

Supplemental Table 1: Cross-sectional HRpQCT data in pegvisomant treated patients compared to healthy controls, remission and active acromegaly comparison groups shown separately for men and women.

	MEN							WOMEN						
	PEGV Treated	Healthy Controls	P-value, PEGV vs. Controls	REM Comparison Group	P-value, PEGV vs. REM	ACT Comparison Group	P-values, PEGV vs. ACT	PEGV Treated	Healthy Controls	P-value, PEGV vs. Controls	REM Comparison Group	P-value, PEGV vs. REM	ACT Comparison Group	P-values, PEGV vs. ACT
RADIUS														
Total area(mm2)	423 ± 86	370 ± 20	0.06	447 ± 78	0.50	408 ± 77	0.67	264 ± 27	238 ± 11	0.06	382 ± 113	0.97	353 ± 102	0.63
Ct. area(mm2)	104 ± 30	76 ± 5	0.007	91 ± 20	0.27	93 ± 18	0.31	85 ± 21	51 ± 4	0.003	83 ± 21	0.12	84 ± 20	0.15
Tb. area(mm2)	321 ± 109	295 ± 23	0.44	355 ± 89	0.42	315 ± 74	0.89	174 ± 44	187 ± 14	0.50	299 ± 109	0.44	269 ± 94	0.77
Ct.perimeter (µm)	91 ± 7	84 ± 2	0.009	95 ± 9	0.31	92 ± 10	0.76	73 ± 2	66 ± 2	0.0003	88 ± 15	0.70	79 ± 25	0.24
Total vBMD (mgHA/cm3)	355 ± 116	335 ± 22	0.58	295 ± 52	0.13	312 ± 56	0.28	398 ± 143	325 ± 36	0.25	302 ± 59	0.25	324 ± 77	0.49
Ct. vBMD (mgHA/cm3)	831 ± 87	848 ± 24	0.54	829 ± 78	0.98	823 ± 67	0.83	896 ± 89	868 ± 22	0.48	847 ± 74	0.68	832 ± 81	0.43
Tb. vBMD (mg HA/cm3)	152 ± 44	187 ± 19	0.02	137 ± 38	0.42	140 ± 31	0.48	112 ± 44	152 ± 19	0.07	126 ± 47	0.81	133 ± 32	0.73
Tb.BV/TV (%)	13.1 ± 3.4	15.6 ± 15.7	0.03	11.4 ± 3.2	0.26	11.7 ± 2.6	0.29	9.6 ± 3.1	12.6 ± 1.6	0.06	10.5 ± 3.9	0.69	11.1 ± 2.7	0.87
Ct. thickness (µm)	1.38 ± 0.48	0.92 ± 0.07	0.006	1.12 ± 0.29	0.26	1.19 ± 0.26	0.29	1.44 ± 0.39	0.78 ± 0.08	0.002	1.13 ± 0.26	0.15	1.18 ± 0.29	0.21
Tb. number (1/mm)	1.82 ± 0.41	2.21 ± 0.14	0.007	1.86 ± 0.46	0.81	1.72 ± 0.30	0.51	1.55 ± 0.31	1.93 ± 0.23	0.039	1.76 ± 0.55	0.97	1.67 ± 0.33	0.93
Tb. thickness (µm)	0.083 ± 0.01	0.071 ± 0.004	0.006	0.063 ± 0.01	0.0004	0.069 ± 0.013	0.02	0.072 ± 0.01	0.065 ± 0.003	0.13	0.06 ± 0.01	0.027	0.068 ± 0.01	0.55
Tb. separation (µm)	0.54 ± 0.15	0.39 ± 0.03	0.004	0.52 ± 0.19	0.81	0.54 ± 0.11	0.93	0.66 ± 0.23	0.48 ± 0.09	0.11	0.59 ± 0.29	0.72	0.57 ± 0.18	0.81
Tb. separation SD (µm)	0.16 ± 0.03	0.38 ± 0.18	0.0005	0.14 ± 0.10	0.52	0.24 ± 0.08	0.004	0.23 ± 0.09	0.46 ± 0.26	0.07	0.26 ± 0.31	0.18	0.28 ± 0.238	0.48
Ct. porosity (%)	2.3 ± 0.6	na		2.4 ± 0.9	0.91	2.7 ± 0.9	0.25	2.9 ± 1.7	na		2.3 ± 1.0	0.47	2.5 ± 0.9	0.47
