

Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to: Berman E, Nicolaidis M, Maki RG, et al. Altered bone and mineral metabolism in patients receiving imatinib mesylate. *N Engl J Med* 2006;354:2006-13.

Appendix Table 1A: Metabolic Evaluation in Patients with Low Serum PO4

UPIN	Disease	Age/ Sex	Imatinib Dose	Serum Phosphate (2.5-4.2 mg/dl)	Serum Calcium/ Ionized Calcium (8.5-10.5 mg/dl) / (4.8-5.2 mg/dl)	Parathyroid Hormone (10-65 pg/ml)	Serum Magnesium (1.4-2.2 mEq/l)	25- Hydroxy- vitamin D (9-37 ng/ml)	1,25- Dihydroxy- vitamin D (19-67 ng/ml)	Urinary Fractional excretion of Phosphate (< 5%)	Spot Urinary Calcium (mg/dl)	BUN/ Creatinine (6-20 mg/dl) / (0.6-1.3 mg/dl)	White blood cell count (4-11 K/mcl)	Serum N- Telopeptide of Collagen Cross- links (5.5-19.5 nMBCE)	Bone Alkaline Phosphatase (15-41 U/L)	Serum Osteocalcin (3.1-13.7 ng/ml)
1	CML	60 M	600	2.0	8.7/-	53	1.7	9.1	100	21	7.1	17/1.5	3.4	-	-	-
2	CML	56 M	600	1.7	8.6/-	97	1.6	-	-	24	-	17/1.3	4.1	-	-	-
3	CML	56 M	400	2.3	9.4/4.7	68	-	29	60	45	5.8	10/1.1	5.9	-	-	-
4	CML	56 M	400	1.9	9.5/4.8	84	1.7	39.6	103	25	<2	16/1.0	6.4	7.1	18	3.7
5	CML	40 F	800	1.8	8.9/5.0	85	1.5	3.7	58	17	4	8/1.2	8.1	6.2	15	NMA
6	GIST	46 M	600	2.1	9.3/-	83	1.7	-	-	23	7.1	8/1.1	8.0	-	-	-
7	CML	49 M	600	1.7	8.7/4.9	57	1.9	19	13	17	<2	15/1.4	5.9	5.6	17	NMA
8	GIST	42 M	400	1.0	8.1/4.5	136	1.8	6.7	13	38	<2	4/9	7.0	10.1	53	NMA
9	CML	36 M	400	2.3	9.2/4.4	81	1.7	33	66	10	32	14/1.3	3.8	13.4	17	NMA
10	CML	32 F	400	2.1	8.9/-	41	1.7	11	40	17	23	9/0.7	3.7	5.8	15	2.6
11	GIST	50/M	600	2.4	9.3/-	101	1.9	97.3	87	24	-	25/1.6	5.8	12.4	23	2.6
12	GIST	62/F	400	2.1	8.6/-	73	1.6	17.2	46	4	16.3	15/1.1	5.0	3	25	1.1
13	GIST	58/M	700	2.2	8.7/-	114	1.8	30.5	70	27	8.9	14/1.1	5.4	6.6	25	2.3
14	GIST	55/M	800	1.6	8.7/-	100	1.5	14.4	47	31	4.0	14/1.6	5.7	9.5	21	2.4
15	GIST	27/F	600	2.2	8.5/4.5	43	1.7	27.3	71	6	<2	8/9	-	12.6	16.1	4.1
16	GIST	50/M	600	1.9	8.7/4.9	139	1.6	18.6	49	30	4.6	16/1.3	3.5	10	32.7	6.7
Median		50	600	2.0	8.7/4.7	84	1.7	18.8	59	24%	5.2	14/1.2	5.7	8.3	20	2.3

