Study reveals improved prediction of prostrate cancer

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Scientists are another step closer to understanding why some people suffer from life-threatening diseases such as cancer. Research published in the new online open access journal *BMC Medical Genomics* reveals a model that may enable more accurate prediction of the risk of prostate cancer progression. By combining the Gleason score (a pathological score given to prostate cancer based on its microscopic appearance) with structured data from biomarker assessments, the researchers have developed a model for predicting the likelihood of prostate cancer virulence.

The research team from the University of Texas M. D. Anderson Cancer Center, led by Dr. Timothy McDonnell, used tissue microarrays with specimens covering the spectrum of low to high grade prostate cancer, to address several questions of clinical and pathological interest. The biomarkers evaluated in this study comprised well-characterized cell cycle and cell death regulators known to be variably expressed by prostate cancers. Significant differences in the molecular signatures were found among these varying grades of tumors, and a biostatistical model was developed using a limited number of molecular markers to enable a more accurate prediction of the risk of prostate cancer progression.

“We believe these findings will be of potential benefit to a substantial portion of the patient population diagnosed with early prostate cancer by providing valuable information regarding the risk of disease progression” says McDonnell. “With this type of information patients could be more appropriately managed based on their individual risk profile.”

Healthcare professionals are increasingly turning to the use of genomic techniques to understand why some people are predisposed to certain conditions such as infections, addictions, and illnesses like diabetes, heart disease, and schizophrenia, while others are not. By employing these techniques, researchers and physicians could soon offer patients a more tailored and individual medical treatment program. The launch of the open access journal BMC Medical Genomics gives these professionals immediate and free access to research articles, aiding in the development of new and better ways to improve health and prevent diseases.

Publisher BioMed Central recognizes that genomic approaches to medicine will contribute greatly to the delivery of personalized medical treatment in the future and allow a better understanding of the molecular basis of diseases. The publisher is committed to being at the forefront of research published in the field of genomics, with developments in genome-scale population genetics, epigenetics, personalized medicine and pharmacogenomics all planned for the future.

Source: BioMed Central