

PATHOLOGICAL ASPECTS OF CLINICAL TRIALS

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DISCLOSURES

Prof Röcken has reported no conflict of interest

PATHOLOGICAL ASPECTS OF CLINICAL TRIALS

Key points

- ◆ Support in clinical studies
- ◆ Participation in preclinical investigations
- ◆ Implementing trial results, notably concerning companion diagnostics, into diagnostic pathology practice

SURGICAL PATHOLOGY

Surgical pathologist(s) should be actively involved in study planning, implementation and data analysis, when tissue based diagnostics and tissue based biomarkers are part of a clinical trial

THREE ROLES CAN BE DISTINGUISHED REGARDING INPUT OF SURGICAL PATHOLOGISTS [1]



- ◆ Support in clinical studies
- ◆ Participation in preclinical investigations
- ◆ Implementing trial results, notably concerning companion diagnostics, into diagnostic pathology practice

DIAGNOSTIC PATHOLOGY SUPPORT IN CLINICAL STUDIES

Monitoring of adherence to diagnostic standard

- ◆ Pathologists actively participating in developing and executing clinical studies, should be board-certified specialists with a diagnostic capacity at the level required for standard of care
- ◆ This may require specific expertise, depending on the particularities of the study or the applied technologies

PARTICIPATION IN PRECLINICAL INVESTIGATIONS



Clinical trials increasingly include exploration of tissue-based biomarkers in the quest for prognostic and companion diagnostics

Requirement of diagnostic expertise as well as competences in quality assurance laboratory procedures and understanding of diagnostic algorithms beyond basic requirements for board certification:

- ◆ Influence of pre-analytical variables
- ◆ Issues of sampling procedures (e.g. heterogeneity)
- ◆ Test and evaluation algorithms explored prior to study onset

PARTICIPATION IN PRECLINICAL INVESTIGATIONS

Adherence to standards

- ◆ Recommendations for tumour marker prognostic studies (REMARK) [2]
- ◆ Statement for reporting studies of diagnostic accuracy (STARD) [3]

IMPLEMENTING TRIAL RESULTS

Roll-out and quality assurance

Minimum requirement during roll-out of clinical trial results with companion diagnostics:

- ◆ Early implementation of an external quality assurance programme
- ◆ Benchmarking

COMMON PITFALLS AND KEY ISSUES

- ◆ Recommendations of the US Federal drug administration [4]
- ◆ A companion diagnostic development plan should be included as part of the development plan of the drug under study when biomarker-based conclusions about drug safety and efficacy are anticipated
- ◆ The final version of the test should be used to screen patients for the trial
- ◆ Drug and device claims rely on pre-specified device design, and analytical validation prior to initiation of a study is critical to planning patient enrollment
- ◆ A plan for appropriate banking and annotating of patient specimens (both test negative and test positive) and assuring storage that does not impact on test results will be critical to future bridging studies

LITERATURE



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Thank you!