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## Survival after complete surgical resection of multiple metastases from renal cell carcinoma.

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### Abstract

**BACKGROUND:** Although a role for resection of solitary metastases from renal cell carcinoma (RCC) has been described, the utility of surgery in patients with multiple sites of disease has been less well defined. The authors report the survival of patients who underwent complete metastasectomy for multiple RCC metastases.

**METHODS:** The authors identified 887 patients who underwent nephrectomy for RCC between 1976 and 2006 who developed multiple metastatic lesions. The impact of complete metastasectomy on survival was evaluated controlling for the timing, location, and number of metastases and for patient performance status.

**RESULTS:** Of 887 patients, 125 (14%) underwent complete surgical resection of all metastases. Complete metastasectomy was associated with a significant prolongation of median cancer-specific survival (CSS) (4.8 years vs 1.3 years;  $P < .001$ ). Patients who had lung-only metastases had a 5-year CSS rate of 73.6% with complete resection versus 19% without complete resection ( $P < .001$ ). A survival advantage from complete metastasectomy also was observed among patients with multiple, nonlung-only metastases, who had a 5-year CSS rate of 32.5% with complete resection versus 12.4% without complete resection ( $P < .001$ ). Complete resection remained predictive of improved CSS for patients who had  $\geq 3$  metastatic lesions ( $P < .001$ ) and for patients who had synchronous ( $P < .001$ ) and asynchronous ( $P = .002$ ) multiple metastases. Moreover, on multivariate analysis, the absence of complete metastasectomy was associated significantly with an increased risk of death from RCC (hazard ratio, 2.91; 95% confidence interval, 2.17-3.90;  $P < .001$ ).

**CONCLUSIONS:** The current results indicated that complete resection of multiple RCC metastases may be associated with long-term survival and should be considered when technically feasible in appropriate surgical candidates.

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