

Effect of Magnesium and Progesterone on Bone Mineral Density (BMD) without any Calcium supplements

Rebuilding Bone Mineral Density (BMD) is a slow process after menopause especially after taking Calcium supplements for a long period. As we are now well aware, that Calcium supplements taken on a long term basis depletes Magnesium stores from the body. Magnesium is an important constituent in bone remodeling which gives flexibility to the bones and helps prevent fractures. Progesterone Hormone is also an important constituent in bone building, hence lack of this hormone in post menopausal women leads to higher incidence of Osteopenia and Osteoporosis. Prolonged Calcium supplements usage in the absence of progesterone hormone led to Osteopenia and Osteoporosis in this case.

Correcting this situation takes time but with adequate intracellular nutrition especially Organic Magnesium and Natural Progesterone, Osteopenia and Osteoporosis can be arrested and reversed.

In this case, after 9 months of treatment with Organic Magnesium (Org. Magnesium Forte and Magna Pak II) and Natural Progesterone (Progest XL / Women's XL Gel) along with other necessary nutritional supplements, we can already see a significant improvement in BMD at the level of Femur (Hip Joint). In the table given below we have shown the comparison of BMD studies done in end November 2008 and end November 2009.

	November 2008	November 2009	Increase
Femur			
BMD	0.508gms/cm ²	0.54gms/cm ²	0.032gms/cm ² = 6%
T Score	- 3.1	- 2.8	0.3 = 10 %
Vertebral Column			
BMD	0.959gms/cms ²	0.966gms/cms ²	0.007 = 1%
T Score	- 2	- 2	

Comparison of the results shows that there is a **6%** improvement in BMD / **10%** improvement in T Score at the Femur and **1%** improvement in BMD at the Vertebral column which is significant within this short span of 9 months (March to November 2009). This is in addition to the regular loss of Calcium (about 2.0%) each year from the bones in the absence of any Hormonal support. This meets the statistical expectation of BMD increase with the use of Bioidentical Progesterone as per the Graph given below which shows a 15% increase in Bone Mineral Density over a 3 year period.

Putting sincere efforts in following the prescription given, will help achieve the desired effects in time as the patient's body seems to be responding well to the treatment for reversal of Osteopenia and Osteoporosis.

Summary:

In the absence of any treatment, the loss of BMD would have been about 2% during this period. The overall BMD benefit of treatment has been therefore **2.0% + 6.0% = 8.0%**. In addition, the use of Magnesium has resulted in Bone Flexibility which has further reduce the risk of future Fractures considerably. An increase in BMD corresponds to **reduction in Hip Fracture Risk**. *The addition of Bone Flexibility, will reduce Bone Fracture Risks still further.*

Case Study - Increasing Bone Mineral Density / Flexibility
Effect of Magnesium and Bioidentical Progesterone
on Bone Mineral Density (BMD)
without any Calcium Supplements

Patient: Female, Age: 48, Height: 5ft 1 in., Weight: 107.2 lbs / 48.7 Kg Fat = 21.8% (-), BP = 87 / 59, Pulse = 70, Diet: Vegetarian (Ref: JG)			
	*11/27/2008	**11/24/2009	Improvement
Femur			
BMD	0.508gms/cm²	0.54gms/cm²	0.032gms/cm² = 6%
T-Score	- 3.1	- 2.8	0.3 = 10 %
Vertebral Column			
BMD	0.959gms/cms²	0.966gms/cms²	0.007 = 1%
T-Score	- 2	- 2	
Organic Magnesium (Forte) 180mg/100 capsules		8 bottles of 100 caps each	
Magna-Pak II - 50 single sachets		7 boxes of 50 sachets each	
Progest XL Gel (50mg/g) - 15 Gms		3 bottles	
Women's XL Gel – 50/2.5/2.0 mg/g		1 bottle	
Triest - LD Gel (0.6mg/g) - 15 Gms		1 bottles	
Organic Zinc (Forte) 100 mg 60 capsules		2 bottles of 60 caps each	
* These readings are prior to starting the Whole Body Detoxification and Rejuvenation Program along with Intracellular Nutritional supplements. The Program started from 02/22/2009			
** These are the readings recorded after 9 months (March to November) of treatment with Organic Magnesium with other supporting essential nutritional supplements and , Progest XL Gel (Bioidentical Progesterone).			
World Health Organization (WHO) criteria for Osteoporosis: Normal: T-Score at or above -1 SD Osteopenia: T-Score between -1 and -2.5 SD Osteoporosis: T-Score at or below -2.5 SD			

