



REFERENCES

- Adams, J.F., and Boddy, K. "Metabolic Equilibrium of Tracer and Natural Vitamin B₁₂." The Journal of Laboratory and Clinical Medical 72 (September 1968) : 392-396.
- Adams, J.F.; McEwan, F.; and Wilson, A. "The Vitamin B₁₂ Content of Meals and Items of Diet." The British Journal of Nutrition 29 (1973) : 65-72
- Areekul, S., et al. "Determination of Vitamin B₁₂ in Fish Sauce in Thailand." Journal of Medical Association of Thailand 55 (April 1972) : 234-248.
- Areekul, S.; Thearawibul, R.; and Metrakul, D. "Vitamin B₁₂ Content of Fermented Fish, Fish Sauce and Soya-bean Sauce." Asian Journal of Modern Medicine 11 (January-February 1975) : 14-16
- Areekul, S.; Ounarom, K.; and Daungbarn, J. "Determination of Vitamin B₁₂ and Vitamin B₁₂ binding Protein in Human Milk and Cow's Milk." Modern Medicine of Asia 13 (June 1977) : 17-23.
- Baker, S.J., et al. "Vitamin B₁₂ Deficiency in Pregnancy and the Puerperium." British Medical Journal 1 (June 1962) : 1658-1661
- Baker, H., et al. "Vitamin Profile of 174 Mothers and Newborns at Parturition." The American Journal of Clinical Nutrition 28 (January 1975) : 59-65.
- Banerjee, D.K., and Chatterjee, J.B. "Vitamin B₁₂ Content of Some Articles of Indian Diets and Effects of Cooking on it." The British Journal of Nutrition 17 (1963) : 385-389.

Berk, L., et. al. "Effectiveness of Vitamin B₁₂ in Combined System Disease : Rapid Regression of Neurologic Manifestation and Absence of Allergic Reaction in a Patient Sensitive to Injectable Liver Extract." The New England Journal of Medicine 239 (August 1948 a.) : 328-330.

Berk, L., et. al. "Observation the Etiologic Relationship of Achylia Gastric to Pernicious Anemia. (X) Activity of Vitamin B₁₂ as Food (Extrinsic Factor)." The New England Journal of Medicine 239 (December 1948 b.) : 911-913.

Berlin, H.; Berlin, R.; and Brante, G. "Oral Treatment of Pernicious Anemia with High Doses of Vitamin B₁₂ without Intrinsic Factor." Acta Medica Scandinavica 184 (October 1968) : 247-258.

Bozian, R. C., et. al. "Evidence Concerning the Human Requirement for Vitamin B₁₂." The American Journal of Clinical Nutrition 12 (February 1963) : 117-129.

Bozian, R. C.; Heyssel, R. M.; and Darby, W., J. "Absorption of ⁶⁰Co-vitamin B₁₂ from Natural Foodstuff by Man (Abstract)." The American Journal of Clinical Nutrition 14 (April 1964) : 239-240.

Bullen, J. J.; Roger, H., J.; and Leigh, L. "Iron-binding Proteins in Milk and Resistance to Escherichia coli Infection in Infants." British Medical Journal 1 (January 1972) : 69-75.

Burgio, G. R.; Cascio, G.; and Cassata, F. "Vitamin B₁₂ content of Human Milk." Minerva Pediatrica 11 (1959) : 722-730.

Carcino, J. J.; Waxman, S.; and Herbert, V. "Absorption and Malabsorption of Vitamin B₁₂." The American Journal of Medicine 48 (May 1970) : 562-569.

