Cervical cancer screening by digital images obtained with a video colposcope: A study from India

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Summary & Conclusion:

• Using an image based model for population based cervical cancer screening, 13,447 women screened in 5.5 yrs (2012-2017)
• Mobile van; Nurse performed VIA, recorded images with colposcope; reviewed by Dr (gynae)
• 12% screened positive (includes Type 3 TZ), advised bx / cytology; 73% complied
• 12.6% of screen positive women had abnormal cytology / HPE; with HSIL in 3.4%
• 3.7% of screen negative women had other conditions needing medical attention

Advantages of this model are:

1. Mobile outreach van screens women close to their home
2. Image review checks capability of nurse to visualize cervix appropriately for VIA
3. Screen positive includes acetowhite PLUS abnormal vasculature
4. Women with type 3 TZ (unsatisfactory image) triaged for LBC in same sitting
5. Other conditions identified & treated (vaginitis, polyp, vulvar leukoplakia, displaced IUCD)
6. HSIL in 3.4% selected by screening; higher than 0.5-1% (on cytology) in general

Limitation: Follow-up was only 73% (1,170/1,613) & needs to be improved

Background

There are several resource barriers to implement an organized cervical cancer screening program in medium resource countries like India. VIA (Visual inspection after acetic acid) is an inexpensive method advocated by the WHO. Review of digital images obtained with a colposcope during VIA was considered superior to VIA. We present data in which a mobile outreach van and an image-review based screening model were utilized.

Methods

• May 2012 to Dec 2017 (5.5 yrs)
• Mobile van “Asha Jyoti” (means “light of hope” in hindi) with colposcope, mammography & bone-densitometry
• Women in / around city screened close to home.
• Nurse did VIA & captured images using a colposcope (Philips Goldway SLC-2000B)
• Images reviewed by Gynaecologist

Results

13,447 screened; Age: 35 to 65 years (Table)

No. screened =13,447

Called for FU 1,613/13,447 (12%)

LBC / Pap HSIL 31

LBC / Pap LSIL 34

LBC / Pap ASCUS 82

Screen positive ACW 454 /13,447 (3.4%)

19 22

(7 HSIL on HPE) 47

Screen positive Abnormal vasculature 253 /13,447 (1.9%)

8 10

(2 HSIL on HPE) 14

Type 3 TZ 906 /13,447 (6.7%)

4 2 21

Compliance for FU: 73% (1,170 / 1,613)

Cytology positive: 12.6% (147/1,170)

HSIL: 3.4% (40/1,170)

Other Gynae Conditions:

vaginitis 134, polyps 350
vulvar leukoplakia 9
displaced IUCD 5

3.7% (498/13,447)

FU: 89% (444/498)

299/299 polyps had benign HPE

Displaced IUCD Cervical polyp Strawberry cervix

Screen positive, ACW, HSIL

Screen positive, Abnormal vasculature, HSIL

Type 3 TZ: for LBC

FU: 89% (444/498)

299/299 polyps had benign HPE

Displaced IUCD Cervical polyp Strawberry cervix

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Future Plan: Ashajyoti 2
Other areas of research: Recurrent Gestational Trophoblastic Disease, Fertility Sparing in Endometrial Cancer,

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