

## INTISARI

**Latar belakang:** Dari keseluruhan kasus limfoma, sekitar 90% merupakan *Non-Hodgkin Lymphoma* (NHL). NHL masuk dalam 5 kasus kanker yang paling sering terdiagnosis di United Kingdom dan peringkat 10 kanker tersering di Indonesia. Pada tahun 1955-1963, vaksin polio terkontaminasi SV40 tersebar diseluruh dunia diikuti dengan meningkatnya insidensi NHL. SV40 diketahui menginduksi keganasan NHL melalui peran *large t-antigen* (L-Tag). L-Tag memiliki fungsi penting dalam replikasi dan transformasi virus pada sel hewan pengerat. Genome L-Tag dalam DNA SV40 terdapat pada regio 2693-4571. Penelitian mengenai keterlibatan L-Tag pada kasus NHL belum pernah dilakukan di Indonesia.

**Tujuan:** Untuk mengetahui frekuensi positif SV40 dan hubungan keterlibatan genom L-Tag terhadap kasus limfoma non-hodgkin.

**Metode:** Desain penelitian *cross-sectional*. Data sampel diambil secara retrospektif dari rekam medis laboratorium. Spesimen blok parafin terdiagnosis NHL pada tahun 2014-2016 dilakukan ekstraksi DNA dengan metode Favorgen. Hasil ekstraksi digunakan untuk proses PCR dengan menggunakan primer yang berlokasi pada regio nukleotida 4388-4543 untuk genom L-Tag. frekuensi dihitung dari hasil positif genom SV40 pada NHL.

**Hasil:** Penelitian terdiri dari 105 sampel dengan rentang usia 2 hingga 87 tahun. 52 laki-laki dan 46 perempuan. 51 sampel telah melibatkan jaringan ektranodal. Pada studi ini, tidak didapatkan hasil positif pada genom L-Tag dari SV40 setelah dilakukan PCR.

**Kesimpulan:** Tidak didapatkan hubungan antara prevalensi hasil PCR genom *large T-antigen* dari simian virus 40 dengan kasus limfoma non-hodgkin di Yogyakarta.

**Kata Kunci:** *Simian Virus 40, Large T-Antigen, Non-Hodgkin Lymphoma*

## ABSTRACT

**Background:** From all cases of lymphoma, approximately 90% are Non-Hodgkin Lymphoma (NHL). NHL is included in the 5 most commonly diagnosed cancer cases in the United Kingdom and 10 most commonly diagnosed cancer cases in Indonesia. In 1955-1963, polio vaccines contaminated with SV40 had been distributed to all countries followed by elevated incidence on NHL. SV40 is known to induce NHL malignancy through the role of large T-antigen (L-Tag). L-Tag has an important function in viral replication and transformation of rodent cells. L-Tag genome in SV40 DNA is present in the region 2693-4571. Study about L-Tag involvement in NHL cases has not been done in Indonesia.

**Objective:** To know the positive frequencies from SV40 and the relationship between L-Tag involvement in non-hodgkin lymphoma cases.

**Methods:** Study design is cross-sectional. Sample's data were retrospectively collected from laboratorial medical records. Specimens of paraffin blocks diagnosed with NHL in 2014-2016 performed DNA extraction using the Favorgen method. The extraction products were used for PCR process using primers located in the nucleotide region 4388-4543 for L-Tag genome. Frequencies were calculated from SV40 positive sequencing in NHL.

**Result:** This research consists of 105 samples with range of age between 2 – 87 years old, 52 men and 46 women. Fifty one samples already involved extranodal tissues. Among total 105 samples, there is no positive result on L-Tag genome from SV40 after PCR has been done.

**Conclusion:** The relationship between PCR results from *large T-antigen* simian virus 40 and non-hodgkin lymphoma cases in Yogyakarta has not been found.

**Key Words:** *Simian Virus 40, Large T-Antigen, Non-Hodgkin Lymphoma*