Table 01 – Reducing Risk of Fracture
by increasing Bone Mineral Density
and Bone Flexibility
through insertion of Magnesium into Bone Lattice Structure
and use of Bioidentical Progesterone to promote Bone Building

Case Study - Reversal of Osteoporosis **Jan 08, 2011**
Increasing Bone Mineral Density / Flexibility
Effect of Magnesium and Bioidentical Progesterone
on Bone Mineral Density (BMD)
without any Calcium Supplements

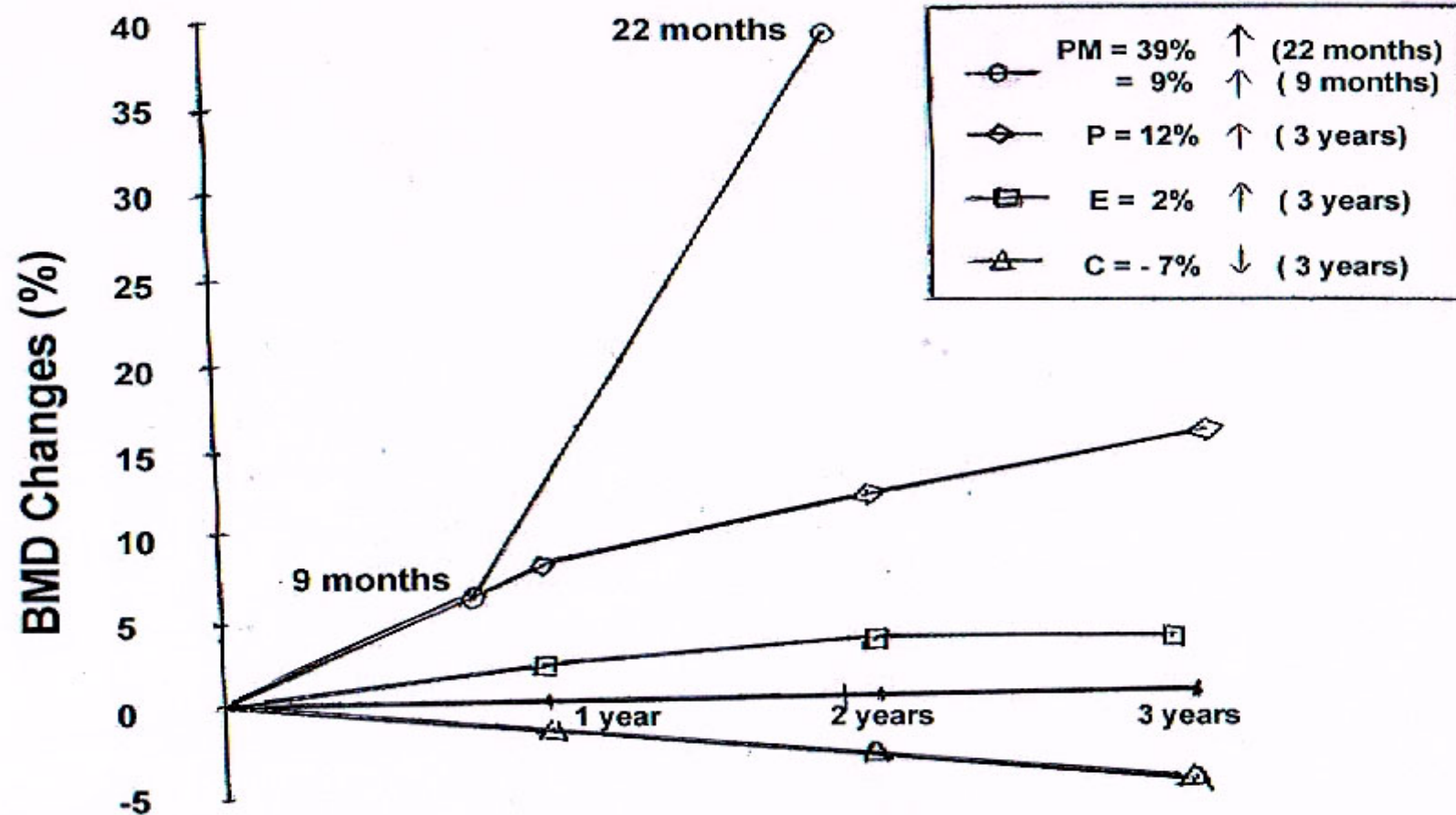
Patient: Female, Age: 49, Height: 5ft 1 in., Weight: 118.6 lbs / 53.9 Kg.
Fat = 29.8% (0), BP = 100 / 70, Pulse = 71, Diet: Vegetarian (Ref: JG)

