

## Gene expression signature associated with survival in advanced ovarian cancer

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A new study published this week in the open-access journal *PLoS Medicine* identifies molecular pathways associated with outcomes in ovarian cancer. Currently, outcomes following diagnosis of ovarian cancer are very poor, with up to 65-70% of women dying within five years of diagnosis.

Anne Crijns and her colleagues from the University of Groningen in the Netherlands aimed to find out whether the expression levels of particular genes were associated with overall survival in ovarian cancer. The researchers initially studied a series of tissue samples, obtained during surgery to remove cancerous tissue from 157 consecutive patients seen at the University Medical Center Groningen. Analysis of the samples identified 86 genes which correlated with overall survival in the women. The researchers were then able to confirm, for 57 of the 86 genes, that these were also correlated with survival in a second, entirely separate dataset. Specific genes, and pathways, were identified which provide specific targets around which researchers might be able to design potential therapies in future.

For example, Crijns and colleagues find high expression of a gene encoding a FK506 binding protein, FKBP7, is associated with poor prognosis. This protein can be targeted with existing drugs, the mTOR inhibitors. Another implication of the work discussed by the researchers is the use of this expression signature to identify women who are at greater risk of relapse, and thus potentially personalize treatment. However, as the authors acknowledge, such implications are still some



way off. It would be important to carry out prospective studies in order to show that the signature performs effectively in a clinical setting.

The new study is discussed in an expert commentary by Simon Gayther and Kate Lawrenson of University College London, who were not involved in the study.

Citation: Crijns APG, Fehrmann RSN, de Jong S, Gerbens F, Meersma GJ, et al. (2009) Survival-related profile, pathways, and transcription factors in ovarian cancer. PLoS Med 6(2): e1000024. doi:10.1371/journal.pmed.1000024 medicine.plosjournals.org/perl ... journal.pmed.1000024

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