How many prostate cancer patients are considered 'cured' after radical prostatectomy? Vassiliou, E.J.K., Yu, H., Trachtenberg, J., Nam, R., Narod, S., Diamandis, E.P. Department of Pathology & Laboratory Medicine, Mount Sinai Hospital, Toronto, ON, Department of Laboratory Medicine & Pathobiology, University of Toronto, ON; The Prostate Centre, The Toronto Hospital, Toronto, ON; The Centre for Research in Women's Health, University of Toronto, ON and Section for Cancer Prevention and Control, Louisiana State University, Shreveport, LA 71130.

The objective of this study was to determine how many prostate cancer patients who have undergone radical prostatectomy can be considered cured, based on non-changing PSA levels in their serum over long periods of time. 197 patients from whom we had at least 4 (median 6) serial serum samples over a 5-year post-surgical period were selected. All patients had post-operative PSA less than 0.1 µg/L. These patients were monitored by serum PSA analysis with an ultrasensitive assay (detection limit of 0.001 µg/L). Based on PSA changes with time, the patients were classified in three groups. Group 1 (118 patients) maintained post-surgical PSA at very low levels (generally less than 0.01 µg/L) which was not changing significantly with time. Group 2 (30 patients) had slowly rising PSA with doubling times greater than 300 days. Group 3 (52 patients) had definite biochemical relapse with PSA rising continuously over time. We found that all patients who relapsed, except one, demonstrated rising PSA levels within 2 years post-surgery. One patient had undetectable PSA for 3½ years and then developed relapse, with rapidly changing PSA values. These data suggest that if post-surgical PSA does not change significantly within the ultrasensitive regime (0.001–0.1 µg/L) within 3 years post-surgery, these patients can be considered cured from the disease. Our data also show that based on this definition, at least 60% of prostate cancer patients can be considered cured by prostatectomy.

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