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A novel serum microrna panel to discriminate benign from malignant ovarian disease

Ream Langhe
St. James's Hospital, Ireland

Background: Ovarian cancer is the seventh most common cancer in women and the most frequent cause of gynecological malignancy-related mortality in women. Currently, no standardized reliable screening test exists. MicroRNA profiling has allowed the identification of signatures associated with diagnosis, prognosis and response to treatment of human tumors. The aim of this study was to determine if a microRNA signature could distinguish between malignant and benign ovarian disease.

Methods: A training set of 5 serous ovarian carcinomas and 5 benign serous cystadenomas were selected for the initial experiments. The validation set included 20 serous ovarian carcinomas and 20 benign serous cystadenomas. The serum/plasma focus microRNA Exiqon panel was used for the training set. For the validation set a pick and mix Exiqon panel, which focuses on microRNAs of interest was used.

Results: A panel of 4 microRNAs (let-7i-5p, miR-122, miR-152-5p and miR-25-3p) was significantly down regulated in cancer patients. These microRNAs target WNT signaling, AKT/mTOR and TLR-4/MyD88, which have previously been found to play a role in ovarian carcinogenesis and chemo resistance.

Conclusion: let-7i-5p, miR-122, miR-152-5p and miR-25-3p could act as diagnostic biomarkers in ovarian cancer.

Biography

Ream Langhe completed her undergraduate studies with MB CHB degree in 1994. She then worked as an Obstetrician & gynecologist hospitals from 1994 to date. In 2006, she was awarded MSc and got PhD in 2014. During her PhD course she got membership in Obstetrics & gynecology. She also completed a Postgraduate diploma in Statistics and worked as an academic tutor in Trinity College. She acted as a primary investigator for second year meds projects. Recently, she was awarded DRCOG degree from RCOG. She is currently working as an Obstetrician & Gynecologist in Midland Regional Hospital Mullingar in Ireland.

reamlanghe@yahoo.co.uk

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