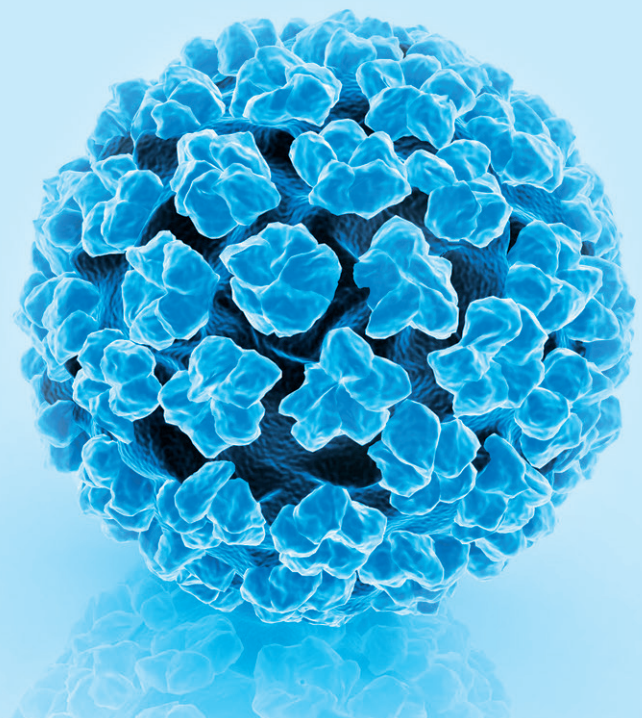
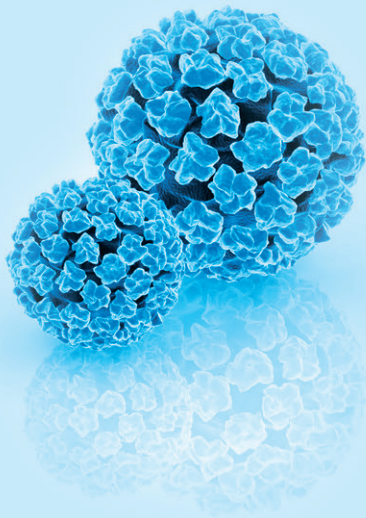




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WHITEPAPER

Part 4 | October 2019



Early detection of HPV16-induced tumours:
recommendations for identifying high-risk patients PART IV

Patients with immunodeficiency

Early detection of HPV16-induced tumours: recommendations for identifying high-risk patients

Patients with immunodeficiency

Thanks to progress in the medical treatment options for HIV-positive patients, the quality of life and life expectancy of these patients have improved significantly in recent years. Because of their impaired immune systems, however, HIV-positive patients still develop cancers more often than people without HIV.¹

In the past, the most common secondary malignancies in HIV-positive patients were Kaposi sarcoma, lymphomas, and cervical cancer. Now other forms of cancer such as anal carcinoma and oropharyngeal tumours increasingly affect HIV patients. Tumours in the throat and anogenital areas, in particular, are often HPV-induced.¹