	*November 2008	November 2009	Increase 9 months	**January 2011	Increase 13 months
Femur (Hip Joint)					
BMD (grams/cm²)	0.508	0.54	0.032 = 6%	0.705	0.165 = 30%
T-Score	- 3.1	- 2.8	0.3 = 10 %	-1.75	1.05 = 38 %
Vertebral Column (L1 – L4) / Spinal Column					
BMD (L1 – L4) (grams/cm²)	0.941	0.951	0.010 = 1%	0.937	-0.014 = -1.5%
T-Score	- 2	- 1.9	0.10 = 5%	-1.5	0.5 = 20 %
Forearm					
BMD (grams/cm²)	?	?	NA	0.599	
T-Score	?	?	NA	- 2.88	
<p>* T-Score Femur in Nov 2008 is indicative of severe Osteoporosis. Increase in Femur BMD over a 9 month period of treatment beginning March 2009 is 6%</p>					
<p>** T-Score Femur in Jan 2011 is indicative of reversal of Osteoporosis to Osteopenia. Increase in Femur BMD over the next 13 month period of treatment is 30%. Total increase in Femur BMD over a 22 month period beginning March 2009 is 39%. There is a 20% improvement in T-Score in the Vertebral Column over a 13 month period. The Forearm continues to show Osteoporosis with a T-Score of -2.88. It is anticipated that there will be more improvements in T-Scores in the coming 12 month period. The Forearm which seems to be lagging behind, should soon catch up as the BMD of the Femur and Vertebral Column increase further to move from Osteopenia to Normal – T-Score above -1.0.</p>					
<p>Note: Patient experienced a premature menopause at the age of 40 years. This may have been triggered due to tubal ligation done years earlier. The end result was, serious osteoporosis was detected at an early age of about 45 years.</p>					
<p>World Health Organization (WHO) criteria for Osteoporosis: Normal: T-Score at or above -1 SD Osteopenia: T-Score between -1 and -2.5 SD Osteoporosis: T-Score at or below -2.5 SD</p>					

(updated as of Jan 08, 2011)

Table 02 – Reducing Risk of Fracture
by increasing Bone Mineral Density
and Bone Flexibility
through insertion of Magnesium into Bone Lattice Structure
and use of Bioidentical Progesterone to promote Bone Building

Natural Progesterone + Magnesium Stimulates Bone Building



Typical 3 years Bone Mineral Density (BMD) changes using:

- Bio-identical Progesterone + Orthomolecular Magnesium (PM);
- Bio-identical Progesterone (P);
- Estrogen only (E); and
- Control (C) (i.e., without Bio-identical Hormone and / or Calcium Therapy)