Abstracts of Current Literature

Absorption of Vitamin B_{12} in Man Following Extensive Resection of the Jejunum, Ileum and Colon. E. Allcock. *Gastroenterology*, 40: 81, 1961.

The author has studied vitamin B_{12} absorption in patients following extensive surgical resections in an effort to determine the site of absorption. A forty-eight hour Schilling test was employed. All patients were tested one year or more following their operative procedure. Two subjects having had a right hemicolectomy with resection of only a few centimeters of ileum, and two having had resections of the jejunum preserving all or the greater part of the ileum, showed no impairment of absorption. Five patients with resections including the ileum (one patient having also removal of the right colon and others having losses of unspecified amounts of jejunum) all showed reduced absorption as indicated by three day fecal losses of 60 to 87 per cent of the radioactivity administered. One patient in this group had achlorhydria. The administration of intrinsic factor simultaneously with cobalt^{58}-labeled cyancobalamin increased the fecal loss of radio activity by 5 per cent and did not change the urinary contrast to that of patients with pernicious anemia.

The authors conclude that vitamin B_{12} is absorbed chiefly via the ileum. As confirmatory evidence, they cite clinical reports of vitamin B_{12} deficiency occurring in patients with disease involving the ileum, including regional enteritis, ileocecal tuberculosis and benign stricture. In rats, absorption has been demonstrated in the middle and distal thirds of the small intestine.

Since intestinal hurry and alterations in fecal flora may influence vitamin B_{12} absorption and could have been present in the authors' patients, these findings should be confirmed by suitable studies in intact human subjects. J. B. HAMMOND

Depression of Food Intake Induced in Healthy Subjects by Glucagon. S. B. Penick and L. E. Hinkle, Jr. *New England J. Med.*, 264: 893, 1961.

Healthy subjects were given either a glucose solution orally or an injection of glucagon or a placebo to determine the effect of these substances on food intake. Arteriovenous differences of blood glucose across the arm were also measured to determine changes in glucose concentration and uptake. Depression of food intake occurred only when glucagon was given. This occurred after blood glucose concentrations had returned to postabsorptive levels Although glucose and glucagon had similar effects on blood glucose levels and uptake, glucose had no effect on food intake. Chronic glucagon experiments were also carried out on two subjects. Weight loss, a depressed food intake and negative nitrogen balance were observed when glucagon was administered three times daily for a six day period. These results indicate that glucagon depressed food intake by means other than by increasing blood glucose concentration and uptake. M. W. BATES

Uptake and Excretion of Cesium^{134} and Potassium^{42} in Lactating Dairy Cows. R. G. Cragle. *J. Dairy Sc.*, 44: 352, 1961.

Radioactive cesium (Cs), one of the degradation products resulting from the employment of atomic energy, is receiving increasing attention. It is less a hazard, however, than strontium^{90} since it is turned over rapidly in the body and is not selectively concentrated in any one tissue.

As Cs and potassium (K) are similar in a physiological sense, their relative passage through biological systems has been determined as in this study.

In two experiments, single oral doses of 1 μc. of Cs^{134} and 6 μc. of K^{42} were given to four cows. In 210 hours, 10.5 per cent of the Cs^{134} was accounted for in the milk, 30.0 per cent in the urine and 32.7 per cent in the feces on the average. The percentage of uptake of radioactive Cs secreted in the milk was consistently less than that excreted. At sixty-six hours, 4.2 per cent of the K^{42} was secreted in the milk and 6.7 per cent of

the Cs^{134}. In the same period urine secretion accounted for 38 per cent of the K^{42} and 19 per cent of the Cs^{134}.

Atmospheric temperatures and volumes of milk flow and urine at the time of the observations materially influenced the excretion patterns. FRANK E. RICE

The Relation Between Calorie Intake and Body Weight in Man. A. M. Thomson, W. Z. Billewicz and R. Passmore. *Lancet*, 1: 1027, 1961.