- Carmel, R., et. al. "Vitamin B₁₂ uptake by Human Small Bowel Homogenate and its Enhancement by Intrinsic Factor." Gastroenterology 56 (March 1969) : 548-555.
- Castle, W. B. "Current Concept of Pernicious Anemia." The American Journal of Medicine 48 (May 1970) : 541-548.
- Chanarin, I. The Megaloblastic Anemias pp. 43-45. Oxford and Edinburgh : Blackwell Scientific Publication, 1969.
- Collins, R. A., et. al. "The Folic Acid and Vitamin B₁₂ Content of the Milk of Various Species." The Journal of Nutrition 43 (February 1951) : 313-321.
- Collins, R. A., et. al. "Further Studies of the Folic Acid and Vitamin B₁₂ Content of Cow's Milk." Journal of Dairy Science 36 (1953) : 24-28.
- Craft, I. L.; Matthews, D. M.; and Linnell, J. C. "Cobalamins in Human Pregnancy and Lactation." The Journal of Clinical Pathology 24 (July 1971) : 449-455.
- Davidov, R. B., and Kruglova, L., A. "Vitamin B₁₂, Pantothenic Acid, and Biotin in the Breast Milk of Donors (Russian)." Pediatriia 38 (1960) : 19-23.
- Deodhar, A. D., and Ramakrishnan, C. V. "Effect of Socio-economic Status on the Vitamin Content of Milk." The Journal of Pediatrics 54 (January 1959) : 34-35.
- Deodhar, A. D., and Ramakrishnan, C. V. "Studies on Human Lactation. Part II. Effect of Socio-economic Status on the Vitamin Content of Human Milk." The Indian Journal of Medical Research 47 (May 1959) : 352-355.

Ellingson, R. C., et. al. "Appearance of Radioactivity in Milk of Rats after Oral and Parenteral Administration of Vitamin B₁₂ Containing Cobalt 60. (Abstract)." Federation Proceedings 11 (March 1952) : 441.

FAO/WHO Expert Group. "Requirements of Ascorbic Acid, Vitamin D, Vitamin B₁₂, Folate and Iron." World Health Organization Technical Report Series No. 452 (1970) : 35-43.

Farquharson, J., and Adams, J. F. "The Form of Vitamin B₁₂ in Food." The British Journal of Nutrition 36 (1976) : 127-136.

Ford, J. E. "Some Observations on the Possible Nutritional Significance of Vitamin B₁₂- and Folate-binding Protein in Milk." The British Journal of Nutrition 31 (1974) : 243-257.

Freed, M. Method of Vitamin Assay pp. 257-262. New York : John Wiley & Sons, 1966.

Goldberg, L. S., and Fudenberg, H., H. "Effect of pH on the Vitamin B₁₂-binding Capacity of Intrinsic Factor." The Journal of Laboratory and Clinical Medicine 73 (March 1969) : 469-475.

Gottlieb, C., et. al. "Rapid Charcoal Assay for Intrinsic Factor, Gastric Juice Unsaturated B₁₂ Binding Capacity, Antibody to IF., and Serum Unsaturated B₁₂ Binding Capacity." Blood 25 (June 1965) : 875-884.

Green, R.; Musso, A. M.; and Newmark, P., A. "Assay of Serum Vitamin B₁₂ Levels by Saturation Analysis." Clinical Science 37 (October 1969) : 571

Green, R., et. al. "The Use of Chicken Serum for Measurement of Serum Vitamin B₁₂ Concentration by Radioisotope Dilution : Description

- of Method and Comparision with Microbiological Assay Results." British Journal of Haematology 27 (July 1974) : 507-526.
- Gregory, M. E. "The Microbiological Assay of Vitamin B₁₂ in the Milk of Different Animal Species." The British Journal of Nutrition 8 (1954) : 340-347.
- Gregory, M. E., and Holdsworth, E. S. "The Occurrence of a Cyanocobalamin-binding Protein in Milk and the Isolation of a Cyanocobalamin Protein Complex from Sow's Milk." The Biochemical Journal 59 (1955) : 329-334.
- Gullberg, R. "Possible Influence of Vitamin B₁₂-binding Protein in Milk on the Intestinal Flora in Breast-fed Infants. I. B₁₂-binding Protein in Human and Bovine Milk." Scandinavian Journal of Gastroenterology 8 (September 1973) : 497-503.
- Haq, M. O.; Rusoff, L. L.; and Gelpi, A. J., Jr. "Antibiotic Feed and Vitamin B₁₂ Supplements for lactating Dairy Cows." Science 115 (February 1952) : 215-216.
- Harfouche, J. K. "The Importance of Breast-feeding." The Journal of Tropical Pediatrics and Environmental Child Disease 16 (September 1970) : 134-175.
- Hartman, A. M.; Dryden, L. P.; and Riedel, G. H. "Vitamin B₁₂ Content of Milk and Milk Products as Determined by Rat Assay." Journal of Nutrition 59 (May 1956) : 77-88.
- Hashmi, M. The Assays of Vitamins in Pharmaceutical Preparations. p.11. New York : John Wiley & Sons, 1973.
- Hemindra, P., et. al. "Assay of Vitamin B₁₂ in Serum and Other Materials." Journal of Medical Association of Thailand 54 (April 1971) : 240-250.

