Heggeness, M. H. (1993). Osteoporosis Int. 3, 215-221.
- Lyles, K. W., Gold, D. T., Shipp, K. M., Pieper, C. F. Martinez, S., and Mulhausen, P. L. (1993). Am. J. Med. Sci. 94, 595-601.
- Ross, P. D., Davis, J. W., Epstein, R. S., and Wasnich, R. D. (1994). J. Clin. Epidemiol. 47, 231-239.
- The Writing Group for the PEPI Trial (1996). JAMA 276, 1389-1396.
- 12. Berman, R. S., et. al. (1996). J. Women Health 5, 213-220.