

osteitis fibrosa^{1, 2, 3, 4} was made. Exploration revealed an adenoma of the left lower parathyroid, which was removed. Just prior to operation, serum calcium was 17.5 mg., serum phosphorus 2.2 mg. per 100 cc.; 18 hours after operation the serum calcium had fallen to 12.3 mg. per 100 cc. It continued to fall, but more slowly, the values for the succeeding days being 10.7 and 8.5 mg. per 100 cc. respectively. The inorganic phosphorus of the serum remained low. From the second to the sixth day after operation a total of 6 cc. of parathyroid extract was given hypodermically.

Ten days after the removal of the adenoma, with the same diet as during the period of pre-operative observation, the patient was retaining about 0.25 gm. of calcium and 0.6 gm. of phosphorus a day. The urinary secretion of calcium had fallen to below normal values; the urinary phosphorus also was decreased, but to a lesser extent. At this time the serum calcium was 5.0 mg., phosphorus 3.0 mg. per 100 cc. Chvostek's sign became strongly positive the second day following operation and remained so for several days; no further signs of tetany were noted.

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Dental Caries: Influence of Potential Mouth Acidity.

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In a previous report, arrest of caries in childhood following the use of high vitamin, high mineral diets was described.¹ In order to determine whether such arrest might be credited to changes in the potential acid-producing power of the oral flora, bacteriological studies have been made before, during and at the completion of arrest of caries. Scrapings were taken from the gingival surfaces of teeth, and placed in tubes containing 3 cc. of isotonic saline; after suspension, 0.5 cc. portions were transferred to each of 3 tubes of

¹ Mandl, F., *Arch. f. Klin. Chir.*, 1926, cxliii, 245.

² Gold, E., *Mitteilungen a. d. Grenzgeb. d. Med. u. Chir.*, 1928, xli, 63.

³ Barr, D. P., Bulger, H. A., and Dixon, H. H., *J. Am. Med. Assn.*, 1929, xcii, 951.

⁴ Stewart, C. P., and Percival, G. H., *Phys. Rev.*, 1928, vii, 283.

¹ Boyd, J. D., and Drain, C. L., *J. Am. Med. Assn.*, 1928, xc, 1867.

1% dextrose meat infusion broth, with pH of 5.2, 6.4 and 7.0, respectively. These were incubated for 48 hours at 37° C. The pH was then determined colorimetrically by comparison with standard tubes. The types of organisms present in the cultures were determined from smears stained by the Gram method.

Three children with active caries were studied. At the initial observation, the acid-producing power of the peridental flora was quite marked. The children were then placed on a diet such as is considered optimum for the normal child. Intake was insured by individual supervision, and additional foods were not allowed. With no further change in regime, the caries had become arrested in every case within less than 3 months. In no case was there significant change in the potential mouth acidity during the period of observation. A fourth child, with no dental caries but with decalcification of the gingival enamel, was included in the study. The same capacity of the mouth flora to produce acid was noted.

The data are offered as further evidence² that dental caries is not primarily dependent upon the production of acid in the mouth.

TABLE I.

Subject	Date	Initial pH of media			Remarks.
		5.2	6.4	7.0	
L. H. age 11		After 48 hrs. at 37° C.			
	1/19	4.8	4.6	4.8	Active caries
	1/31	4.8	4.4	4.6	Diet started
	2/12	4.8	4.8	4.4	
	2/16	5.0	4.6	4.6	
	3/2	4.2	4.4	4.6	
	3/16		4.2	4.2	Caries definitely arrested
	4/11	4.4			
	4/23	4.5			
E. B. age 10	1/19	4.8	4.6	4.8	Active caries
	1/31				Diet started
	2/12	4.6	4.4	4.4	
	2/16	5.0	4.6	4.6	
	3/2	4.6	4.4	4.6	
	3/16		4.2	4.2	Caries definitely arrested
T. W. age 6	1/31				
	2/12	4.6	4.6	4.4	Diet started
	2/16	5.0	4.8	4.8	
	3/2	4.2	4.2	4.4	
	3/16		4.2	4.6	
	4/11	4.4			
	4/23	4.5			Caries definitely arrested
V. G. age 14	4/5	4.6	4.8		No dental caries: decalcified enamel, diet started.
	4/7	4.8	4.6		
	4/10		4.4		
	4/12	4.6	4.4		

² Roskin, M., *Proc. Soc. Exp. Biol. and Med.*, 1927, xxv, 465.