AIMS & OBJECTIVES
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Pulsed Electro-magnetic Field exposure has been shown to prevent as well as to promote restoration of the bone loss in osteoporotic bones. Furthermore it has been shown to protect against ovariectomy induced decreases of calcium and phosphorus concentration, bone mineral density and bone mineral content during experimental osteoporosis. Besides mineralogical enrichment bone cell proliferation and differentiation have also been shown. These findings support the hypothesis that Pulsed Electromagnetic Field Exposure might have favorable effect on the prevention of osteoporosis.

However most advancement in this area of research is performed by inductive field exposure, which is suitable for in vitro experiments. Inductive field expose the whole body through inductive coil which may affect other organs too. Before any conclusion can be drawn about usefulness of pulsed electromagnetic field exposure for the prevention of osteoporosis, a study including Capacitive Coupling of pulsed electromagnetic field (CC-PEMF) to induced osteoporosis is necessary.

With this background in present work we made an attempt to study the following parameters:
1. To evaluate the effect of CC-PEMF exposure on induced osteoporotic rat bone mineralogy.
2. To evaluate whether CC-PEMF offers any densitometric changes in induced osteoporotic rat bones.
3. Whether there is any change in CC-PEMF exposed cortical and cancellous bones of osteoporotic rat.
4. To evaluate the effect of CC-PEMF on bone cell proliferation in induced osteoporotic rat bones.
5. To evaluate the effect of CC-PEMF on collagen formation of induced osteoporotic rat bones.
6. To evaluate whether there is any genotoxic effect of CC-PEMF exposure on bone cells.