Herbert, V. "Drugs Effective in Megaloblastic Anemias : Vitamin B₁₂ and Folic Acid." In The Pharmacological Basis of Therapeutics., 5 th. ed., pp. 1324-1338. Edited by L.S. Goodman and A. Gilman.

New York : McMillan, Co., 1975.

Herbert, V. "Folic Acid and Vitamin B₁₂." In Modern Nutrition in Health and Disease : Dietotherapy., 5 th. ed., pp. 221-242. Edited by R.S. Goodhart and M.E. Shils. Philadelphia : Lea and Febiger, 1973.

Herbert, V., and Castle, W., B. "Divalent Cation and pH Dependence of Rat Intrinsic Factor Action in Everted Sacs and Mucosal Homogenates of Rat Small Intestine." The Journal of Clinical Investigation 40 (October 1961) : 1978-1983.

Heyssel, R.M., et. al. "Vitamin B₁₂ Turn-over in Man : Assimilation of Vitamin B₁₂ from Natural Foodstuff by Man and Estimates for Minimal Daily Dietary Requirement." The American Journal of Clinical Nutrition 18 (March 1966) : 176-184.

Hodbom, A. "A Native Cobalamin-polypeptide Complex from Liver : Isolation and Characterization." The Biochemical Journal 74 (1960) : 307-312.

Hoffman, C., E., et. al. "Response of Lactobacillus leichmannii 313 to the Antipernicious Anemia Factor." The Journal of Biological Chemistry 176 (December 1948) : 1465-1466.

JadHAV, M., et. al. "Vitamin B₁₂ Deficiency in Indian Infants : A Clinical Syndrome." The Lancet 2 (November 1962) : 903-907.

Jathar, V.S., et. al. "Maternal Milk and Serum Vitamin B₁₂, Folic Acid and Protein Levels in Indian Subjects." Archives of Disease in Childhood 45 (April 1970) : 236-241.

Jelliffe, E.E.P. "Maternal Nutrition and Lactation." In Symposium on Breast-Feeding and the Mother; Ciba Foundation Symposium 45, pp. 119-143. Amsterdam : Elsevier Scientific Publishing Company, 1976.

Jelliffe, D.B., and Jelliffe, E.E.P. "Human Milk, Nutrition and the World Resource Crisis." Science 188 (May 1975) : 557-561.

Karlin, R. "Vitamin B₁₂ Content of Human Milk and the effect on it of Giving Vitamin B₁₂." Pediatric 11 (1956) : 111-115.

Kidroni, G., and Grossiwicz, N. "Purification and Properties of two Vitamin B₁₂ Binders from Chicken Serum." Biochimica et Biophysica Acta 188 (August 1969) : 113-123.

Lampert, L.M. Modern Dairy Products 3 rd. ed., p 170. New York : Chemical Company Inc., 1975.

Lampkin, B.C.; Shore, N.A.; and Chadwick, D. "Megaloblastic Anemia of Infancy Secondary to Maternal Pernicious Anemia." The New England Journal of Medicine 274 (May 1966) : 1168-1171.

Lampkin, B.C., and Saunders, E.F. "Nutritional Vitamin B₁₂ Deficiency in an Infant." The Journal of Pediatrics 75 (December 1969) : 1053-1055.

Lancet (1965). "Notes and News : Indian Nutrition Research." The Lancet 1 (April 1965) : 871.

Lau, K-S., et. al. "Measurement of Serum Vitamin B₁₂ Level Using Radio-isotope Dilution and Coated Charcoal." Blood 26 (August 1965) : 202-214.

Linnell, J.C.; Mckenzie, H.M.; and Matthews, D.M. "Normal Values for Individual Plasma Cobalamin." Journal of Clinical Pathology 22 (July 1969) : 506.