Stiffness (n/mm)	85041 ± 19267	na		79325 ± 15340	0.46	78347 ± 13810	0.36	64095 ± 14858	na		69101 ± 18706	0.11	71449 ± 18415	0.47
F.load (n)	3948 ± 897.5	na		3669 ± 666	0.43	3539 ± 642	0.23	3017 ± 703	na		3207 ± 831	0.10	3192 ± 811	0.18
TIBIA														
Total area(mm2)	1002 ± 205	891 ± 22	0.09	711 ± 124	0.48	739 ± 154	0.84	729 ± 107	644 ± 41	0.09	711 ± 124	0.79	739 ± 154	0.89
Ct. area(mm2)	173 ± 26	156 ± 15	0.08	127 ± 26	0.05	134 ± 27	0.04	131 ± 27	113 ± 7	0.14	127 ± 26	0.78	134 ± 27	0.95
Tb. area(mm2)	834 ± 210	735 ± 22	0.14	584 ± 130.6	0.38	607 ± 171	0.96	602 ± 129	531 ± 45	0.24	584 ± 131	0.82	607 ± 171	0.89
Ct.perimeter (µm)	124 ± 12	118 ± 2	0.09	97 ± 15	0.34	89 ± 45	0.41	106 ± 8	99 ± 3	0.16	97 ± 15	0.29	89 ± 45	0.38
Total vBMD (mgHA/cm3)	286 ± 63	299 ± 18	0.51	254 ± 65	0.33	249 ± 98	0.26	267 ± 84	293 ± 22	0.48	254 ± 65	0.77	249 ± 98	0.75
Ct. vBMD (mgHA/cm3)	831 ± 72	850 ± 27	0.43	843 ± 86	0.58	811 ± 89	0.21	842 ± 89	864 ± 21	0.56	843 ± 86	0.98	811 ± 89	0.56
Tb. vBMD (mg HA/cm3)	154 ± 49	179 ± 11	0.11	109 ± 48	0.722	111 ± 46	0.95	122 ± 37	162 ± 16	0.037	109 ± 48	0.59	111 ± 46	0.65
Tb.BV/TV (%)	13.2 ± 4	14.6 ± 9	0.25	9.1 ± 4	0.89	9.3 ± 3.8	0.87	10.5 ± 2.9	13.5 ± 1.3	0.04	9.1 ± 4.0	0.49	9.3 ± 3.8	0.54
Ct. thickness (µm)	1.59 ± 0.27	1.35 ± 0.15	0.015	1.44 ± 0.33	0.018	1.45 ± 0.37	0.06	1.44 ± 0.36	1.14 ± 0.10	0.08	1.44 ± 0.33	0.99	1.45 ± 0.37	0.96
Tb. number (1/mm)	1.79 ± 0.49	2.12 ± 0.16	0.048	1.36 ± 0.62	0.22	1.54 ± 0.62	0.14	1.48 ± 0.54	1.84 ± 0.13	0.15	1.36 ± 0.62	0.73	1.54 ± 0.63	0.85
Tb. thickness (µm)	0.077 ± 0.01	0.069 ± 0.002	0.004	0.069 ± 0.01	0.01	0.062 ± 0.015	0.002	0.075 ± 0.005	0.074 ± 0.004	0.73	0.069 ± 0.007	0.14	0.062 ± 0.015	0.08
Tb. separation (µm)	0.55 ± 0.18	0.41 ± 0.04	0.02	0.934 ± 0.77	0.39	0.68 ± 0.28	0.11	0.68 ± 0.27	0.49 ± 0.05	0.13	0.9398 ± 0.7666	0.46	0.6787 ± 0.2819	0.98
Tb. separation SD (µm)	0.39 ± 0.18	0.19 ± 0.03	0.0009	0.73 ± 1.3	0.01	0.29 ± 0.3	0.013	0.60 ± 0.5	0.22 ± 0.03	0.10	0.7314 ± 1.291	0.82	0.2903 ± 0.3032	0.37
Ct. porosity (%)	5.3 ± 1.9	na		4.3 ± 2.7	0.55	5.5 ± 1.9	0.29	5.0 ± 1.9	na		4.3 ± 2.7	0.65	5.5 ± 1.9	0.69
Stiffness (n/mm)	194645 ± 41522	na		128539 ± 14183	0.923	135633 ± 41125	0.54	139102 ± 20513	na		128539 ± 14183	0.32	135633 ± 41125	0.86
F.load (n)	8941 ± 1775	na		5899 ± 649	0.4812	5732 ± 1243	0.09	6439 ± 974	na		5899 ± 649.2	0.28	5732 ± 1243	0.32