All physiologists know that a heavy man or woman needs more food than a light one and the wide acceptance of this can be gauged by the fact that FAO publish a formula for calorie requirements in which energy requirement is linked to body weight. It seems that this apparently obvious truth has never been tested. In recent diet survey material for pregnant women in Aberdeen, prewar studies of pregnant and nonpregnant subjects by McCance and Widdowson, and a postwar study of university students in Edinburgh it is quite clear that there is very little, if any, rise in food intake with body weight. The evidence for the increased cost of activity with increased body weight is incontestable; it therefore follows that heaviness is generally associated with diminished physical activity. "In obesity sloth may be more important than gluttony."

So the original proposition should be, and probably always implied, heavy persons need more food than light ones, *other things being equal*. But in this case other things are not equal; it is an interesting difference between theoretical and real-life physiology.

F. E. HYTTEN

The Relationship of Afferent Limb Stasis and Bacterial Flora to the Production of Postgastrectomy Steatorrhea. F. Goldstein, C. W. Wirts and S. Kramer. *Gastroenterology*, 40: 47, 1961.

The authors investigated the possibility previously suggested by others that postgastrectomy steatorrhea was associated with bacterial growth due to stasis in the afferent limb, as occurs in the blind loop syndrome. Technics were devised for obtaining samples of fluid for bacteriological culture from the afferent limb of patients after gastrectomy. Seven patients with steatorrhea, as demonstrated by increased fecal I^{131}-labeled triolein excretion or fat balance measurements, were found to have bacterial flora resembling that of the colon, the predominating organism being a gram-negative bacillus. The mean of 162,843,000 colonies per cc. compared with 18,940 colonies per cc. found in eleven patients without steatorrhea after gastrectomy. In the two patients with most severe steatorrhea, specific antibiotic therapy based on sensitivity determinations of cultured bacteria resulted in striking improvement in weight and fat absorption which coincided with a return of the afferent limb flora to normal. It is not stated by the authors whether the other five patients in the group with steatorrhea were so treated. On reviewing their case material, the authors concluded that mechanical factors favoring stasis in the afferent limb were present in the group with steatorrhea and were responsible for the bacterial growth.

The exact mechanism by which bacterial growth produces steatorrhea remains unknown. The authors have demonstrated that some cases of postgastrectomy steatorrhea may be added to those with blind loop syndrome, multiple diverticula and tropical sprue as being improved by antibacterial therapy.

J. B. HAMMOND

Intranasal Use of Synthetic Oxytocin in Management of Breast Feeding. P. J. Huntingford. *Brit. M. J.*, 1: 709, 1961.

Two groups each of twenty-four primiparae with healthy infants and normal nipples were selected for trial: One group was given nasal sprays containing synthetic oxytocin to use one to five minutes before a breast feed, the other group used a placebo spray.

As far as it went, and groups of subjects as small as this for a function as variable as breast feeding cannot be conclusive, the trial suggested that lactation was more easily established and milk production was better when the oxytocin spray was used. The incidence of engorgement was not affected.

F. E. HYTTEN

Efficiency of Tryptophan as a Niacin Precursor in Man. G. A. Goldsmith, O. N. Miller and W. G. Unglaub. *J. Nutrition*, 73: 172, 1961.

Nineteen experiments were conducted with fourteen adult women. Controlled diets with low or moderate amounts of niacin or tryptophan were used. Data are reported on urinary excretion of niacin and tryptophan metabolites. Results varied so greatly that the authors were led to conclude that the extent of conversion of tryptophan to niacin may be a metabolic characteristic of the individual. On the average, however, the conversion ratio was found to be 55.8 mg. tryptophan equivalent to 1 mg. of niacin. These findings are judged to be in line with ratios reported by others: 50 to 1 for the rat, and 60 to 1 for males at a state hospital. FRANK E. RICE

Clinical Evaluation of Poldine Methosulphate. A. G. Melrose and I. W. Pinkerton. *Brit. M. J.*, 1: 1076, 1961.

A description of a double blind trial of the anticholinergic drug poldine methosulphate in fifty-eight male outpatients with duodenal ulcer.

The pH of gastric juice always rose with the drug and the effect of insulin in increasing gastric secretion was effectively antagonized. Side effects in doses sufficient to have these effects were trivial.

It is concluded that poldine can be usefully employed in the immediate relief of ulcer symptoms but experience in this trial over nine months suggests that the course of the disease is not fundamentally altered. There was no reduction in the number of acute exacerbations during treatment. F. E. HYTTEN