The RADIOMICS Revolution: New Breakthrough in Radiology?

Cohort and Population-Studies: What are currently ongoing efforts in the Europe and why may they be impacting on Radiology?

Big Data in Imaging Science: What can be learned and expected

German National Cohort MRI Study: Status Quo?

Kurzfassung: Quantitative imaging data will enable computerized decision-support systems to improve diagnostic and prognostic accuracy, according to experts in the rapidly expanding field of radiomics. Radiomics is the high-throughput extraction of large amounts of data from medical images and applies advanced computational methods to convert medical images into a large number of quantitative descriptors of oncologic tissues. Quantitative imaging data will enable computerized decision-support systems to improve diagnostic and prognostic accuracy, according to experts in the rapidly expanding field of radiomics. Radiomics is the high-throughput extraction of large amounts of data from medical images and applies advanced computational methods to convert medical images into a large number of quantitative descriptors of oncologic tissues. In terms of clinical relevance of radiomics, quantitative imaging features can improve diagnostic accuracy and prediction of treatment response. The use of in vivo, quantitative prognostic and predictive imaging biomarkers, such as those provided by radiomics analyses, will be essential to selecting the right patient for the right treatment in the era of precision medicine. The use of in vivo, quantitative prognostic and predictive imaging biomarkers, such as those provided by radiomics analyses, will be essential to selecting the right patient for the right treatment in the era of precision medicine.

Lernziele: Radiomics allows to identify those patients who may gain the most benefit from targeted tumor therapy and advance the knowledge in the noninvasive characterization of tumors.
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