Digestion after Total Gastrectomy

Not many detailed studies have been published of the efficiency of digestion in human beings after total gastrectomy. Recently however, Nicolaysen and Rayard * have reported investigations upon 15 patients who had had their stomachs removed for carcinoma, 3 to 43 months previously. In addition a part of the pancreas had been removed in 10 of the patients. All the patients were in relative well being, with no signs of metastasis at the time of the study. The diet was a mixed one including fish, meat, cheese, milk, vegetables and fruit. In 9 of the patients there was a markedly negative nitrogen balance, and this was less due to reduced protein utilization than to a too low caloric intake. Experimentally it is known that nitrogen balance can certainly be achieved in dogs after gastrectomy if the food intake is raised sufficiently high.

Analysis of the faecal fat excretion showed that on an average nearly 88% of the ingested fat was absorbed which indicates only a moderate failure in fat absorption. The calcium loss is more difficult to assess since the calcium balance in man is normally subject to considerable variations without always any clear reason. One subject may be in negative balance for months followed by a period of positive balance, though in general the lower the calcium intake the bigger is the percentage absorbed. In the gastrectomized patients the calcium balance was markedly negative in more than half, and in association with this defective calcium absorption the phosphorous balance was negative also. The excess fat loss in the stool is probably responsible for part of this reduced absorption.

One of the difficulties in treating the gastrectomized patient is to induce him to eat enough food, and it is clear from these studies that a high caloric intake is essential if he is to maintain nutritional balance. At the same time it is remarkable that such relatively good absorption of food is possible in the total absence of any gastric digestion and that if liberal amounts of calcium, vitamin D, and fat soluble vitamins with a high protein and caloric intake are provided at least an apparently balanced nutritional state can be maintained.

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