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论文

中药大黄的综合研究 Ⅳ.大黄蒽醌衍生物在体内的吸收、排泄和分布

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摘要:

本文以人体和动物(家兔及小鼠)实验,一次口服和注射(肌肉及静脉)大黄蒽醌衍生物,以观察其在体内的吸收、排泄和分布的情况。实验结果表明,蒽醌衍生物在体内易于吸收。口服时血中浓度在2—3小时内即达最高峯,其后慢慢下降,与注射比较,高峯较低,但持续时间较长。肌肉注射半小时内即达最高峯,其后迅速下降,在4小时内可维持一定水平。静脉注射5分钟内即达特高高峯,但维持时间极短,1小时内仅余痕迹。大黄酸似乎比大黄素更易于吸收。蒽醌衍生物在体内易由粪、尿和胆汁中排泄。由粪排出总量占摄入量的23.4%,其中88%是在第一天排出,排出可持续2—3天。尿及胆中蒽醌衍生物浓度分别以6—8及4—6小时为最高,由尿排出总量占摄入量的22.8%,以2—4小时内为最高,在前8小时内排出者占61%,由尿排出可持续2天。由尿及粪排出总和占摄入量的46.2%,说明有一半多可能在体内破坏。蒽醌衍生物在各组织和脏器的分布以肝和肾为最多,心、脾、肺和脑等没有测到。口服时肝和肾均在2小时内达最高峯,肌肉注射则在半小时内达最高峯,尤其是肾脏。

关键词:

STUDIES ON CHINESE RHUBARB Ⅳ. ABSORPTION, DISTRIBUTION AND EXCRETION OF ANT1RAQUINONE DERIVATIVES

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Abstract:

The absorption, distribution and excretion of anthraquinone derivatives in animals and in human beings receiving single oral, intramuscular or intravenous doses were studied. The anthraquinone derivatives tested were easily absorbed and excreted. The peak blood levels were reached within 2—3 hours after oral ingestion. Thereafter, the concentration fell gradually. After intramuscular injection, the peak was reached within 30 minutes, the concentration fell rapidly and then maintained a nearly constant level for 4 hours. By the intravenous injection the peak was reached within 5 minutes. The concentration dropped quickly in the first 30 minutes. At the end of 1 hour, anthraquinone derivatives were not detectable in the blood. Among the anthraquinone derivatives studied, rhein was more easily absorbed than emodin. Anthraquinone derivatives were excreted by the bowel, urine and bile. The total excretion was about 46.2% of ingested does. About 23.4% was found in the feces and 22.8% in the urine. The excretion lasted 2 days. About 88% of that excreted in feces occurred in the first day and about 61% of that excreted in urine appeared in the first8 hours. Anthraquinone derivatives were distributed mainly in the liver and kidneys afterabsorption. No detectable amount was found in heart, spleen, lungs and brain.

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