

8400 C

Ionized Blood Calcium in Patients with Renal Calculi.

HERBERT POLLACK AND MIRIAM REINER.

From the Metabolic Clinic and the Division of Laboratories, The Mount Sinai Hospital, New York.

The statement has been made that hyperparathyroidism is frequently found as the etiological factor in renal calculi.¹ It becomes of interest to examine this hypothesis by all possible methods at our disposal. Since one may find normal total calcium figures in the pres-

TABLE I.

No.	Mg. P /100 cc.	Protein % (gm.) 100 cc.	Mg. Ca /100 cc.	Ionized Ca Mg. /100 cc.	Diagnosis
1	3.81	6.36	8.63	4.00	Renal calculus
2	.....	6.57	10.45	4.80	" "
3	2.86	7.12	10.40	4.60	" "
4	.....	6.68	10.50	4.75	" "
5	3.80	5.90	9.50	4.75	" "
6	4.00	6.90	10.00	4.50	" "
7	3.20	6.95	10.00	4.45	" "
8	2.90	6.91	10.10	4.50	" "
9	3.80	6.92	10.45	4.6	" "
10	4.44	5.91	10.45	5.2	" "
11	.....	7.12	9.84	4.3	" "
12	4.12	7.20	9.60	4.2	" "
13	4.44	7.06	10.77	4.7	" "
14	3.20	7.19	10.90	4.7	" "
15	2.65	7.50	9.90	4.25	" "
16	3.55	6.88	10.77	4.8	" "
17	3.90	7.44	10.23	4.3	" "
18	4.57	6.56	10.17	4.6	" "
19	3.90	6.38	10.66	5.1	" "
20	3.08	5.90	10.29	5.1	" "
21	3.08	6.70	11.03	5.1	" "
22	2.65	7.08	9.90	4.4	" "
23	3.63	7.10	10.78	4.7	" "
24	3.56	6.51	10.54	4.8	" "
25	3.48	7.96	10.77	4.4	Diabetes
26	3.08	6.78	9.92	4.5	Control
27	4.85	7.12	12.25	5.4	"
28	3.80	7.32	10.56	4.5	"
29	4.21	5.95	12.50	6.0	Hyperthyroid
30	5.16	6.74	10.70	4.85	"
31	3.50	6.53	8.50	3.85	Subacute yellow atrophy of liver
32	3.90	7.18	10.04	4.4	Epilepsy
33	4.10	7.14	10.10	4.4	"
34	4.20	6.43	10.80	5.1	Hyperthyroid
35	3.72	5.81	10.40	5.2	Nephrotic syndrome

¹ Albright, F., Baird, P. C., Cope, O., Bloomberg, E., *Am. J. Med. Sci.*, 1934, 187, 49.

ence of hyperparathyroidism the simple determination of the total calcium and phosphorus is not entirely reliable.

McLean and Hastings² have recently proposed a simple method for the determination of the ionized calcium in the serum. This they believe is the most sensitive test available for detecting the presence of hyperparathyroidism.

Twenty-four patients with proven calcium stones were referred to the Metabolic Clinic by the Second Surgical Service (Dr. Edwin Beer). The Collip modification of the Tisdall method was used for the determination of the total serum calcium, and the Fiske-Subbarow method for the inorganic phosphorus. The serum proteins, after removal of non-protein nitrogenous substances, were determined by a modification of the Pregl micro-Kjeldahl procedure. The results are shown in Table I with the addition of data from control cases. These controls are used in addition to the normal figures published by McLean and Hastings.

There is no evidence of increased calcium ion concentration in any of the stone cases.

8401 C

A Method of Purification of Gonad Stimulating Principle from Pregnant Mare Serum.

ARTHUR E. MEYER.

From the Laboratory of the Chappel Foundation for Organo-Therapeutic Research, Rockford, Illinois.

The preparation of extracts from pregnant mare serum presents a problem different from that found in the extraction of pituitary gland material. The main difficulty is found in the solubility of serum proteins which form colloidal solutions and cannot easily be separated from the gonad stimulating factor itself. Such solutions appear opalescent or turbid and pass through a bacteria-proof filter only at a very slow rate. The method as described by Evans, Gustus and Simpson¹ overcomes this difficulty by adsorbing the active principle on aluminum hydroxide. This method yields a highly purified product, but requires special equipment not available in every laboratory.

² McLean, F. C., Hastings, A. B., *Am. J. Med. Sci.*, 1935, **189**, 601.

¹ Evans, Gustus and Simpson, *J. Exp. Med.*, 1933, **58**, 569.