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VIROLOGIA

HIV-RNA RECTAL SHEDDING, ANAL HPV INFECTIONS AND CYTOLOGICAL LESIONS IN VIROLOGICALLY SUPPRESSED MEN WHO HAVE SEX WITH MEN

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INTRODUZIONE

Patients with Human Immunodeficiency virus (HIV) infection are at highest risk for anal cancer despite HIV pharmacological suppression. The aim of this study was to evaluate rectal HIV-RNA shedding in virologically suppressed men who have sex with men (MSM) and the relationship with anal Papillomavirus (HPV) infections and cytological lesions.

METODI

One hundred and twenty-one consecutively-enrolled HIV-positive MSM underwent proctological examination for screening of anal dysplasia and an anal swab was collected for genotyping HPV-DNA, HPV- E6/E7mRNA and for detecting mucosal HIV-RNA load.

RISULTATI

Median age of patients was 50 years (IQR 42.3-55.4) with 11 years since HIV diagnosis and 9 of cumulative exposure to antiretrovirals.
All patients except four (3.3%) had multiple high (HR) and low (LR) risk HPV infections; high prevalence of HR-HPV 16 (25.6%), 51 (23.9%) and 68 (22.2%), and LR-HPV 42 (35.8%), 53 (32.4%) and 6 (26.5%) was found.
HPV E6/E7mRNA was detected in 47% of all cases and in 61.5% of patients positive for rectal HIV-RNA.
Atypical squamous cells or low-grade squamous intraepithelial lesions were found in twenty-three patients and 78.2% (18 out of 23) of them had positive HPV-E6/E7mRNA ($p< 0.05$). No high-grade anal lesion was detected.
Rectal HIV-RNA was detectable in thirteen patients (10.7%) with median of 54 copies/swab (IQR 46-91 copies/swab) and HIV-RNA residual viremia was detected in twenty-eight cases (22.3%) (median HIV-RNA 12 copies/mL, IQR 9-17.5 copies/mL). The agreement between plasma and rectal detectable HIV-RNA was minimal (Cohen's kappa: 0.21; $p=0.06$).
Evaluating multiple HPV infections (more than 4 different genotypes) a significant association was observed both with cytological abnormalities (82.6% vs 17.3%; $p<0,05$) and with HPV-E6/E7mRNA positivity (77.1% vs 22.8%, $p<0,05$).
A higher frequency of multiple HPV infections was also found in rectal HIV-RNA positive patients (76.9% vs. 23.8%) although not statistically significant.

CONCLUSIONI

Rectal HIV-RNA detection in our patients seems to be related to multiple HPV infections and HPV E6/E7 mRNA expression. Persistent multiple HPV infections causing local inflammation and immune activation may affect mucosal HIV replication contributing to cytological lesion development.