

## **Decipher Test Impacts Adjuvant Treatment Decision-Making among Patients with High-Risk Pathology at Radical Prostatectomy: Results from the Multicenter Prospective PRO-IMPACT Study**

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**Background:**

The decision to provide adjuvant therapy to men with high risk pathology after radical prostatectomy (RP) is confounded by tremendous uncertainty. We prospectively evaluated the impact of the Decipher® test (GenomeDx Biosciences Inc., Vancouver), which predicts metastases after RP, on patient and provider decision quality.

**Methods**

150 adjuvant patients were enrolled by 43 urologists from 19 community and academic practices. Patients with pathologic T3 stage classification (pT3) or positive surgical margins (SM+) after RP were included. Participating physicians provided a management recommendation before and after exposure to Decipher test results. Patients completed validated surveys on health-related quality of life, decisional conflict, and prostate cancer-related anxiety.

**Results**

Median patient age at RP was 64 years; 67% and 50% had pT3 and SM+ pathology, respectively. Decipher classified 46%, 22% and 32% of men as low-, intermediate- and high-risk, respectively. Pre-Decipher, observation was recommended for 89%. Post-Decipher, 18% (95% CI 12-25%) of treatment recommendations changed, including 9% of low-risk and 31% of high-risk Decipher patients. Patients' Decisional Conflict Scale (DCS) scores decreased (indicating higher decision quality) after exposure to Decipher results (median DCS pre-Decipher 25 [IQR 8-44], median DCS post-Decipher 19 [IQR 2-30],  $p < 0.001$ ), with greatest decreases in the subdomains of decision uncertainty and decision support. Patients with low-risk Decipher results experienced a trend toward decreased prostate cancer-specific anxiety ( $p = 0.13$ ) and a significant reduction in fear of prostate cancer recurrence ( $p = 0.02$ ). Physicians' median DCS scores decreased from 32 [IQR 28-36] to 28 [IQR 12-42] ( $p < 0.001$ ). Decipher results were associated with the decision to pursue ART in multivariable logistic regression (OR 1.48; 95% CI 1.19-1.85,  $p < 0.001$ ).

**Conclusions**

Observation is the predominantly prescribed management strategy for patients with high risk features at RP. Knowledge of Decipher results was associated with treatment decision-making among these patients: patients at low risk for metastasis had higher rates of observation recommendations and patients at high risk had higher rates of ART recommendations. Decision quality was improved and prostate cancer-specific anxiety was decreased for patients exposed to Decipher results.

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