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JOURNAL ARTICLE

The male antifertility agents alpha chlorohydrin, 5-thio-D-glucose, and 6-chloro-6-deoxy-D-glucose interfere with sugar transport across the epithelium of the rat caput epididymidis

B. T. Hinton, H. Hernandez and S. S. Howards

The effects of the male antifertility agents alpha-chlorohydrin, 5-thio-D-glucose, and 6-chloro-6-deoxy-D-glucose on sugar transport (3H-3-O-methyl -D-glucose and 3H-2-deoxy-D-glucose) across the rat caput epithelium was studied in vivo and in vitro. The compound alpha-chlorohydrin reduced sugar transport uptake in vivo but not in vitro, whereas 5-thio-D-glucose and 6-chloro-6-deoxy-D-glucose were both effective in vivo and in vitro. The mechanism of action of these compounds on sugar movement across the caput epithelium is probably complex. Direct competition for the glucose carrier situated on the basolateral membrane and intratubular effects are suggested. Thirty-day injections of 5-thio-D-glucose or alpha-chlorohydrin did not have adverse effects on sugar transport or the permeability of the blood-testis and blood-epididymis barriers as assessed by an in vitro technique.

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