

GASTRIC ATROPHY WITHOUT PERNICIOUS ANAEMIA
Two observations on the intrinsic factor content of the gastric juice in one patient gave values of 100 and 200 units in one hour. The absorption of vitamin B₁₂ was reduced (9.5% excretion) and this increased to 13.0% when repeated with intrinsic factor. The serum vitamin B₁₂ level was normal and has remained normal over the past 12 months. Acid was absent from the gastric juice.

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The amount of intrinsic factor secreted in one hour was zero in six patients and 100 units in the seventh. The absorption of vitamin B₁₂ was abnormal in all. All had a histamine-fast achlorhydria.

DISCUSSION

The loss of secreting cells from the gastric mucosa is paralleled by a decline in the total output of intrinsic factor. In some respects the assay of intrinsic factor offers a better index of the secreting capacity of the gastric mucosa in such patients than either acid production or vitamin B₁₂ absorption. Thus appreciable quantities of intrinsic factor may still be present after acid production has failed. This was the case in most of the patients with a severe degree of atrophic gastritis, *i.e.*, those patients in whom the biopsy showed only small numbers of parietal cells.

While the assay of the intrinsic factor content of the gastric juice appears to be a better index of the state of the gastric mucosa than measurement of the acid production, it also proved to be better than the vitamin B₁₂ absorption test. Thus all the four patients with a moderate degree of atrophic gastritis had normal vitamin B₁₂ absorption. Nevertheless the intrinsic factor secretion was reduced in three of these patients. This difference is even more striking in the group with the more severe degrees of atrophic gastritis where almost all the patients had reduced intrinsic factor secretion but only two a subnormal Schilling test. In one of these vitamin B₁₂ absorption was improved after carbachol.

Although we do not believe that cholinergic drugs stimulate intrinsic factor output in man (Ardeman *et al.*, 1964; Ardeman and Chanarin, 1965b), the improved vitamin B₁₂ absorption achieved in some patients with gastric atrophy given carbachol (Whiteside *et al.*, 1964) is probably due to more rapid passage of the vitamin B₁₂-intrinsic factor complex to the distal gut.

Loss of secreting cells from the gastric mucosa is associated with a marked reduction in the volume of gastric juice produced, and it is possible that in

some tests only a small proportion of the total amount of secretion produced is aspirated. Thus, although one patient with severe atrophic gastritis excreted only 100 units of intrinsic factor, the total volume of gastric juice was only 15 ml. A further test on the same patient, using a different gastric stimulant, however, produced a volume of 35 ml. and an intrinsic factor content of 700 units.

SUMMARY

There was a good correlation between the decline of intrinsic factor output and the loss of gastric secreting cells as judged from the appearance of gastric biopsy specimens. The secretion of intrinsic factor was reduced in 10 out of 11 patients with atrophic gastritis although most of these still absorbed vitamin B₁₂ normally.

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CORRECTION

In the list of contents for *Gut*, 6, no. 6, 1965, the title of the article by W. C. Watson was printed incorrectly. It should read 'Malabsorption of small doses of castor oil in patients without steatorrhoea'.