

Thesis Title A Cost-Benefit Analysis Comparing Surgical and
ESWL Techniques for Treatment of Stones in the
Upper Urinary Tract

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Abstract

The research's objective was to study a Cost-Benefit comparative analysis between the methods of upper urinary stone treatment, namely, the operation method - (Nephrolithotomy) and the Extracorporeal Shock Wave Lithotripsy or the ESWL-method. The sample of 49 and 46 patients had been recruited to enter the study programs. These patients process the stone size of not to exceed 3 centimeters and sought for treatment at the Uro-Surgery Department of Rajavithi Hospital within the period of September 1989 to June 1990. The treatment for those 95 patients were conducted under the responsibilities of 9 Uro-Surgery

physicians, they also generated data and related information of the patients' treatment. Other data, e.g. expenses and personal data were collected through the interviewing of patients and/or their relatives. The hospital records on revenue and expenditures were also supplemented to the data files.

Most of the patients entering the programs are 39-42 years old. The major of surgical group are residing in the northeastern region while those of the ESWL-group are mostly from the central part of the country. Their basic education was in elementary level. The personal average incomes are ranging from 78,505 to 102,953 per annum. Incomes of the ESWL patients are significantly higher than those of the other. Both group of patients have had chronic symptom for a period of 30-40 months prior to the entering of the programs. To obtain treatment at Rajvidhi Hospital, they were referred by their family physicians. The most common signs and symptoms before entering treatment course were "back-ache" and "pain in lower abdomend", "bloody-urine", "fever", and "weakness and vomitting". After the treatment, the surgical group have heamorrhage and poor kidney-function, they need a rehabilitation period of 1-2 months, they also face a high cost-saving. In contrast to the ESWL-patients, they are quite able to walk home after 1-2 days with recovering under the rate of 90-100 % following the discharges.

The analyzed results can be concluded into two aspects, e.g.

(1) the average "Net Benefit" from the ESWL group is 1,063,642 baht per patient, whereas the corresponding figure from the surgical group is 584,790 baht per patient, (2) the "Benefit to Cost Ratio" of "ESWL" to "Operation" is 5 : 3.

The results from extended analysis on "Sensitivity Analysis" have expressed two supplement views. That is, while the discount rates vary from 0.1 to 0.2, the "Benefit to Cost Ratio" of the "ESWL" patients is constant and approximately twice of those from the "Surgical" group. If the number of patients were ranging from 200 to 2,000 patients, the "Benefit to Cost Ratio" of the "ESWL" patients has an increasing trend as contrast to those of the "Surgical" group.