TITLE: **A study on the diuretic effects of *Pluchea indica* in healthy subjects and patients**

ชื่อภาษาไทย: **การศึกษาฤทธิ์ขับปัสสาวะของยาเตรียมจากขลู่ (*Pluchea indica*) ในอาสาสมัครและผู้ป่วย**

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ABSTRACT

Pluchea indica was prepared in the form of dried herb packed in a porous paper bag and used in the form of infusion and also in the form of capsule filled with spray-dried aqueous extract of the plant. These two preparations were tested for their diuretic action in 12 healthy adult Thai subjects and in 30 patients admitted to Ramathibodi Hospital with the problem of kidney stones.

The study design was a cross-over type with wash-out period of 24-48 hours. Urine output and urinary sodium and potassium concentrations were determined at 45 minute-interval for 6 hours after drug administration with 250 ml fluid (drinking water or infusion) to fasted subject. Diuresis after having drinking water alone was compared with various doses of the drug: infusion (4 bags), infusion (6 bags), 4 capsules, 6 capsules and 40 mg furosemide. In the patient group, only infusion (4 bags), 4 capsules and 40 mg furosemide were employed. All subjects received 250 ml of soybean milk at 1 hour after drug administration as light breakfast.

From the data, which was not in agreement with previous report in men, *Pluchea indica* preparations used in this study did not clearly show diuretic effect over the control under this experimental condition in both healthy volunteers and the patients. There was no statistical difference among the control and treatments with *Pluchea indica* in the mean urine output and electrolyte loss. Diuresis after furosemide was statistically difference from any other groups. Healthy subjects could be classified broadly according to their response into two groups: responders and non-responders. However, the variation in response could not be explained by order of treatment, age or kidney function. Though statistically insignificant, diuresis induced by *Pluchea indica* in healthy responders seemed to be dose-related. Responses in the patient group were much less than in the healthy subject group. The contradicting results might be due to the differences in the amount of pharmacological active compound present in the preparation. The source and location of herb location, condition and time of drug storage and process of drug preparation might affect the stability and content of active compounds and subsequently the pharmacological action.

Further investigations on the diuretic action of this plants from other locations and prepared by different processes in healthy subjects and employed other clinical trial protocol should be performed.