- Linnell, J.C., et. al. "Pattern of Plasma Cobalamins in Control Subjects and in cases of Vitamin B₁₂ Deficiency." Journal of Clinical Pathology 22 (September 1969) : 545-550.
- Linnell, J.C., et. al. "Chromatographic and Bioautographic Estimation of Plasma Cobalamins in Various Distribution of Vitamin B₁₂ Metabolism." Clinical Science 40 (January 1971) : 1-16.
- Lonnerdal, B.; Forsum, E.; and Hambræus, L. "A Longitudinal Study of Protein, Nitrogen and Lactose Contents of Human Milk from Swedish Well-nourished Mothers." The American Journal of Clinical Nutrition 29 (October 1976) : 1127-1133.
- Mata, L.J., and Wyatt, R.C. "Host Resistance to Infection." The American Journal of Clinical Nutrition 24 (August 1971) : 976-986.
- McKenzie, I.L., and Donaldson, I.R.M. "Effect of Divalent Cations and pH on Intrinsic Factor-mediated Attachment of Vitamin B₁₂ to Intestinal Microvillous Membrane." The Journal of Clinical Investigation 51 (September 1972) : 2465-2471.
- Merck Service Bulletin Vitamin B₁₂ New York : Merck and Co., Ltd., 1958
- Newmark, P.A., et.al. "A Comparison of the Properties of Chicken Serum with Other Vitamin B₁₂ Binding Protein Used in Radioisotope Dilution Method for Measuring Serum Vitamin B₁₂ Concentration." British Journal of Haematology 25 (September 1973) : 359-374.
- Osal, A., and Hoover, J.E. Remington's Pharmaceutical Sciences 15 th. ed., p 959. Pennsylvania : Mack Publishing Company, 1975.
- Rappazo, M.E.; Salmi, H.A.; and Hall, C.A. "The Content of Vitamin B₁₂ in Adult and Foetal Tissue : A Comparative Study." The British Journal of Haematology 18 (April 1970) : 425-433.

Rickes, E.L., et. al. "Crystalline Vitamin B₁₂." Science 107 (April 1948 a.) : 396-397.

Rickes, E.L., et. al. "Comparative Data on Vitamin B₁₂ from Liver and from a New Source, Streptomyces griseus." Science 108 (December 1948 b.) : 634-635.

Robinson, F.A. The Vitamin Co-factors of Enzyme System. 1 st. ed., pp. 683, 716-717. Oxford : Pergamon Press, 1966.

Rosenthal, H.L. "Vitamin B₁₂ : Occurrence in Foof." In Vitamins Vol. II pp. 171-172. Edited by W.H. Sebrell, Jr. and R.S. Harris. New York and London : Academic Press, 1968.

Science (1973). "Vitamin B₁₂, After 25 Years, the First Synthesis." Science 179 (January 1973) : 266-267.

Shinton, N.K. "Vitamin B₁₂ and Folate Metabolism." British Medical Journal 1 (February 1972) : 556-559.

Shorb, M.S. "Activity of Vitamin B₁₂ for the Growth of Lactobacillus lactis." Science 107 (April 1948) : 397-398.

Smith, E.L. Vitamin B₁₂ 3 rd. ed., pp. 6, 19, 36, 49. London : Methuen, 1965.

Smith, E.L., and Parker, L.F.J. "Purification of Antipernicious Anemia Factor (Abstract)." The Biochemical Journal 43 (1948) : viii.

Srikantia, S.G., and Reddy,V. "Megaloblastic Anemia of Infancy and Vitamin B₁₂." British Journal of Haematology 13 (November 1967) : 949-953.

Srinivasamurthy, V.; Nambudripad, V.K.N.; and Iya, K.K. "Further Studies on the Vitamin B₁₂ Activity of Milk." The Indian Journal of Dairy Science 6 (1953) : 105-109.

Stahlberg, K.G.; Radner, S.; and Norden, A. "Liver B₁₂ in Subjects with and without Vitamin B₁₂ Deficiency : A Quantitative and Qualitative Study." The Scandinavian Journal of Haematology 4 (December 1967) : 312-320.

Sullivan, L.W., and Herbert, V. "Studies on the Minimal Daily Requirement for Vitamin B₁₂ Hematopoietic Responses to 0.1 Microgram of Cyanocobalamin or Coenzyme B₁₂ and Comparision of their Relative Potency." The New England Journal of Medicine 272 (February 1965) : 340-346.

Sundharagiati, B. "The Relation of Vitamin B₁₂ in Fish Sauce and Fermented Fish to Deficiency Anemia in Thailand." Medical Journal 6 (September 1957) : 467-469.

Toohey, J.I., and Barker, H.A. "Isolation of Coenzyme B₁₂ from Liver." The Journal of Biological Chemistry 236 (February 1961) : 560-563.

