## **Missed opportunities for earlier diagnosis of HIV in patients** who presented with advanced HIV infection in a country where new HIV infection rate is rising, Turkey.

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**Background:** Late detection of HIV infection decreases life expantancy, increases the rates of HIV transmission and treatment complexity. Unfortunately, many physicians are unaware of HIV diagnosis and testing. Our aim was to quantify and characterise missed opportunities for earlier HIV diagnosis in patients with diagnosed advanced HIV infection.

**Method:** This retrospective cohort study analyzed the data of advanced late presenter HIVinfected patients (CD4 cell count less than 200/mm3) with a new diagnosis, between January 2016 and May 2018. The primary end point was missed opportunities, the number of healthcare visits these patients made in the 3 years prior to being diagnosed with HIV infection. Information on demographics, such as, age, sex, transmission routes, initial CD4 counts, opportunistic infections and the numbers and types of healthcare visits prior to being diagnosed were collected from medical and hospital records.

**Results:** Of the total 712 patients, 90 (12.6%) were advanced late presenters. Of the advanced late presenters 75 (83%) were men and median age was 41 years. The 90 patients in the study had 190 healthcare visits during which an HIV test has not been performed. These visits were mostly (20%) missed by emergency medical doctors. The most common reason (27%) of applying for the healthcare service was dermatologycal complains. In 90 patients, when the first HIV test was performed, 37 (41%) of the them had AIDS-related symptom, 16 (17%) of them were during in pre-operative test, 11 (12%) of their sexual partner were HIV infected, 9 (10%) had routine checkups, 4 (4%) of them tested after unprotected sexual relationship, 3 (3%) had test during pre-marriage test, 2 (2%) in blood donation, 8 (8%) of the patients were not clear how they diagnosed. At the HIV infection diagnosis 29 patients had opportunistic infections, 8 had AIDS related malignancies. The most common opportunistic infectious was pulmonary tuberculosis and oropharyngeal/esophageal candidiasis. Five of them died in first year of diagnosis.

**Conclusion**: The missed opportunities are the key to capturing the undiagnosed and unaware HIV-positive individual. Being aware of clinical symptoms and physical exam presentations play key role in diagnosis of early HIV infection. However, late presenters are not always having AIDS related symptoms. Early detection of HIV infection will increase patients life expectancy and quality. So, every country should be aware of their own epidemiological studies to build their own HIV testing guidelines.