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ETOMIDATE BLOCKS C17-20-DESMOLASE- AND 17α-HYDROXYLASE ACTIVITY IN HUMAN TESTICULAR TISSUE.
A.Eckardt,D.Engelhardt.Departm.Medicine II,Klinikum Großhadern,University of Munich,FRG.

Etomidate, a short acting hypnotic agent and ketokonazole,an antifungal agent,are potent inhibitors of 11ß-hydroxylase activity in human adrenal tissue(1,2). Ketokonazole inhibits also testicular steroidogenesis in vitro (3).Therefore we investigated,if etomidate has also a blocking effect on testicular biosynthesis of testosterone.
Tissue slices of human testes from patients with prostatic cancer were incubated in 81 experiments with tritiated progesterone(P),17α-hydroxyprogesterone (17OH-P)or androst-4-ene-3.17-dione(A) and with various concentrations of etomidate(0.01-200µg/ml). After extraction the labeled steroids were separated together with 14C-reference steroids for recovery calculations by thinlayer chromatography with five different systems. The quantitative analysis was performed by scintillation counting.
In incubation experiments with 17OH-P and etomidate T decreased minimal to 36% compared with the basal rates without addition of etomidate. Incubations with addition of P and etomidate showed that 17OH-P decreased minimal to 22% compared with basal rates. Therefore the ratios of 17OH-P/T rose by 3.5-fold and the ratios of P/17OH-P by 6-fold in the presence of etomidate compared with the controls. Incubations with A and with etomidate showed no changes of T compared with the experiments without etomidate.
These results indicate that etomidate inhibits C17-20-desmolase- and 17α-hydroxylase activity,but not 17-ketosteroid reductase activity in human testicular tissue.
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DEHYDROEPIANDROSTERONE SULFATASE INHIBITOR :

IDENTIFICATION AND CHARACTERIZATION IN SOLUBLE PROTEINS OF GUINEA-PIG LIVER

Mohamed Moutaouakkil and Gérard Adessi

Unité de Recherche de Biochimie Hormonale et des Régulations

INSERM U 198, route de Dole, 25000 Besançon, France.

An inhibitor of microsomal dehydroepiandrosterone sulfatase (EC 3.1.6.2) was found in the soluble fraction of non-pregnant guinea-pig liver. The extent of inhibitory effect was dependent on the concentration of soluble proteins. The inhibitor was partly purified by gel filtration and hydroxylapatite chromatography with a purification factor of 16.6 . The soluble inhibitor was non dialysable, not destroyed by RNase or DNase digestion but totally destroyed by pronase digestion. The inhibitor is a soluble protein with an approximative molecular weight of 17 000 (gel permeation chromatography). The inhibition of microsomal dehydroepiandrosterone sulfatase by soluble inhibitor is a simple non-competitive inhibition providing evidence that the binding site of the inhibitor is distincted from the catalytic site of dehydroepiandrosterone sulfatase. This present finding suggests that the inhibitor may be involved in the regulation of the hydrolysis of DHEA sulfate in the liver.