Wasserman, R.L., et. al. "Intestinal Absorption of Vitamin B₁₂." The Lancet 1 (January 1960) : 173-174.

West, R. "Activity of Vitamin B₁₂ in Addisonian Pernicious Anemia." Science 107 (April 1948) : 398.

Williams, H.H. "Differences between Cow's and Human Milk." The Journal of The American Medical Association 175 (January 1961) : 104-107.

APPENDIX



Vitamin B₁₂ levels in human milk. (pg./ml.)

No.	Age (yrs.)	Parity	Lacta- tion (d.)	Vitamin B ₁₂	No.	Age (yrs.)	Parity	La.t.a- tion (d.)	Vitamin B ₁₂
1	26	2	3	543.1	2	37	1	4	333.7
3	20	2	3	322.8	4	21	2	4	156.3
5	24	1	5	473.9	6	21	1	4	814.1
7	26	2	4	77.9	8	26	1	9	102.7
9	20	1	5	1845.4	10	40	6	4	720.2
11	26	2	6	127.5	12	19	1	4	119.3
13	21	2	3	862.6	14	24	1	3	375.6
15	23	1	5	1298.2	16	30	4	2	457.5
17	26	2	4	104.2	18	20	2	4	120.6
19	27	2	8	268.6	20	36	3	6	259.2
21	26	1	12	70.6	22	24	2	3	254.9
23	42	5	8	547.5	24	20	2	4	475.5
25	18	2	4	375.5	26	20	3	3	319.9
27	17	1	3	186.4	28	23	3	5	63.4
29	27	3	5	560.8	30	21	1	4	563.6
31	27	3	6	73.4	32	18	3	3	168.7
33	22	2	2	711.9	34	21	2	4	142.8
35	27	3	6	343.3	36	26	3	5	525.9
37	19	3	8	200.0	38	28	4	5	159.3
39	21	1	4	250.6	40	22	1	7	130.9
41	15	1	5	479.2	42	40	11	6	100.6
43	24	2	4	293.0	44	20	1	3	283.6

Vitamin B₁₂ levels in human milk (pg./ml., cont.)

No.	Age (yrs.)	Parity	Lacta- tion (d.)	Vitamin B ₁₂	No.	Age (yrs.)	Parity	Lacta- tion (d.)	Vitamin B ₁₂
45	25	1	4	161.3	46	17	1	4	513.2
47	31	4	4	445.7	48	19	1	4	147.3
49	35	6	6	588.5	50	34	3	4	280.9
51	18	1	8	327.4	52	28	4	4	544.9
53	18	1	6	149.0	54	19	1	3	1059.8
55	33	2	3	356.7	56	22	2	3	643.7
57	24	1	4	320.4	58	20	2	4	208.0
59	33	3	4	672.4	60	22	1	5	272.8
61	24	4	7	64.0	62	33	5	3	100.9
63	23	2	5	203.7	64	20	1	3	272.6
65	20	1	4	79.7	66	19	1	4	94.4
67	27	3	3	1059.0	68	35	3	4	93.8
69	23	1	7	305.5	70	26	2	4	294.8
71	25	2	8	168.4	72	25	2	4	104.7
73	21	1	5	112.4	74	28	3	7	230.8
75	28	5	4	294.1	76	23	2	4	249.4
77	17	1	4	344.5	78	23	2	4	70.3
79	24	5	5	264.1	80	19	1	3	486.5
81	24	3	3	607.3	82	23	1	5	168.9
83	24	2	4	206.0	84	27	5	4	299.2
85	25	2	4	85.0	86	21	3	4	217.3
87	28	3	3	65.4	88	22	2	4	306.1

Vitamin B₁₂ levels in human milk (pg./ml., cont.)