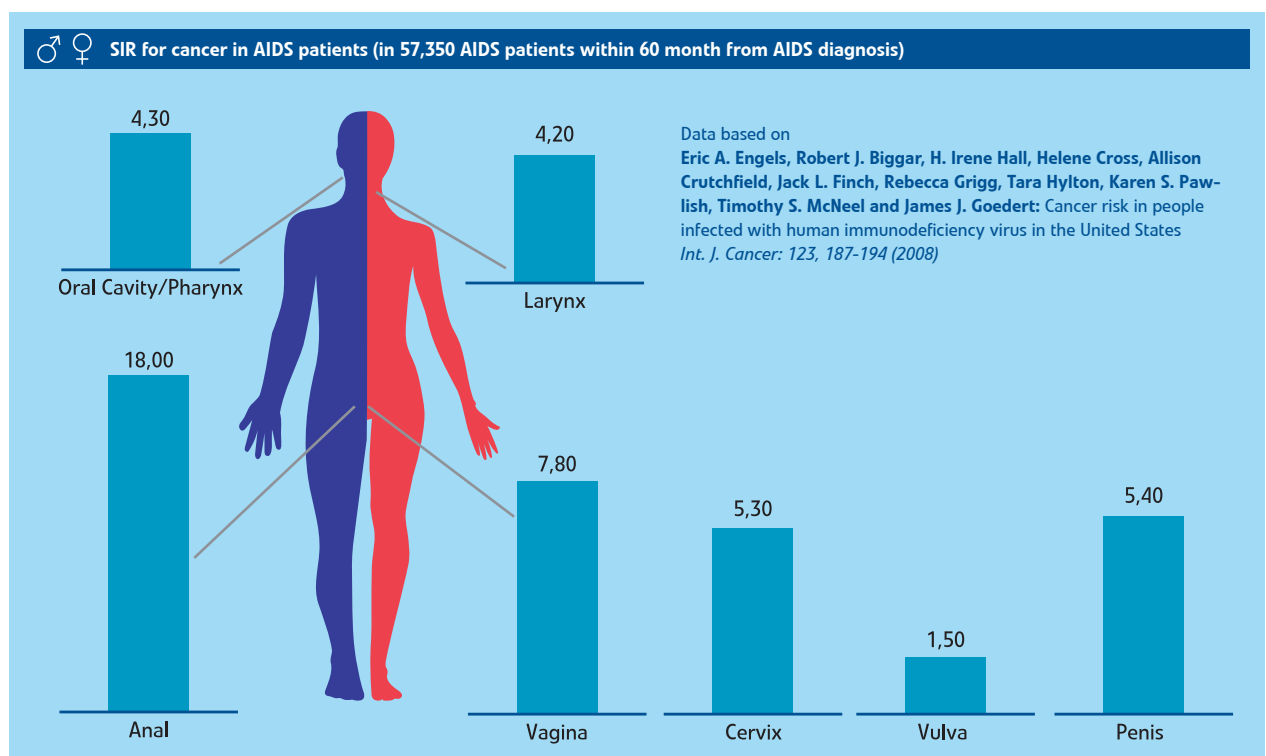


Fig. 1: Observed SIRs of cancers in mouth, throat and anogenital area in patients with AIDS

One of the reasons cited for the more frequent occurrence of anal carcinoma is the increased life expectancy of these patients thanks to antiretroviral therapy. The introduction of antiretroviral therapy was connected with hope for a decrease in HPV-induced cancers. However, study data does not demonstrate any fall in their numbers. What is striking, instead, is the lack of any decrease and even a dramatic increase in anal carcinoma in patients receiving antiretroviral therapy.^{2,3} Prior to the introduction of antiretroviral therapy, out of 100,000 HIV-positive patients, 8.2 – 35.4 developed anal carcinoma. Now, this number has risen to 59-96.2.⁴ Diverse studies have reported the SIR for anal carcinoma in HIV-positive individuals to be up to 39.0.²

Similarly, the number of head-and-neck cancers in HIV patients is increasing. The SIR is described as being between 2.8 to 8.6 in the literature.²

An observational study of patients with an AIDS diagnosis and their rate of developing specific cancers in the throat and anogenital areas over a 5-year period is shown in Figure 1.⁵

Patient with an impaired immune system typically develop problems in their skin and mucous membranes. Thus, HIV patient often suffer from:

- Neurodermitis
- Worsening of psoriasis
- Oral leukoplakia of the lateral margin of the tongue or the mucosa of the cheek
- Herpes zoster
- Ulcerating infections with *Herpes genitalis* in the anogenital area.

The breaks in the skin associated with these conditions facilitate the penetration of oncogenic viruses such as HPV16 into the deeper layers of the skin to reach the basement membrane, where HPV may induce development of abnormal cells and cancer cells. The weakened immune system has a hard time detecting and elimina-

ting the transformation of the cells into cancer cells. Although HIV patients are at a significantly greater risk of developing HPV-induced cancers, the HPV immunization rate remains lower for this group of patients than for the general population. In addition, there is little data as yet about the success rate after HPV immunization in HIV-positive patients and the sparse data available has led to disputed conclusions. According to the current state of the data, even after HPV immunization, it is possible to develop HPV-induced cancers. The results of studies with HIV-positive patients (age ≥ 27 years) suggest that the probability of developing anal cancer is not reduced despite HPV immunization.⁶

Therefore, regular and guideline-conform patient follow-up for HIV-positive patients in Germany includes screening measures directed at the early detection of cancer – especially anal cancer, skin cancer, and cervical cancer.

Recommendation for medical practice

To improve the early detection of cancer and cancer precursors in HIV-positive patients, it is advisable in medical practice:

- to educate patients with HIV or AIDS and their partners about their increased risk of developing cancer, and the importance of early detection;
- to recommend to HIV and AIDS patients and their partners to undergo regular early detection measures for HPV16-induced cancers in the anogenital area, as well as the mouth and throat areas.

The *Deutsche Aidshilfe [German AIDS Association]* recommends that patients with HIV obtain regular clinical examination of the anal region at a half-yearly to yearly interval.

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Read in PART V: Patients with Lupus Erythematosus and Rheumatoid Arthritis