Heidelberger Kolloquium
Medizinische Biometrie, Informatik und Epidemiologie

Sehr geehrte Damen und Herren,

hiermit laden wir Sie herzlich ein zu dem Vortrag:

"Aspirin for the chemoprevention of colorectal cancer"

von
Aayah Nounu
University of Bristol

am Montag, 14.10.2019, 16.15 Uhr

Im **K13**,Turm Süd **Marsilius Arkaden**, Im Neuenheimer Feld 130.2, 69120 Heidelberg

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Colorectal cancer (CRC) is the third most common cancer worldwide. Observational studies and randomised controlled trials for vascular events have shown aspirin as a possible chemopreventative agent in CRC. Aspirin is a well-established inhibitor of the (COX)/(PGE2) signalling pathway. However, an aspirin derivative (NCX-4016) that does not inhibit COX activity was reported to have a better chemopreventative effect in a mouse model of colon cancer implicating other unknown aspirin anti-cancer effects. Furthermore, evidence is emerging to suggest therapeutic resistance i.e. decreased sensitivity to aspirin with increased time to exposure, may occur. Studies have shown that patients who take aspirin post-diagnosis, but not pre-diagnosis, have a reduced risk of mortality, suggesting that length of exposure time may influence patient sensitivity to the drug. Since aspirin has previously been shown to influence histone acetylation, we hypothesised that it may also be affecting DNA methylation.

Since the complete effects of aspirin are still unknown, we combined multiple 'omics (methylomic, proteomic and transcriptomic) data to identify possible new targets of aspirin, then followed these up with functional laboratory experiments to understand the role of aspirin on these proteins in the context of colorectal adenoma cells. We also carried out experiments to investigate how duration of treatment with aspirin influences spheroid growth and compared the effect of short-term and long-term aspirin treatment on DNA methylation. Finally, since there are few randomised controlled trials of aspirin for primary prevention of colorectal cancer, we attempted to assess the association between aspirin metabolites and risk of CRC incidence through a two-sample Mendelian randomization approach.

Alle Interessenten sind herzlich eingeladen!

Gezeichnet: Dickhaus, Kieser, Knaup, Kopp-Schneider, Wellek

Organisation: Birgit Schleweis
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