No.	Age (yrs.)	Parity	Lacta- tion (d.)	Vitamin B ₁₂	No.	Age (yrs.)	Parity	Lacta- tion (d.)	Vitamin B ₁₂
89	37	5	3	136.5	90	27	4	5	85.0
91	23	4	4	132.6	92	28	4	3	98.4
93	20	1	5	69.8	94	23	3	4	127.2
95	18	1	5	123.3	96	21	2	6	176.5
97	36	4	2	2057.0	98	33	2	2	1394.9
99	37	5	2	1589.0	100	22	3	4	710.4
101	25	3	3	1118.2	102	33	4	7	144.0
103	27	3	3	144.1	104	16	1	2	2110.7
105	19	1	4	509.0	106	21	3	4	100.4
107	19	2	4	354.9	108	27	1	4	480.1
109	22	2	4	518.8	110	28	4	3	1856.3
111	24	2	4	398.7	112	33	5	5	581.4
113	25	3	4	400.3	114	27	3	4	105.1
115	24	2	5	307.6	116	26	3	5	334.4
117	34	3	2	1133.4	118	26	3	5	476.3
119	27	5	4	1051.7	120	23	3	4	1741.7
121	35	5	5	236.1	122	35	7	3	1158.1
123	27	3	4	201.4	124	36	5	4	705.8
125	34	4	5	459.6	126	25	1	5	1134.8
127	22	4	6	111.5	128	20	2	6	126.2
129	32	4	2	1406.3	130	36	1	4	2166.5
131	26	3	4	495.0	132	26	1	4	357.9

Vitamin B₁₂ levels in human milk (pg./ml., cont.)

No.	Age (yra.)	Parity	Lacta- tion (d.)	Vitamin B ₁₂	No.	Age (yra.)	Parity	Lacta- tion (d.)	Vitamin B ₁₂
133	33	5	3	1316.6	134	20	2	4	985.5
135	31	5	4	961.5	136	37	4	4	139.5
137	26	4	5	189.2	138	20	1	11	889.1
139	16	1	5	243.0	140	30	3	3	2696.7
141	24	3	4	450.9	142	31	7	5	339.9
143	31	4	3	994.7	144	29	4	4	338.9
145	26	3	5	488.5	146	23	1	9	107.8
147	32	6	3	967.2	148	29	3	3	162.9
149	29	4	2	2609.1	150	28	2	5	129.5
151	28	3	3	150.8	152	25	4	5	841.1
153	30	4	5	94.5	154	34	2	3	905.6
155	27	3	2	3476.9	156	36	1	4	1801.3
157	20	2	5	754.9	158	27	3	6	694.8
159	20	3	4	132.2	160	27	3	5	171.3
161	38	3	5	75.3	162	24	2	5	1635.7
163	25	3	2	909.8	164	26	4	3	1066.7
165	24	5	5	157.3	166	27	4	4	153.6
167	25	3	4	739.4	168	25	3	3	492.2
169	23	3	3	1375.1	170	35	3	4	157.4
171	28	4	5	137.4	172	26	2	3	496.2
173	34	2	4	627.9	174	25	3	4	338.9
175	25	2	4	469.2	176	20	1	4	798.5

Vitamin B₁₂ levels in human milk (pg./ml., cont.)

No.	Age (yrs.)	Parity	Lacta- tion (d.)	Vitamin B ₁₂	No.	Age (yrs.)	Parity	Lacta- tion (d.)	Vitamin B ₁₂
177	19	1	4	244.8	178	31	6	5	784.4
179	29	2	4	942.0	180	29	3	4	123.3
181	31	4	4	308.3	181	26	3	5	99.2
183	37	2	5	214.3	184	18	1	5	90.4
185	24	3	4	143.3	186	29	2	4	546.5
187	31	3	4	821.9	188	32	4	4	875.1
189	33	5	6	97.1	190	22	4	4	87.7
191	23	3	4	106.1	192	18	2	8	197.3
193	29	3	6	103.7	194	31	5	5	- .
195	20	1	4	1484.7	196	30	8	4	204.2
197	26	1	5	248.4	198	25	3	3	100.0
199	21	3	4	304.1	200	30	3	3	203.3
201	36	7	6	533.5	202	28	5	3	1353.9
203	21	2	4	307.8	204	17	1	4	215.2
205	16	2	5	1064.5	206	22	3	5	268.6
207	25	4	3	279.0	208	24	3	7	103.1
209	24	3	5	95.7	210	29	3	7	87.7
211	32	7	6	421.3	212	35	4	3	646.9
213	36	5	4	323.5	214	26	3	5	165.7
215	30	6	3	1199.6	216	25	1	5	269.9
217	20	1	3	1200.6	218	41	5	5	191.4
219	20	1	6	222.0	220	38	1	4	1034.5

N. = 220; Mean 501.9; SD. 530.4; SEM. 35.7; Range 63.4 - 3476.9

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