

论文

用去势小鼠提肛肌-海绵球肌测定类固醇蛋白同化作用的方法

张均田;雷海鹏

中国医学科学院药物研究所药理学系,北京

摘要:

本文研究去势小鼠肾脏、提肛肌和海绵球肌对同化类固醇的反应敏感性,同时比较去势小鼠提肛肌、提肛肌-海绵球肌和大鼠提肛肌对17α-甲基睾丸素反应的差别.结果指出,去势小鼠的肾脏,无论从反应所需剂量,反应出现的快慢和反应持续时间的长短看,均系三种组织最不敏感者.提肛肌和海绵球肌对药物的敏感度大致相同.从去势小鼠和大鼠提肛肌及精囊反应上看,对药物的敏感度也大致相同.所不同者,大鼠提肛肌对药物的反应随剂量的增加而递增,不同剂量组的同化作用和雄性素样作用比值也较接近;而小鼠提肛肌的反应与剂量的关系不恒定,甚至大小颠倒,不同剂量组的比值变化也大.将去势小鼠提肛肌和海绵球肌合并后,则其反应即随剂量的增加而递增,不同剂量组的比值也很稳定.以上结果说明,用去势小鼠提肛肌-海绵球肌和精囊重量增加作为测定类固醇同化作用和雄性素样作用的指标是值得采用的.

关键词:

APPLICATION OF THE LEVATOR ANI-BULBOCAVERNOSUS MUSCLE TEST IN CASTRATED MICE TO THE STUDY OF ANABOLIC STEROIDS

CHANG CHUN-T' IEN AND LEI HAI -P'ENG

Abstract:

Anabolic activity of steroids may be assayed by body weight gain, nitrogen retention, renotropic activity in castrated mice, or by increase in the weight of the levator ani muscle of castrated rats. However, the levator ani-bulbocavernosus muscles of castrated mice have not been employed for this assay. In view of the above situation the effects of anabolic steroids upon the weights of the kidneys, levator ani and bulbocavernosus muscles of the castrated mice were investigated. The relative response in weights of the levator ani and seminal vesicles of castrated mice and rats and the levator ani-bulbocavernosus muscles of castrated mice to the administration of 17-α-methyltestosterone (MT) was also studied. Results indicate that the levator ani and bulbocavernosus muscles of the castrated mice were highly sensitive to anabolic steroids. The dose required to produce a response in the levator ani-bulbocavernosus muscles was smaller and the response appeared earlier and lasted longer as compared with those of the kidneys. The sensitivity of the levator ani-bulbocavernosus muscles and seminal vesicle test in castrated mice are similar to that of the levator ani and seminal vesicle test in castrated rats, as the response elicited in mice and in rats are about equal with approximately equal doses. The weights of the levator ani-bulbocavernosus muscles or seminal vesicles in castrated mice increased with increasing doses of MT. The ratios of the weight of levator ani-bulbocavernosus muscles and seminal vesicle of castrated mice receiving different dosages of MT were also relatively constant. Hence, it may be concluded that for the assay of anabolic activity the combined weight of the levator ani and bulbocavernosus muscles of castrated mice is a better criterion than the kidney, and the levator ani-bulbocavernosus muscles and seminal vesicle test in castrated mice may be used in place of the levator ani and seminal vesicle test in castrated rats.

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