MedicalXpress

Predicting the future in ovarian cancer

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Kisspeptin and its receptor GPR54 predict a favourable clinical outcome in women with ovarian carcinoma, and are specific for the clear cell carcinoma subtype, research published this week in the online open access journal, BMC Medicine, reveals.

The kisspeptins, a family of peptide hormones, and the receptor GPR54 have previously been associated with anti-metastatic activity in certain human tumours. In this study, researchers have shown that kisspeptin and GPR54 are independent prognostic biomarkers specific for ovarian clear cell carcinoma - the first such markers to be identified.

A research team based at the BC Cancer Agency and Vancouver General Hospital, Vancouver, Canada created a tissue microarray - paraffin blocks which allow numerous tissue samples to be analysed simultaneously - from 518 cases of early-stage ovarian carcinoma. They analysed the samples using antibodies against kisspeptin and the G-protein-coupled receptor GPR54. Cases that showed strong staining for either kisspeptin or GPR54 were scored as positive, the rest negative.

The study revealed that patients who were positive for both kisspeptin and GPR54 had a favourable prognosis as compared to those patients who were negative for both kisspeptin and GPR54 cases - both in terms of disease-specific survival and overall survival. Researchers also found that these molecular markers were significantly associated with the clear cell ovarian carcinomas subtype.

Few prognostic or predictive molecular markers for ovarian cancer exist,

yet such markers could be vital for the early diagnosis and management of the disease. The authors propose that in the future, serum kisspeptin levels could provide a means to monitor disease activity, and kisspeptins may even have use as therapeutic agentsin women with ovarian clear cell carcinoma. These possibilities require further research, however.

They write: "We anticipate that the strong association of GPR54 and kisspeptin expression with outcome and clear cell type in ovarian carcinoma will stimulate fresh approaches to what is still a lethally intractable disease."

Source: BioMed Central