

**E2-33: Studies on the dissolution of urinary calculi in *Bryophyllum* and *Crataeva* plant extracts**

Himesha Vandebona, Maya B Gunasekera, A S Amarasekera  
(Dept of Chemistry, Univ of Colombo, Colombo 3)

Urinary calculi isolated from patients admitted to Sri Jayewardenepura and Colombo General Hospitals and which had been previously analysed for their chemical composition, were chosen for this study. The majority of the calculi contained calcium oxalate or magnesium phosphate as the major constituent and sodium as a minor constituent. Investigations were carried out on the dissolution of phosphate, magnesium, calcium and sodium of urinary calculi in two plant extracts *Bryophyllum* and *Crataeva*, with respect to that in water. In the phosphatic calculi, the dissolution of magnesium in *Bryophyllum* (mean 116 mg/dm<sup>3</sup> and sodium in *Crataeva* (mean 124.75) with respect to water was significantly high ( $f = 5\%$ ). The dissolution of phosphate was considerably high in water (mean 80.77) and therefore the contribution by the plant extracts was insignificant. Calcium of phosphatic calculi did not effectively dissolve in both plant extracts. The dissolution of all the studied ions of the calcium oxalate calculi was rather low in both plant extracts when compared to that of the phosphatic calculi. The determinations of these ions were carried out using atomic absorption, flame photometry, spectrophotometric and titrimetric methods. These studies suggest that a combined herbal extract of *Crataeva* and *Bryophyllum* could be used effectively to dissolve magnesium phosphate calculi.