|  |  |  |
| --- | --- | --- |
| Bone Parameters | Virgin | Lactation |
| WT | KO | WT | KO |
| **Femoral cortical bone parameters** |
| Ct. B. Ar/T. Ar (%) | 47.4 ± 1.2 | 48 ± 1 | 35.2 ± 1.8**a** | 37.5 ± 1.8**b**, **c** |
| Ct. Th (mm) | 0.18 ± 0.004 | 0.19 ± 0.005 | 0.13 ± 0.004**a** | 0.14 ± 0.01**b**, **c** |
| Ps. Pm (mm) | 5.16 ± 0.2 | 5.2 ± 0.06 | 5.18 ± 0.16 | 5.2 ± 0.14 |
| Es. Pm (mm) | 3.95 ± 0.1 | 4 ± 0.13 | 4.4 ± 0.11a | 4.3 ± 0.09b |
| Marrow cavity area (mm2) | 0.93 ± 0.1 | 0.93 ± 0.04 | 1.16 ± 0.05a | 1.13 ± 0.05b |
| **Femoral trabecular bone parameters** |
| BV/TV (%) | 3.7 ± 1 | 4.5 ± 0.8 | 3.1 ± 0.7 | 4 ± 1.1 |
| Tb. Th (mm) | 0.043 ± 0.002 | 0.044 ± 0.001 | 0.039 ± 0.002a | 0.039 ± 0.001b |
| Tb. Sp (mm) | 0.37 ± 0.05 | 0.36 ± 0.03 | 0.57 ± 0.15a | 0.44 ± 0.09 |
| Tb. N (1/mm) | 0.85 ± 0.2 | 1.06 ± 0.2 | 0.8 ±0.2 | 1.04 ± 0.25 |
| Bone parameters | Change | % Change |
| WT | KO |
| Cortical Bone Area Fraction | Decrease | 26% | 22% \* |
| Cortical Thickness | Decrease | 29% | 24% \* |
| Ultimate Force | Decrease | 38% | 31% \* |
| Osteoclast Number/ bone parameter | Increase | 141% | 129% |
| TRAP-positive osteocytes | Increase | 101% | 175% \* |
| Lacunar Area | Increase | 26% | 15% \* |
| Serum RANKL | Increase | 170% | 80% \* |

**Supplementary Table 1: FNDC5 KO mice femurs are partially resistant to lactation-induced bone loss.**

Femoral cortical and trabecular bone parameters of WT and FNDC5 KO female virgin and lactation mice. n = 5-8/group. Data presented as mean ± standard deviation. a= significant compared to WT control, b= significant compared to KO control, c= significant compared to WT low Ca diet, 2-way ANOVA, significance <0.05, n= 8/group.

Percentage change in different bone and serum parameters in WT and FNDC5 KO female mice with lactation. \*= p<0.05 compared to WT.