Acro = Acromegaly, Ctls = controls; na=not available. Data are mean ± SD unless otherwise indicated; Abbreviations: PEGV = pegvisomant; Rem.=remission, Act.=Active, CTL=healthy controls; HRpQCT parameters: Ct. area, cortical area; Tb. area, trabecular area; Ct.Perimeter, cortical perimeter; Total vBMD, total volumetric bone mineral density; Ct.vBMD, cortical volumetric bone mineral density; Tb.vBMD, trabecular volumetric bone mineral density; Tb.BV/TV, trabecular bone volume/ total volume; Ct.thickness, cortical thickness; Tb.number, number of trabeculae; Tb.thickness, trabecular thickness; Tb. separation, trabecular separation; Tb.separation SD, trabecular separation heterogeneity; Ct.porosity, cortical porosity; F.load, estimated failure load; na= not available; Significant P-values are shown in bold text.

Supplemental Table 2: DXA data in cross-sectionally studied patients with acromegaly on long-term pegvisomant therapy compared to that in matched comparison groups of acromegaly patients in remission or active disease.

	Pegvisomant Treated Group (n=17)	Acromegaly Remission Comparison Group (n=17)	Active Acromegaly Comparison Group (n=17)	<i>P</i> -value Pegv. vs. Remission	<i>P</i> -value Pegv. vs. Active
DXA					
Total Body					
Z-Score	0.3 ± 1.2	0.1 ± 1.0	-0.4 ± 1.1	0.33	0.23
T-Score	0.6 ± 1.5	0.4 ± 0.9	-0.1 ± 1.3	0.46	0.07
aBMD (g/cm ²)	1.2 ± 0.1	1.2 ± 0.1	1.2 ± 0.1	0.61	0.99
L1-L4					
Z-Score	0.7 ± 1.2	-0.2 ± 1.3	-0.1 ± 1.5	0.05	0.09
T-Score	0.7 ± 1.5	-0.2 ± 1.4	-0.2 ± 1.7	0.07	0.13
aBMD (g/cm ²)	1.3 ± 0.2	1.17 ± 0.2	1.2 ± 0.2	0.04	0.07
Total Hip					
Z-Score	0.3 ± 1.1	-0.3 ± 0.9	0.1 ± 1.1	0.09	0.44
T-Score	0.2 ± 1.4	-0.5 ± 0.9	-0.2 ± 1.2	0.12	0.12
aBMD (g/cm ²)	1.1 ± 0.2	0.9 ± 0.1	1.0 ± 0.2	0.13	0.13
Femoral Neck					
Z-Score	0.4 ± 1.3	-0.4 ± 1.1	0.1 ± 0.9	0.08	0.47
T-Score	-0.3 ± 1.7	-0.9 ± 1.2	-0.5 ± 1.2	0.19	0.65
aBMD (g/cm ²)	0.5 ± 0.5	0.9 ± 0.2	0.9 ± 0.2	0.9	0.71
1/3 Radius					
Z-Score	-0.3 ± 1.2	-0.2 ± 1.1	-1.1 ± 1.1	0.78	0.08
T-Score	-0.8 ± 1.4	-0.8 ± 1.1	-1.3 ± 1.4	0.99	0.29
aBMD (g/cm ²)	0.7 ± 0.1	0.7 ± 0.1	0.7 ± 0.1	0.93	0.39
UD Radius					
Z-Score	1.9 ± 2.7	0.4 ± 1.1	0.1 ± 1.9	0.07	0.05
T-Score	1.4 ± 3.1	-0.1 ± 1.2	-0.3 ± 1.9	0.09	0.09
aBMD (g/cm ²)	0.5 ± 0.1	0.4 ± 0.1	0.4 ± 0.1	0.17	0.10

Data are Mean ± SD; aBMD = areal bone mineral density; Significant *P*-values are shown in bold text.