Appendix Table 1B: Metabolic Evaluation in Patients with Normal Serum PO4

UPIN	Disease	Age/ Sex	Imatinib Dose	Serum Phosphate (2.5-4.2 mg/dl)	Serum calcium/ ionized calcium (8.5-10.5 mg/dl) / (4.8-5.2 mg/dl)	Parathyroid hormone (10-65 pg/ml)	Serum Magnesium (1.4-2.2 mEq/l)	25- Hydroxy- vitamin D (9-37 ng/ml)	1,25- Dihydroxy- vitamin D (19-67 ng/ml)	Urinary Fractional excretion of phosphate	Spot Urinary Calcium (mg/dl)	BUN/ Creatinine (6-20 mg/dl) / (0.6-1.3 mg/dl)	White blood cell count (4-11 K/mcl)	Serum N- Telopeptide of Collagen Cross- links (5.5-19.5 nMBCE)	Bone Alkaline Phosphatase (15-41 U/L)	Serum Osteocalcin (3.1-13.7 ng/ml)
1	GIST	75/F	300	3.1	9.6/-	32	1.8	27.4	66	28	8.2	13/1.1	6.4	8.5	24	3.5
2	GIST	57/M	800	4.0	9.2/-	60	1.8	38.8	64	26	3.7	11/1.4	3.3	5.3	19.	5.2
3	GIST	70/M	400	2.7	9.4/-	53	1.4	28.9	51	2	<2	24/1.7	7.9	7.2	24	6.7
4	GIST	67/M	100	2.8	8.7/4.5	27	1.6	16.5	31	28	6.3	21/1.1	5.7	16	33	3.0
5	GIST	58/M	300	2.9	9.1/4.8	31	1.9	24.6	68	31	9.1	16/8	-	13.9	36	10.0
6	GIST	69/M	400	3.4	9.5/4.7	52	1.7	40.2	53	31	4.2	15/1.1	5.0	12	16	1.9
7	GIST	41/F	400	3.2	8.9/4.6	55	1.7	33	61	23	11.3	10/1.0	3.7	9.4	13	2.2
8	GIST	48/M	300	3.4	9.1/5/1	29	1.7	28.7	71	13	3.9	15/9	5.3	10.8	17	1.4
Median		63	350	3.2	9.2/4.7	42	1.7	28.8	63	27%	5.3	15/1.1	5.3	10.1	22	3.3

Appendix Table 1C: Metabolic Evaluation in Normal Adult Volunteers Without Cancer

Control	Age/sex	Serum Phosphate (2.5-4.2 mg/dl)	Serum Calcium/Ionized Calcium (8.5-10.5 mg/dl)/4.8-5.2 mg/dl)	Parathyroid Hormone (10-65pg/ml)	Serum Magnesium (1.4-2.2 mEq/l)	25-Hydroxy-vitamin D (9-37 ng/ml)	1,25 Dihydroxy-vitamin D (19-67 ng/ml)	Urinary Fractional Excretion of Phosphate (%)	Spot Urinary Calcium (mg/dl)	BUN/Creatinine (6-20 mg/dl)/0.6-1.3 mg/dl)	Serum N-Telopeptide of Collagen Cross-links (5.5-19/5 nMBCE)	Bone Alkaline Phosphatase (15-41 U/L)	Serum Osteocalcin (3.1-13.7 ng/ml)
1	65	3.6	9.4/4.6	57	1.9	28.8	67	24	10	19/1.3	17.3	23	10
2	39	3.3	9.2/4.7	55	1.8	24.5	70	17	12	20/1.0	14.9	17	5.7
3	46	3.3	9.7/4.9	31	2.0	21.9	71	17	10	16/1.2	15.2	36	11.7
4	33	3.2	9.5/4.6	18	2.0	15.1	66	15	3	10/0.9	12.4	29	8.1
5	40	4.1	9.3/4.7	52	1.8	41.5	63	23	7	15/1.1	18.1	29	8.3
6	49	3.7	9.6/4.6	24	1.9	12.0	62	14	27	23/1.6	17.7	20	4.7
7	37	4.1	9.5/4.8	44	1.8	24.3	49	16	4	17/1.1	19.4	25	13.4
8	34	3.6	10.1/4.9	27	1.8	36.2	29	20	8	17/1.0	15.6	24	15.6
9	40	3.3	9.5/4.7	31	1.8	18.5	48	9	5.3	19/1.2	6.1	17	5.5
10	54	4.1	9.6/4.6	50	1.9	31.7	105	21	26	19/1.1	18	48	23.4
11	48	3.1	9.3/4.5	44	1.8	18.2	36	15	13	18/1.4	13.6	24	7.2
12	24	2.8	8.7/4.5	56	1.6	56.9	103	12	5	15/1.0	9.1	28	<1
13	34	3.6	9.2/4.8	41	1.7	11.5	43	9	14	15/1.2	9.8	24	12.3
14	34	3.2	9.2/4.7	15	1.5	37.7	44	8	4.9	13/0.9	12.9	27	8.5
Median	39.5	3.45	9.4/4.7	43	1.8	24.4	63	16	8.8	17/1.1	15.1	25	8.4