

原著

# アスコルビン酸, エリソルビン酸単独摂取後の尿中排泄経過

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## Urinary Excretion of L-Ascorbic and Erythorbic Acids.

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### Abstract

Six female volunteers were orally given ascorbic acid (AsA) and erythorbic acid (ErA) solutions separately following two different doses of each acid, I. E., 4 mg per kilogram body weight and 6 mg per kilogram body weight, respectively. Urinary excretion rate of AsA, ErA and creatinine was determined by high performance liquid chromatography (HPLC) from the end of the administration until 10 hours later, at 2-hour intervals. The results obtained were as follows : 1 ) The concentration of both acids attained a maximum in the 2-4 hours urine of the subjects and did not recover the predose level within 10 hours after administration of each dose. 2 ) At a dosage of 4 mg per kilogram body weight, the percentage of total dose recovered of ASA and ErA excreted in the 0-10 hours urine of the subjects to the administered dose was computed to be 28% and 51%, respectively. The concentration and excretion rate of ASA in the 2-4 and 4-6 hours urine samples were significantly smaller than those of ErA ( $p < 0.01$ ). 3 ) At a dosage of 6 mg per kilogram body weight, the percentage of total dose recovered of ASA and ErA excreted in the 0-10 hours urine of the subjects to the administered dose was computed to be 40% and 52%, respectively. The concentration and excretion rate of ASA in the 2-4 hours urine samples were significantly smaller than those of ErA ( $p < 0.01$ ).

## 要約

L-アスコルビン酸(AsA)およびその異性体であるエリスルビン酸(ErA)のそれぞれをヒトに体重1kgあたり4mgずつ(4mg群)と6mgずつ(6mg群)を単独に水溶液として摂取させ、摂取後2時間おきに10時間後までの尿中排泄経過を調べ、同時摂取後の場合と比較した。AsAまたはErAの単独摂取後の尿中排泄経過は同時摂取群と同様に4mg群、6mg群ともに摂取後2～4時間の尿中排泄が最大となり、10時間後も排泄は継続した。しかしながら、単独摂取後の10時間後までの総排泄比率はErAが同時摂取の場合とほぼ同値を示したのに対し[51%(4mg群),52%(6mg群)],AsAは同時摂取の場合よりも低値を示した[28%(4mg群),40%(6mg群)]ことから、単独摂取の場合は同時摂取の場合とは逆に摂取後数時間の範囲ではErAはAsAよりも排泄量が多く、また、排泄比率も高いことを確認した。

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