WREN Laboratories | NETest™

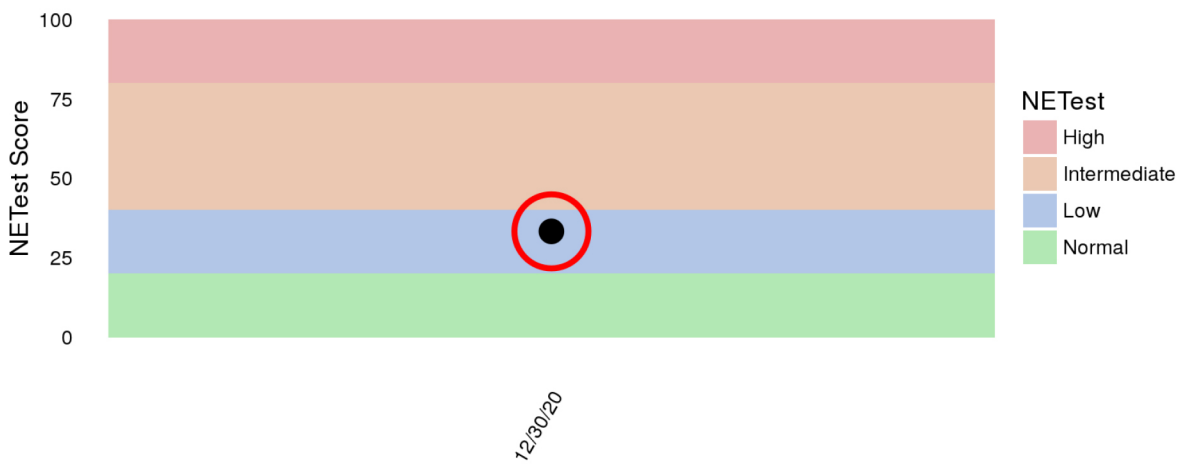
Patient Information	
NAME:	XX XX
DOB:	XX/XX
PHONE:	XXXX
PDx #:	0010000851
ICD 10:	C7A.019

Sample Information	
SAMPLE NUMBER:	10002514
SAMPLE COLLECTED:	30 Dec. 2020
DATE RECEIVED:	31 Dec. 2020
DATE REPORTED:	8 Jan. 2021
TEST:	NETest™

Provider Information	
REFERRING PHYSICIAN:	XX XXX, MD
NPI:	XXXX
PRACTICE:	XXXX

NETest™ Results

Result: 33.3 Remark: Low



NETest Score:	33.
Classification:	Low.
Disease Status:	Small bowel NET, G2 (Ki67=15), stage IV. Hemicolectomy (2016), Y90 (9/2019), Lutathera (started 6/2020), on 4th cycle.
Current Treatment:	Lutathera (cycle 4).
Interpretation:	Molecular evidence of stable disease.
Comments:	NETest is low consistent with disease stabilization.
Recommendation:	Patient is PPQ+ and predicted to respond to PRRT.

Mark Kidd, PhD

The NETest™ score measures the tumor activity in blood of WHO Grade I, II and III gastroenteropancreatic and bronchopulmonary NETs and NECs, including MANECs. The score is scaled from 0 (lowest risk) to 100 (highest risk). Scores provide an assessment of disease progression. The lower the score the less the risk of disease recurrence and the greater the likelihood of progression free survival. Increased scores reflect an increased likelihood of disease progression. A score ≥80 is associated with a poor outcome irrespective of tumor site or grade unless effective therapeutic intervention is undertaken.

NETest™ Methodology and Score Calculation

The NETest™score is an algorithmic assessment of 51 individual normalized neuroendocrine tumor transcripts resulting from PCR amplification in peripheral blood samples [1-3]. The algorithm was derived from mathematical modeling and multivariate analysis of PCR data [1-2]. The gene signature has been tested and independently validated [4-14]. The accuracy metrics for gastroenteropancreatic grade I-II-III and bronchopulmonary NETs (typical, atypical carcinoids, small cell cancers and large cell NECs) are sensitivity (>95%) and specificity (>95%) [5-24]. In MEN-1 and other neuroendocrine-related neoplasia (paraganglioma or pheochromocytoma) NETest accuracy is 95-100 In MEN-1 and other neuroendocrine-related neoplasia (paraganglioma or pheochromocytoma) NETest accuracy is 95-100% [19].

Laboratory Developed Test (LDT)

This test was developed and its performance characteristics determined by Wren Laboratories LLC, which is certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA-88) and is qualified to perform high-complexity clinical laboratory testing. The assay has been validated pursuant to CLIA regulations and is used for clinical purposes. It has not been cleared or approved by the FDA but the FDA has determined that such clearance is not necessary.
Medication: The test is unaffected by PPIs but NETest scores can be reduced by somatostatin analogs [5, 14, 18, 22, 24].
Interventions: Peptide Radionuclide Receptor Therapy (PRRT), embolization (bland or chemical), radiofrequency ablation and surgery, have been noted in the short-term (during intervention), to increase circulating levels in some cases [20, 21]. Decreasing scores during therapy and low scores (≤40) after completion of therapy is associated with treatment efficacy [5, 9-14, 16-23].

Clinical Implications of the NETest™ Score

Overview

Low NETest (≤ 40), is associated with a longer PFS [5, 6, 8-14, 16-23].
High NETest (≥ 40), is associated with a shorter PFS [5, 6, 8-14, 16-23].

Surgery

Low NETest (0-40), in the absence of image-detectable disease, suggests no or minimal disease [5, 10-13, 16-18, 21].
High NETest (41-100) indicates residual disease. A high NETest, in the absence of image-detectable disease, indicates active recurrent disease [5, 10-13, 16-18, 21].

Standard Treatment & Monitoring Protocols

Low NETest (≤ 40), is considered useful for demonstrating treatment efficacy [5, 8-10, 14, 18, 22, 23]. Consecutive low NETest scores correlate with tumor stability and identify slow progression or a response to therapy [5, 9, 10, 14, 18, 23].
High NETest (≥ 40), is considered useful for identifying tumor progression despite treatment [5, 9, 10, 14, 18, 23]. Increases in consecutive NETest scores <40 correlate with tumor growth and predict image-confirmation of tumor progression [5, 9, 10, 14, 18, 23].

References

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