

利尿薬と血糖降下薬スルホニル尿素の 家兔赤血球への分布

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Distribution of Diuretics and Hypoglycemic Sulfonylureas in Rabbit Erythrocytes

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ABSTRACT The distribution of three sulfonylureas and six diuretics in rabbit erythrocytes was studied *in vitro* at 37°C. The drugs were taken up by the erythrocyte compartment, and distribution equilibrium was reached within 60 min of incubation.

A distribution percentage in erythrocyte compartment was maintained at roughly constant value over the whole concentration range of drugs. Therefore, a linear relationship was established between total concentration of drug in whole blood or erythrocyte suspension and in the erythrocyte compartment. Bovine serum albumin combined with the erythrocyte suspension appeared to reduce drug distribution in the erythrocyte compartment. Whole blood obtained from renal failure rabbits showed greater distribution of drug in the erythrocyte compartment compared with the whole blood of a normal rabbit. This might be due to a change in plasma protein binding ability related to the progress of renal failure.

抄録 6種の利尿薬と3種のスルホニル尿素の家兔赤血球への分布を *in vitro*, 37°Cで全血および pH 7.2 等張緩衝液への赤血球浮遊液を用いて検討した。各々の薬物の血球分布率は異なるが、すべての薬物で全血なし赤血球浮遊液中の薬物濃度と赤血球分画中の濃度との間には直線関係が成り立ち、血球分布率は一定であった。赤血球浮遊液にウシ血清アルブミンを加えると、アルブミンとの結合性の大きい薬物ほど赤血球への分布率は低下した。腎障害家兔血液中の赤血球への分布は正常時に比べて増加した。これは腎障害時には薬物と血漿タンパクとの結合が大きく低下することが原因と考えられる。

薬物の血球分布の問題は、薬物の動的存在状態を知る上で、血漿タンパクとの結合の問題と同程度に重要な問題である。

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