DCIS患者の再発リスクを予測する新たな検査（Abstract # S4-6）

複数遺伝子アッセイは非浸潤性乳管がん局所再発リスクを予測する

Multigene assay predicts risk for local recurrence for patients with ductal carcinoma in situ

非浸潤性乳管がん（DCIS）患者治療の有意な進歩として、乳がん再発リスクを発見する複数遺伝子検査が開発され前向きに検証された、と2011年CTRC-AACRサンアントニオ乳がんシンポジウムで報告された。この方法は、腫瘍の遺伝子発現計測と遺伝子発現アルゴリズムを組み合わせて、患者のがんの遺伝子基盤を解読し、個々の患者が手術（通常乳腺腫瘍摘出術）で治療されるべきか手術と放射線治療とで治療されるべきかを決定する。研究者らは、オンコジーンDX乳がんアッセイとDCISスコアアルゴリズムを用いて327人の患者の腫瘍を検査およびスコア化し、再発リスクを決定する研究を行った。分子基盤のアッセイを用いた結果、研究者らは再発リスクの高い患者およびリスクの低い患者の同定に成功した。彼らはまたE5194試験の10年間の結果を報告した。この試験において46人が同側乳房イベント（IBE、フォローアップ期間中央値8.8年）を発現した。タモキシフェン使用で補正すると、持続的DCISスコアとIBEには有意な相関が認められ、腫瘍サイズ、腫瘍グレードおよびマージンの状態などの従来の計測値を超える価値を有していた。多くのスタディの結果、ルーチンの顕微鏡的病理学的グレーディングは信頼できる再発リスクのインディケーターではないことが示されている。

Full Text

In a significant advance for patients with ductal carcinoma in situ, researchers have developed and prospectively validated a multigene test to identify the risk for recurrence of breast cancer.

The method combines measuring tumor gene expression with a gene expression algorithm to decipher the genetic underpinnings of a patient's cancer and determine whether the individual patient should be treated with surgery (usually lumpectomy) or a combination of surgery and radiation.

This is the first time a multigene test has been used to differentiate lower-risk and more aggressive forms of ductal carcinoma in situ (DCIS) and will allow physicians to spare many patients the need to undergo radiation, according to researchers.

Lawrence J. Solin, M.D., FACR, FASTRO, chair of the department of radiation oncology at Einstein Medical Center in Philadelphia, presented the results at the 2011 CTRC-AACR San Antonio Breast Cancer Symposium (SABCS).

"Using a molecular-based assay, we have successfully identified patients at higher risk for recurrence and patients at lower risk," said Solin. "This is an important advance for women with newly diagnosed DCIS. By predicting individual risk, physicians can provide a more tailored treatment program for each patient."

The validation study of the DCIS Score was a collaboration among the Eastern Cooperative Oncology Group (ECOG), North Central Cancer Treatment Group and Genomic Health. The validation utilized patient tumor samples from E5194, an ECOG-led, multi-institutional study of patients with low-, intermediate- or high-grade DCIS who had been treated surgically but had not received radiation. E5194 was the first prospective study of local excision alone for DCIS, and its five-year results were reported at SABCS in 2006 (L. Hughes).

Researchers tested and scored tumors from 327 patients to determine their risk for recurrence. The DCIS validation study team used the Oncotype DX breast cancer assay, which has been available for invasive breast cancer since 2004, and a DCIS Score algorithm to study these tumor samples.

The test uses reverse transcriptase-polymerase chain reaction technology, which quantitates the level of RNA in the individual tumor sample to reveal its underlying biology. The level of RNA is then used by a prespecified algorithm to calculate a DCIS Score, which predicts the likelihood of local recurrence, defined as either the development of a new invasive breast cancer or the recurrence of DCIS.

Solin also reported 10-year results of E5194, in which 46 patients had an ipsilateral breast event (IBE; defined as ipsilateral local recurrence of DCIS or invasive cancer) at a median follow-up of 8.8 years. Continuous DCIS Score was significantly associated with IBE when adjusted for tamoxifen use and provided value beyond the traditional measures of tumor size, tumor grade and margin status.

Numerous studies, including the current study, have shown that routine, microscopic pathology grading is not a reliable indicator of the risk for recurrence.

"The DCIS Score will help physicians understand the underlying biology of DCIS for an individual patient and accurately gauge the risk for that person," said Solin. "As a result, the patient and physician can decide on the appropriate course of treatment based on a more complete understanding of the risk involved."

TOPICS