A Quality and Cost-Benefit Analysis of Dialyzer Reuse in Hemodialysis Patients

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Abstract

Background. To evaluate the benefits of dialyzer reuse for hemodialysis (HD) patients, including the cost of HD treatment and patient's survival, a comparison was made regarding the standard practice of single-use dialysis. *Methods*. From January 1, 2005, to December 31, 2005, a total of 128,232 successive HD treatments in 822 patients in Chang Gung Memorial Hospital-Kaohsiung Medical Center were included in this study. *Results*. Approximately 54.25% (446/822) of patients reused dialyzers. The average times of dialyzer reuse was 2.54. The annual hollow fiber cost is reduced by $241,054.08 U.S. dollars (NT $7,834,257.60). The annual cost of hollow fiber was reduced by $540.48 U.S. dollars (NT $17,565.60) in one patient with dialyzer reuse. The mortality rates in dialyzer reuse and single use groups were 3.1% and 10.9% within one year ($p < 0.0001$). Multiple logistic regressions showed that single use compared with reuse was associated with higher mortality after adjusting co-morbid conditions including age, diabetes mellitus, etc. *Conclusions*. We concluded that the benefits of dialyzer reuse included safety in our center and reduction in cost during a 12-month period. Dialyzer reuse may be a safe alternative.

Keywords: dialyzer reuse; cost; survival; hemodialysis