

Bisphenol A Glucuronidation and Absorption in Rat Intestine

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Bisphenol A, an environmental estrogen used widely in the production of plastic dishes and the coating of food cans, is reported to elute into the food contents, thus orally exposing human beings to the compound. The present study focuses on absorption and metabolism of bisphenol A in the rat intestine, as elucidated by segmented everted bowel. On application of 2 μ mol bisphenol A intraluminally, within 1 hr the absorption of bisphenol A was greater in the colon (58%) than in the proximal jejunum (34%). A small amount of free bisphenol A then appeared in the serosal side, increasing distally (maximal 1.6 nmol, colon). In contrast, bisphenol A glucuronide was transported in large amounts into the serosal side, increasing distally through the intestine (proximal: 80 nmol, distal: 478 nmol). In the mucosal side of the small intestine the greatest amount of the glucuronide (\sim 573 nmol) was excreted intraluminally, whereas in the colon the intraluminal excretion was minimal (67 nmol). These results suggest that most bisphenol A in the lumen is probably glucuronidated exclusively during its passage through the intestinal wall.