



## Proceedings

### PS01.12 | ePoster Session I

#### The Use Of Smartphones As Adjuvant Tool In Cervical Cytologic Diagnosis

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##### *Introduction/ Background*

Cervical cancer is still one of the world's deadliest forms of cancer for women, and the Pap smear remains the main screening test for prevention and early detection. Pap test is convenient and inexpensive, but, as was reported, there are variation in the sensitivity and specificity. Current smartphones allow the acquiring and transmission of static digital images, representing a cost efficient form of telepathology.

##### *Aims*

We report our experience in using smartphones and an instant messaging application to improve the cytologic diagnosis by teleconsultation.

##### *Methods*

The samples were conventional Pap smear and liquid base cytology slides. The images were taken by two of the authors, both junior pathologists, with the use of a Samsung Galaxy S3 Neo smartphone (8 MP, autofocus, Digital image stabilization) and a Zeiss PrimoStar microscope (415500-0057-000), 10x objective. We used the instant messaging application features to take the pictures and instantly send them to our fellow pathologist (if the images were resolution and focus suitable), then discuss the images in real time, using the chat options of the phone application. After reviewing the images together, and reaching to a conclusion, the images were submitted to an experienced pathologist in the same manner. They were reviewed a second time, and the results compared.

##### *Results*

The most common diagnosis we discussed on was ASC-US (19 cases), followed by L-SIL (6 cases) and NILM (5 cases). After we analysed and compared the data, we found that the time frame for diagnosis has improved. For the cases with divergent opinion we asked a third opinion to a colleague for the difficult cases. Consequently a senior pathologist reviewed the glass slides and we compared the results with the digital diagnosis. The camera resolution was not limitative in this case, the used field power being 10x, thus the resolution and details were not impaired by the smartphone camera and instant messaging app limitations. Comparing our experience with the inter-observer agreement on ASCUS and LSIL categories on glass slides we consider 'smartphone' pathology a useful tool. The use of smartphones allows junior pathologists to transmit Pap test consultations to senior pathologists and to ask for second opinions among fellow colleagues improving costly effective the diagnosis accuracy.