



CDDF WORKSHOP

27 - 28 September 2021

ONLINE WORKSHOP

*Digital Tools and Artificial
Intelligence in Oncology Drug
Development*



Digital tools supporting innovative patient care: a clinician perspective

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- BMS, Advisory Board, Personal
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- Astra Zeneca, Research Grant, Institutional, Financial interest
- BMS, Local PI, Institutional, Financial interest
- Faron, Local PI, Institutional, Financial interest
- Kaiku Health, Other, Institutional, Financial interest, Sub-Investigator (The ECHO Trial)
- MSD, Other, Institutional, Financial interest, Sub-investigator
- Roche, Research Grant, Institutional, Financial interest
- Roche, Steering Committee Member, Personal and Institutional, Financial interest, The ORIGAMA study





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Cancer survival continues to improve

- Novel treatments with new toxicity profiles
- Combination therapies → increased toxicity

Side effects of the treatment can be severe but treatable

Possibility for late occurrence of side effects demanding long-term follow-up

Patient empowerment with educational patient support material





CDDF WORKSHOP *Digital Intelligence*
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Digital patient monitoring and management (DPMM) solutions

Addressing a critical unmet need in routine clinical practice and research

*RWD case
Metastatic NSCLC*

PD-L1 50%
ICI treatment 1st line
Pseudoprogression
ICI=immune checkpoint inhibitor

Dyspnoea

Joint pain

Loss of appetite

Cough

ICI therapy → PD response

Symptom	Joulukuu 2018			Tammikuu 2019			Elokuu 2019			Syyskuu 2019		
	10/11	11/11	12/11	01/12	02/12	03/12	01/08	02/08	03/08	01/09	02/09	03/09
Dyspnoea	0	0	0	0	0	0	0	0	0	0	0	0
Joint pain	0	0	0	0	0	0	0	0	0	0	0	0
Loss of appetite	0	0	0	0	0	0	0	0	0	0	0	0
Cough	0	0	0	0	0	0	0	0	0	0	0	0
Weight loss	0	0	0	0	0	0	0	0	0	0	0	0
Fatigue	0	0	0	0	0	0	0	0	0	0	0	0
Constipation	0	0	0	0	0	0	0	0	0	0	0	0
Nausea	0	0	0	0	0	0	0	0	0	0	0	0
Diarrhea	0	0	0	0	0	0	0	0	0	0	0	0
Headache	0	0	0	0	0	0	0	0	0	0	0	0
Hot flashes	0	0	0	0	0	0	0	0	0	0	0	0
Itching	0	0	0	0	0	0	0	0	0	0	0	0
Swelling	0	0	0	0	0	0	0	0	0	0	0	0
Blurred vision	0	0	0	0	0	0	0	0	0	0	0	0
Dark spots	0	0	0	0	0	0	0	0	0	0	0	0
Stomach pain	0	0	0	0	0	0	0	0	0	0	0	0
Back pain	0	0	0	0	0	0	0	0	0	0	0	0
Abnormal lab tests	0	0	0	0	0	0	0	0	0	0	0	0
Medication changes	0	0	0	0	0	0	0	0	0	0	0	0
Healthcare visits	0	0	0	0	0	0	0	0	0	0	0	0
Quality of life	0	0	0	0	0	0	0	0	0	0	0	0
Adverse events	0	0	0	0	0	0	0	0	0	0	0	0



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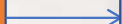
Follow-up of cancer patients receiving immune checkpoint inhibitor therapy by electronic patient reported outcomes- tool: a prospective study (KISS)

A Finnish multicenter trial (NCT3928938)

ePRO=electronic patient-reported outcome

ICI therapy for multiple cancer types

Weekly ePRO symptom questionnaire + urgency algorithm up to 6mo (n=40)



Endpoints

- Symptoms and their severity
- Correlations of symptoms to treatment response
- Number of urgency algorithm alerts
- Correlation of alerts to changes in health
- Patient compliance

Project Kaiser: research collaboration

Assessing adoption, adherence, user experience and workflow implementation in clinical practice

DPMM solution to support the care of patients with breast cancer, lung cancer and hepatocellular carcinoma

HCPs and patients help to co-create and optimise DPMM modules

Data on use, user experience and impact on clinical care collected

Academic research with health tec start-ups
Pharma collaborations

Aiming to improve the quality of cancer care in collaboration with patients





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Future of ePROs in cancer care

- Truly **personalized** cancer care by integrating ePROs in to the care pathways
- Individual **prediction models** by utilizing patient-reported data
 - ML based models on ePRO symptom data and other clinical data to predict toxicity and treatment response of ICIs (Iivanainen S et al. ASCO 2020, Iivanainen S et al. ESMO 2020, Iivanainen S et al. ESMO IO 2020)
- **Risk-share models for earlier** market access for new oncological therapies coupled with validated prediction models
 - > data on efficiency and toxicity for further development

