

by intragastric instillation than intratracheal or intravenous infection. The incidence of lung lesions in human autopsy cases of aspergillosis is 0.88 which is higher than 0.5 of the other three mycoses. The incidence of lesions in the lung in aspergillosis and cryptococcosis is 0.2 and lower than 0.6 in mucormycosis and candidiasis.

130. STUDIES ON THE EXPERIMENTAL ATROPHIC INTESTINE

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Little is known about a detailed physiology and morphology of the "atrophied intestine". Experimental atrophic intestine was made in the rabbit with the use of Thiry-Vella loop technic. In two to three months following surgical procedure, isolated intestinal loop became atrophied from disuse with an apparent reduction in its diameter. It was excised and suspended in an oxygenated Tyrode bath by a modified Trendelenburg's method. Longitudinal movement and intraluminal volume change were recorded on a kymographic drum. It was shown that contraction rate of the atrophic segment was significantly less than that of normal intestine. Motility in response to a change in the intraluminal pressure was rather irregular and inconsistent in the atrophic segment. Contraction and relaxation were less marked in response to autonomic drugs added to the bath. Histology of the atrophic intestine was characterized by swollen ganglion cells, coarse and thin atrophied muscle layers and mucosa. Isolated single fibers of the atrophic intestine were obtained by treating the muscle fibers with HCl solution and its size was measured under a microscope. An atrophic fiber measures $142\ \mu$ by $5.1\ \mu$ while normal fiber measured $224\ \mu$ by $7.8\ \mu$.

Surgical implication of these findings is that when one tries to make use of an atrophic loop of the intestine which, for some reasons or other, had been excluded by a bypass enteroenterostomy, one must realize that motility and function are potentially impaired in this atrophied intestine.

131. STRUCTURE AND DISACCHARIDASE ACTIVITIES IN SMALL INTESTINE

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The structure and disaccharidase activities of the intestinal mucosa obtained by suction biopsy were investigated in postgastrectomy patients and controls. We have also studied lactose tolerance test in those patients, and finally disaccharidase activities were measured experimentally in rats. 1) Lightmicroscopically, in 18 cases of postgastrectomy, variable increase of the cells in lamina propria were seen. In 1 case of secondary Kwashiorkor and 1 case of afferent loop syndrome, the villi were reduced in height, irregular in shape and decreased in numbers. 2) Electronmicroscopically, in 10 cases of postgastrectomy, the brush-border, nuclei and mitochondria were normal, but lysosome and pinocytotic invagination were increased. 3) Disaccharidase activities were determined by the method of Dehlquist, in 8 patients and 4 controls, maltase and sucrase activities were within normal limits, in 3 cases of postgastrectomy and 1 cases of secondary Kwashiorkor, lactase activities were extremely low or absent. 4) In lactose tolerancs test, only 4 of 30 cases of postgastrectomy showed elevated blood glucose of more than 20 mg/dl. 5) Disaccharidase activities in intestinal mucosa were measured in rats given milk and compared with those of control rats. Lactase and sucrase activities were elevated in those killed after 2 and 4 weeks, and were reduced again to the control value 2 weeks after discontinuation of milk.