Evaluation of the Performance of Different High Resolution Anoscopy Triage Strategies in MSM LWH

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Eugenio Nelson Cavallari[1], Federica Alessi[1], Chiara Eberspacher[2], Matteo Fracella[3], Marci Ridolfi[1], Ilyass El Abboubi[1], Alessandra Latini[4], Angelina Pernazza[5], Daniela Bosco[5], Domenico Mascagni[2], Alessandra Pierangeli[3], Claudio Maria Mastroianni[1], Gabriella d'Ettorre[1]

[1]Department of Public Health and Infectious Diseases "Sapienza" University of Rome, [2]Department of Surgery "Sapienza" University of Rome, [3]Department of Molecular Medicine "Sapienza" University of Rome, [4]STI/HIV Unit San Gallicano Dermatological Institute IRCCS, [5]Department of Medical-Surgical Sciences and Biotechnologies "Sapienza" University of Rome

BACKGROUND

- Squamous cell carcinoma of the anus (SCCA) is a rare neoplasm in the general population, but its incidence is high among certain population groups, such as people living with HIV
- Treatment of anal high grade squamous intraepithelial lesions (HSIL) have been proved to be effective in reducing the incidence of SCCA in men who have sex with men (MSM) living with HIV (LWH)
- High resolution anoscopy (HRA) is the gold standard for the detection of anal HSIL
- Access to HRA is still not widely available due to the small number of trained providers
- Anal cytology, anal HPV test, or a combination of both are all considered acceptable strategies to select individuals to be referred for HRA
- Evaluation of different HRA triage strategies is crucial to better allocate HRA resources, with the aim of implementing SCCA screening programs for PLW

METHODS

- The aim of the present study was to evaluate sensitivity and specificity of different HRA triage strategies
- To do so, we retrospectively analyzed data from 180 MSM LWH that underwent SCCA screening with HRA directed biopsies and for whom anal cytology and anal HPV DNA collected on the same day of HRA were available
- In the analysis, only HRA that led to the identification of HSIL by histology were classified as positive
- As hypothetic threshold for referral to HRA we tested:
  - 1) cytology of atypical squamous cells of undetermined significance (ASCUS) or worse
  - 2) cytology of low grade squamous intraepithelial lesion (LSIL) or worse
  - 3) cytology of atypical squamous cells cannot exclude HSIL (ASC-H) or worse
  - 4) any high risk HPV genotype (HR-HPV)

➢The best performance as HRA triage strategy was observed with HR-HPV, ASCUS + HR-HPV or LSIL + HR-HPV

  - 5) HPV16
  - 6) ASCUS or worse + HR-HPV
  - 7) LSIL or worse + HR-HPV
  - 8) ASCUS or worse + HPV16

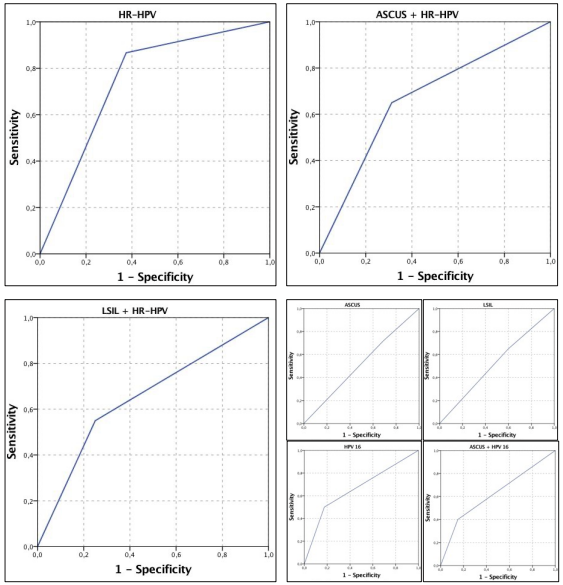
RESULTS

- Main characteristics of the study population are reported in the following table

VARIABLE	MEDIAN (±SE)
Age	47 years (±10.7)
CD4 nadir	350 cells/µL (±241)
Current CD4	800 cells/µL (±272)
CD4/CD8	1.03 (±0.39)
HIV RNA	<37 copies/ml

- HSIL diagnosed in 42.8% of HRA
- Cytology results: NILM 10%; ASC-US 14%; LSIL 69%; ASC-H 5%; HSIL 2%
- HR-HPV: 75% (HPV16: 54% of HR-HPV)

- ASCUS threshold would have triggered 125 HRA
- LSIL threshold would have triggered 107 HRA
- ASC-H threshold would have led to 10 HRA
- HR-HPV would have triggered 105 HRA
- HPV16 would have led to 57 HRA
- ASCUS + HR-HPV would have led to 81 HRA
- LSIL + HR-HPV would have triggered 65 HRA
- ASCUS + HPV16 would have triggered 43 HRA



CONCLUSIONS

- Triage to HRA with the identification of anal HR-HPV infection offered the best balance between sensibility and specificity
- The association of anal cytology (ASCUS or worse, or LSIL or worse) and HR-HPV, which present lower sensibility and higher specificity, seem feasible given the periodic nature of such screening
- Official approval of assays for the diagnosis of anal HR-HPV is needed

Contact information: eugenionelson.cavallari@uniroma1.it