Table 1. Comparison between demographic, laboratories, osteoporosis diagnosis criteria and risk factors in osteoporotic and healthy age matched post-menopausal women (CI=

Confidence interval).

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| variables(mean, CI) | Case(No#44) | Control(No#44 ) | P value |
| Age | 64.22 (59.88-68.30 | 63.67(61.80-65.69) |  0.33  |
| BMI | 30.47(28.82-32.33) | 27.52(26.03-28.92) | 0.015 |
| Exercise | 1(2.3%) | 11(26.2%) | 0.002 |
| Smoking | 2(4.7%) | 1(2.4%) | 0.57 |
| HLP | 4(9.3%) | 6(14.3%) | 0.47 |
| DM | 2(4.7%) | 3(7.0%) | 0.64 |
| HTN | 2(4.7%) | 4(9.3%) | 0.39 |
| Systolic blood pressure (mmHg) | 121.89(117.81-126.15) | 125.12(119.73-131.19) | 0.36 |
| Diastolic blood pressure (mmHg) | 78.65(74.69-80.25) | 77.32 (74.69-80.25) | 0.48 |
| CRP(ng/ml) | 3251.33(2583.48-3957.419) | 3157.97 (2579.69-3772.907) | 0.83 |
| SAA(ng/ml) | 419.25(319.30-525.55) | 360.07 (280.13-442.16) | 0.39 |
| 25-OHvitamin D(ng/ml) | 32.26(25.35-39.64) | 31.62 (26.95-36.60) | 0.88 |
| Calcium (mg/dl) | 9.14(9-9.27) | 9.11(8.97-6.26) | 0.79 |
| Alkaline Phosphatase (mg/dl) | 161.77(147.46-175.77) | 144.91(134.53-155.13) | 0.06 |
| FBS (mg/dl) | 106.30(101.90-111.45) | 105.79 (102.21-109.19) | 0.86 |
| TG(mg/dL) | 102.09(91.30-113.60) | 112.05 (102.16-123.41) | 0.20 |
| cholesterol(mg/dL) | 213.40(202.73-224.47) | 221.21(208.82-234.41) | 0.38 |
| HDL(mg/dL) | 59.16(56.03-62.67) | 58.56 (55.35-61.85) | 0.80 |
| LDL(mg/dL) | 107.67(100.58-115.15) | 114.51(106.15-123.46) | 0.24 |
| Total BMD(spine) | 0.674(0.646-.702) | 0.984 (0.962-1.007) | <0.001 |
| Total T score(spine) | -3.391(-3.644- -3.130) | -0.570 (-0.760 - -0.360) | <0.001 |
| Total Z score(spine) | -1.726(-1.956 - -1.471) | 0.644 (0.450-0.859) | <0.001  |
| Total BMD(hip) | 0.666(0.638-0.697) | 0.982 (0.955-1.010) | <0.001 |
| Total T score(hip) | -2.209(-2.458 - -1.947) | 0.326 (0.100-0.559) | <0.001 |
| Total Z score(hip) | -1.105(-1.318 - -.864) | 1.128 (0.917-1.344) | <0.001 |
| Fracture risk (hip) | 3(2.24- 3.87) | 0.18 (0.14-0.23) | <0.001 |
| Fracture risk (major osteoporotic fractures) | 7.78) 5.83-10.25( | 1.82)1.63-2.06( | <0.001 |

Table 2. Hs-CRP and SAA levels were compared in all participants (post-menopausal women) according to serum vitamin D levels (CI= confidence interval).

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| Serum biomarker(ng/mL) | Vitamin D level (ng/mL) | Mean (CI) | P value |
| Hs-CRP | <20 | 3181.40(2491.19-3969.44) | 0.94 |
| ≥20 | 3214.18(2706.75-3797.71) |
| SAA | <20 | 417.36(274.54-571.85) | 0.61 |
| ≥20 | 378.3161(303-460.96) |

Table3. Hs-CRP and SAA levels were compared in case and control groups according to serum vitamin D levels (CI= confidence interval).

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| --- | --- | --- | --- | --- |
| Vitamin D level  | Serum biomarker (ng/mL)  | Group | Mean (CI) | P value |
| <20(ng/mL)  | Hs-CRP | control | 2827.88 (2113.25-3596.48) | 0.42 |
| case | 3459.16 (2366.72-4817.18) |
| SAA | control | 391.0836(197.9983- 602.15) | 0.76 |
| case | 438.07(244.18-637.10) |
| ≥20(ng/mL)  | Hs-CRP | control | 3271.43 (2482.82-4033.91) | 0.83 |
| case | 3151 (2372.06-3952.53) |
| SAA | control | 349.41 (263.09-441.04) | 0.43 |
| case | 410.20 (293.8166-539.4642) |