



Review Article

Efficacy of Bioarginina® C Supplementation in the Management of Patients with Osteoporosis: A Clinical Observation

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Abstract

This study evaluates the clinical impact of Bioarginina® C (L-Arginine and Liposomal Vitamin C) as an adjuvant therapy in patients diagnosed with primary or secondary osteoporosis and concomitant Vitamin D deficiency. While standard Vitamin D supplementation requires several months to reach optimal blood levels and improve symptoms, this study assesses whether Bioarginina® C provides a faster recovery of physical strength and psychological well-being. Results indicate significant improvements in patient-reported outcomes (fatigue, mood, and strength perception) within 30 to 90 days.

Introduction

Osteoporosis is a systemic skeletal disorder characterized by low bone mass and microarchitectural deterioration of bone tissue, leading to increased bone fragility and susceptibility to fractures [3]. It is often asymptomatic until a low-energy trauma or spontaneous fracture occurs [3]. Common clinical indicators include a decrease in somatic height or increased dorsal kyphosis [4].

Vitamin D deficiency is prevalent in over 70% of osteoporosis cases [5]. Unlike the silent nature of osteoporosis, Vitamin D deficiency manifests through generalized symptoms such as fatigue, muscle pain, mood deflection, and increased fall risk [5]. In elderly patients, this is frequently associated with sarcopenia — a loss of muscle mass and strength that further exacerbates the risk of falls and disability [5].

Current therapeutic protocols involve anti-osteoporotic drugs combined with Calcium and Vitamin D supplementation. However, achieving therapeutic serum levels of Vitamin D typically takes 3 to 4 months, during which patients may not perceive symptomatic relief. This study investigates Bioarginina® C as a means to bridge

this “symptomatic gap”.

Materials and Methods

Patient Selection

The study involved 25 patients (22 women, 3 men) aged between 50 and 84 years, treated at the Gaeta Hospital Osteoporosis Clinic. All patients were at their first visit and had not previously undergone specific osteoporosis treatment.

Inclusion Criteria:

- Diagnosis of primary or secondary osteoporosis via DXA (femoral and lumbar) and vertebral morphometry.
- Vitamin D deficiency or insufficiency (serum levels between 5 and 27 ng/mL).
- Presence of at least one symptom related to Vitamin D deficiency or sarcopenia (asthenia, reduced strength, low mood).

Exclusion Criteria:

- Known hypersensitivity to product components.
- Severe hepatic or renal failure.

- Hypotension.
- Concurrent use of other sarcopenia-specific supplements.

Treatment Protocol

In addition to standard anti-osteoporotic therapy and Vitamin D/ Calcium supplementation, patients were prescribed:

- **Phase 1 (Days 1-30):** 2 vials of Bioarginina C daily, taken between meals.
- **Phase 2 (Days 31-90):** 1 vial of Bioarginina C daily.

Assessment Tools

- **Physical Strength:** Measured via an electronic handgrip dynamometer at Day 0, Day 30, and Day 90.
- **Asthenia/Fatigue:** Evaluated using a modified Brief Fatigue Inventory (BFI).
- **Serum Levels:** Vitamin D titration at Day 0 and Day 90.

Results

Strength and Physical Performance

After 30 days, dynamometer tests showed minimal variations: 9 patients had slight decreases and 7 had slight increases in grip strength, but all remained within their baseline range (weak, normal, or strong). Even at 90 days, scientific data did not show significant objective changes in dynamometric measurements.

Patient Satisfaction and Symptomatology

In contrast to objective strength metrics, subjective improvement was high:

- **Day 30:** 11 patients reported improvement; 3 were “very satisfied” and 1 reported “great appreciation” for the results.
- **Day 90:** 5 out of 6 follow-up patients reported a clear improvement in satisfaction.

- **Day 120 (Phone Interview):** Out of 18 respondents, 4 reported good reduction in symptoms and 4 noted major improvements.

Biochemical Markers

At the 90-day mark, all patients showed significantly improved Vitamin D serum levels compared to baseline.

Discussion and Conclusion

Bioarginina C proved effective in counteracting symptoms associated with osteoporosis, particularly in patients with severe hypovitaminosis D and sarcopenia. The primary benefit observed was the speed of response. While Vitamin D supplementation takes months to normalize blood levels, Bioarginina C provided immediate perceived benefits, including reduced fatigue, improved mood, and decreased muscle pain.

Although objective handgrip strength did not change significantly, the psychological and clinical performance of the patients improved. We conclude that Bioarginina C is a valuable integrative therapy that accelerates the recovery process and enhances the overall well-being of patients undergoing osteoporosis treatment.

References

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