Abstract
Bone markers were studied in 28 healthy premenopausal women (GT), living in Comodoro Rivadavia (Argentina), aged 33.2 ± 8.5 years (22-49), with normal femoral neck and lumbar spine (L2-L4) bone mineral density. Usual daily calcium intake (CaI), presented a median value and ranges of 568 (190-2.117) (mg/day). A subgroup of 7 women (GS) whith CaI lower than 700 mg/day received 800 mg/day of Ca (Ca citrate) during 4 months, under medical supervision. Fasting blood samples and 24 hs urine were collected at the beginning (To) in GT and after the supplementation period (Tf) in GS. Laboratory determinations were: calcium (Ca), creatinine (Crea) and deoxypiridinoline (Dpyr) (Pyrilinks, MetraBiosystems), in urine; crosslaps (CTX) (ELISA, Osteometer, BioTech) and bone alkaline phosphatase (BAPh) (after a selective precipitation with wheat-germ-lectine), in serum. The bone markers in GT and GS, at To, presented the following median values and ranges (between brackets), respectively: Ca/crea (mg/mg): 0.110 (0.014-0.372); 0.089 (0.051-0.181); Dpir/crea (nM/mM): 5.2 (3.4-10.3); 5.2 (3.6-10.3); CTX (nM): 2.25 (0.30-6.20); 2.25 (1.49-5.20); BAPh (UI/L): 58 (52-64); 58 (56-62). CTX was the only marker that at Tf showed a significant decrease (p = 0.0175), suggesting its usefulness and sensibility to evidence the benefits of Ca supplementation to achieve a decrease in bone resorption.

Keywords
Bone biochemical markers, calcium intake, premenopause, calcium supplementation.