Digital Cytology

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WSI can equally to Conventional Light Microscopy (CLM) be used in primary diagnosics of cervical cytological thin-layer slides

Ethische beoordeling	Positief advies
Status	Anders
Type aandoening	-
Onderzoekstype	Observationeel onderzoek, zonder invasieve metingen

Samenvatting

ID

NL-OMON27387

Bron
NTR

Aandoening

N.A.

Ondersteuning

Primaire sponsor: Zuyderland Hospital Heerlen
The Netherlands
Overige ondersteuning: N.A.

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

N.A.

Toelichting onderzoek

Achtergrond van het onderzoek

Cervical cancer is one of the most common causes of death in women worldwide (Organisation). The introduction of cervical cytology in screening programs is an effective way for early detection and treatment of cervical precancerous lesions. Conventional screening of cervical cytology slides is still considered the current “gold standard“ for the assessment of proficiency in becoming a cytotechnician, but diagnosis using digital whole slide images (WSI) may offer many advantages. In this study we have established a digital WSI based reference atlas of the most common cervical infections and (pre)neoplastic lesions, and hypothesized that weekly WSI based case-meetings would help to obtain optimal acceptance of the new digital workflow in our daily pathology practice. A questionnaire before and after the test period was used to study the effect of our approach.

The participants clearly had to go through a learning curve to get accustomed to viewing WSI. In the beginning, there was little self-confidence in recognizing classical cervical cytomorphological features in the WSI, and there were complaints about the speed of viewing and insufficient z-resolution for cell groups. Adjusting the z-stack settings resulted in better 3-Dimensional information due to better focusing options, and weekly meetings appeared to be instrumental in the implementation process, as participants had to select and present WSI from thematic cases themselves and thereby got used to viewing WSI. Some WSI were replaced by better ones until a final set of 45 representative WSI remained. Eventually, as evident from the questionnaire, participants agreed that cytomorphological features in WSI from thin layers cervical slides could comparably be appreciated in WSI as by conventional microscopy.

In conclusion, we have obtained confirmation and acceptance by professionals that WSI from cervical cytology can be used to identify cytomorphological features, necessary for diagnosis. In addition we have demonstrated that active participation of professionals had a positive effect during a period of change management.

Doel van het onderzoek

WSI can equally to Conventional Light Microscopy (CLM) be used in primary diagnosics of cervical cytological thin-layer slides

Onderzoeksopzet

N.A.

Onderzoeksproduct en/of interventie

N.A.

Contactpersonen

Publiek

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

The presence of judicious thin layer of cervical cytology preparations.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

Non-judicious thin-layer preparation of preparations that can not be judged due to scanning problems.

Onderzoeksopzet

Opzet

Type:	Observationeel onderzoek, zonder invasieve metingen
Onderzoeksmodel:	Anders
Blindering:	Open / niet geblindeerd

Controle:	N.v.t. / onbekend

Deelname

Nederland

Status:	Anders
(Verwachte) startdatum:	01-02-2013
Aantal proefpersonen:	0
Type:	Onbekend

Ethische beoordeling

Positief advies

Datum:	16-03-2017
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

Geen registraties gevonden.

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL6348
NTR-old	NTR6532
Ander register	METC : 16N231

Resultaten

Samenvatting resultaten

1 Working toward consensus among professionals in the identification of classical cervical cytomorphological characteristics in whole slide imaging.
Odille Bongaerts, Paul J. van Diest, Math Pieters, Marius Nap.
June 2015 Journal of Pathology and Informatics.