Digital Cytology

No registrations found.

Ethical review	Positive opinion
Status	Other
Health condition type	-
Study type	Observational non invasive

Summary

ID

NL-OMON27387

Source NTR

Health condition

N.A.

Sponsors and support

Primary sponsor: Zuyderland Hospital Heerlen The Netherlands Source(s) of monetary or material Support: N.A.

Intervention

Outcome measures

Primary outcome

N.A.

Secondary outcome

N.A.

Study description

Background summary

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.

Study objective

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

Study design

N.A.

Intervention

N.A.

Contacts

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Eligibility criteria

Inclusion criteria

The presence of judicious thin layer of cervical cytology preparations.

Exclusion criteria

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

Study design

Design

Study type: Intervention model: Masking: Control: Observational non invasive Other Open (masking not used) N/A , unknown

Recruitment

NL Recruitment status:

Other

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Start date (anticipated):	01-02-2013
Enrollment:	0
Type:	Unknown

Ethics review

Positive opinion	
Date:	16-03-2017
Application type:	First submission

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

ID
NL6348
NTR6532
METC : 16N231

Study results

Summary results

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.