化学療法の成功する患者の予測（Abstract #: 7510）

15の遺伝子の発現プロファイルから術後化学療法の最も有益な早期非小細胞肺がん患者が予測できる可能性がある

Expression profile of 15 genes may predict which patients with early-stage non-small cell lung cancer are most likely to benefit from postoperative chemotherapy

15の主要遺伝子の発現プロファイルから早期非小細胞肺がんの進行の速さを予測でき術後化学療法が最も有効と考えられる患者を見極めることができる可能性がある、とAmerican Society of Clinical Oncology学会で発表された。研究者らは、ビノレルビンとシスプラチンによる術後療法が生存期間に有益性をもたらしたことを示したあるスタディの参加者133人の腫瘍検体を解析した。まず、研究者らは化学療法を受けていない患者における生物学的悪性度と遺伝子発現プロファイルの相互関係を示すために、再発リスクの高さと発現レベルに相関する15の遺伝子を同定した。次に、化学療法を受けた患者71人の腫瘍検体を評価した。悪性度の高い進行の速い腫瘍と予測された患者は、化学療法の最大の恩恵を被ることが示された（死亡リスクが67%低下）。一方、再発および死亡のリスクが低いと予測された患者において化学療法は死亡のリスクを低下させなかった。

Full Text

The expression profile of 15 key genes may predict aggressiveness of early-stage non-small cell lung cancer and identify the patients most likely to benefit from postoperative chemotherapy, according to a presentation at the annual meeting of the American Society of Clinical Oncology.

"Not all patients benefit from chemotherapy and not all patients require chemotherapy after surgery," said lead author Ming Tsao, MD, professor of laboratory medicine and pathobiology at the University of Toronto. "Knowing that a patient has a genetic signature for a more aggressive cancer and that their chance of cure may be improved with chemotherapy gives patients and their doctors a clearer picture of the need for post-operative treatment."

The current study is a follow-up analysis of data from a trial conducted by the National Cancer Institute of Canada Clinical Trials Group (JBR.10, conducted in collaboration with the US National Cancer Institute), which showed a significant survival benefit from postoperative vinorelbine and cisplatin in patients with stage I and II non-small cell lung cancer.

In the current analysis, Researchers performed a genetic analysis of tumor tissue from the 133 (28 percent) of the 482 patients from the JBR.10 study who had banked frozen tumor samples available. They identified a group of 15 genes that together predicted patient outcome. Some of these genes are known to play important roles in cell growth and death or regulate other genes involved in cancer.

The investigators first identified the 15-gene expression profile in 62 patients who did not receive adjuvant chemotherapy and used it to predict which patients had aggressive cancers with a high risk of recurrence and death (31 patients) and which had less aggressive disease and a low risk of recurrence (31 patients).

Finally, researchers checked the gene profile in 71 patients who were randomized to chemotherapy in the JBR.10 trial. Patients predicted to have aggressive disease were found to obtain the greatest benefit from chemotherapy -a 67 percent reduction in the risk of death - while chemotherapy did not reduce the risk of death in patients designated as low risk.

While a previous JBR.10 analysis showed that overall, only patients with stage II disease benefited from chemotherapy after surgery, this study has demonstrated that the 15-gene signature may identify patients with both stage I and II cancers who may benefit from post-operative chemotherapy, further supporting its use in the selection of appropriate treatment.

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