

Piquemal D, Noguier F, Bruno R, Manchon L, Pierrat F, Morent M and Trentin B

The metastatic pancreatic cancer has been treated for over a decade using a single-agent gemcitabine which has been the standard first-line treatment. Other treatments, like erlotinib (Tarceva®) and nab-paclitaxel (Abraxane®), received approvals based on very modest survival benefits compared with gemcitabine alone; i.e. respective median OS gains of 0.3 and 1.8 months with corresponding absolute 1-year survival gains of 6% and 13%. More recently, Folfirinox treatment shown a median OS of 11.1 months. Currently, no test exists to aid the clinician determining patient's response to the treatments. Acobiom is involving in the field of "P4 Medicine" (Predictive, Personalized, Preventive, Participatory medicine).

In a **without a priori analysis**, from clinical trial phase III and based on a high throughput analysis of NGS data using the proprietary Acobiom genomics platform (Big Data system dedicated to Biomarker discovery), Acobiom identified a set of genes in a pre-discovery phase. Using Real-Time PCR, these genes are analyzed. Based on DCt values, candidate genes were selected for test significance and a **Gene Expression-based Score** established,

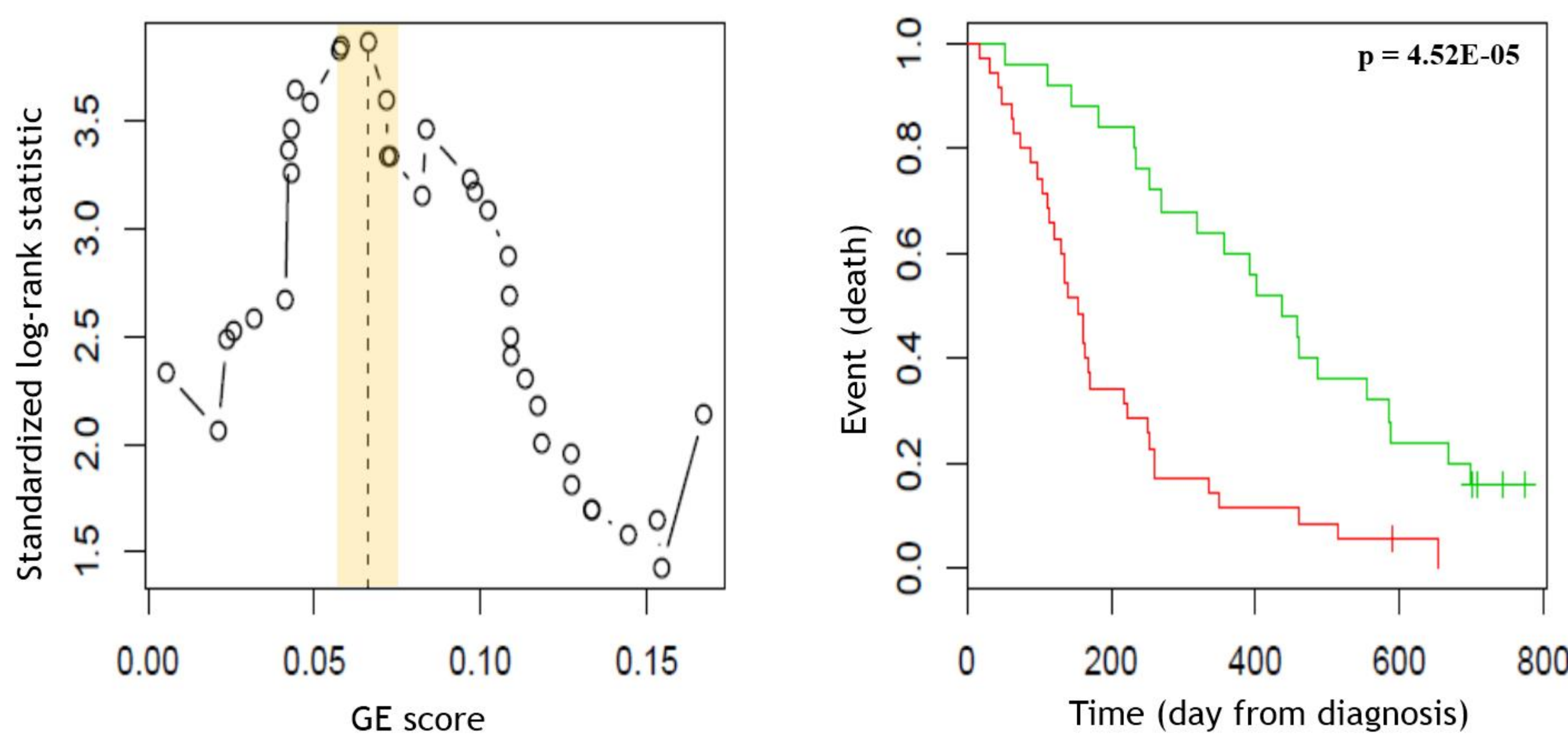
$$GE\ score = \sum_{i=1}^n (DCt_n \times \beta_n)$$

Test results are reported as a single score indicating the probability survival rate based on a n gene, test algorithm, including its final constituent genes and an assignment of a coefficient, or relative importance, for each gene.

GemciTest™: A New In Vitro Diagnostic Multivariate Index Assay based on a 6-gene blood-signature

Acobiom identified a 6-gene blood-signature to develop the GemciTest™, a new In Vitro Diagnostic Multivariate Index Assay (IVDMIA) associated with gemcitabine in pancreatic cancer treatment.

6-gene blood signature for GE score



	Median overall survival	Median overall survival (differentiated using GemciTest Assay)	
OS (month)	6.5	5.1	14.9
Number of patients (%)		35 (58%)	22 (37%)
1-year survival rates	~ 17-25%	~ 12%	~ 65%

GemciTest™ is a quantitative real-time PCR assay and is intended to quantitatively aid in the determination of high probability survival rates of patients diagnosed with pancreatic cancer and treated with gemcitabine.

As a result, GemciTest™ in combination with gemcitabine treatment improves the overall survival rate by twice for pancreatic cancer patients with a positive testing score. Moreover this drug-diagnostic association leads to reducing healthcare system expenditures granting this combination as a best-in-class approach for pancreatic cancer treatment.

