

# Epstein Barr vírus (EBV): *EBER 1* gene of EBV in cases of Burkitt lymphoma attending in a reference hospital for cancer in Northern Brazil

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## INTRODUCTION

Epstein-Barr virus (EBV), also called human herpesvirus type 4 (HHV4), is a member of the family *Herpesviridae*, subfamily *Gammaherpesvirinae*, genus *Lymphocryptovirus*. EBV has a tropism for B lymphocytes and epithelial cells and can coexist in latent and replicative forms. Two types of EBV (types 1 and 2) have been shown to infect humans, but they differ regarding changes in the DNA sequences that encode EBV nuclear antigens (EBNAs).

Figure 1. EBV Genome: latent genes.

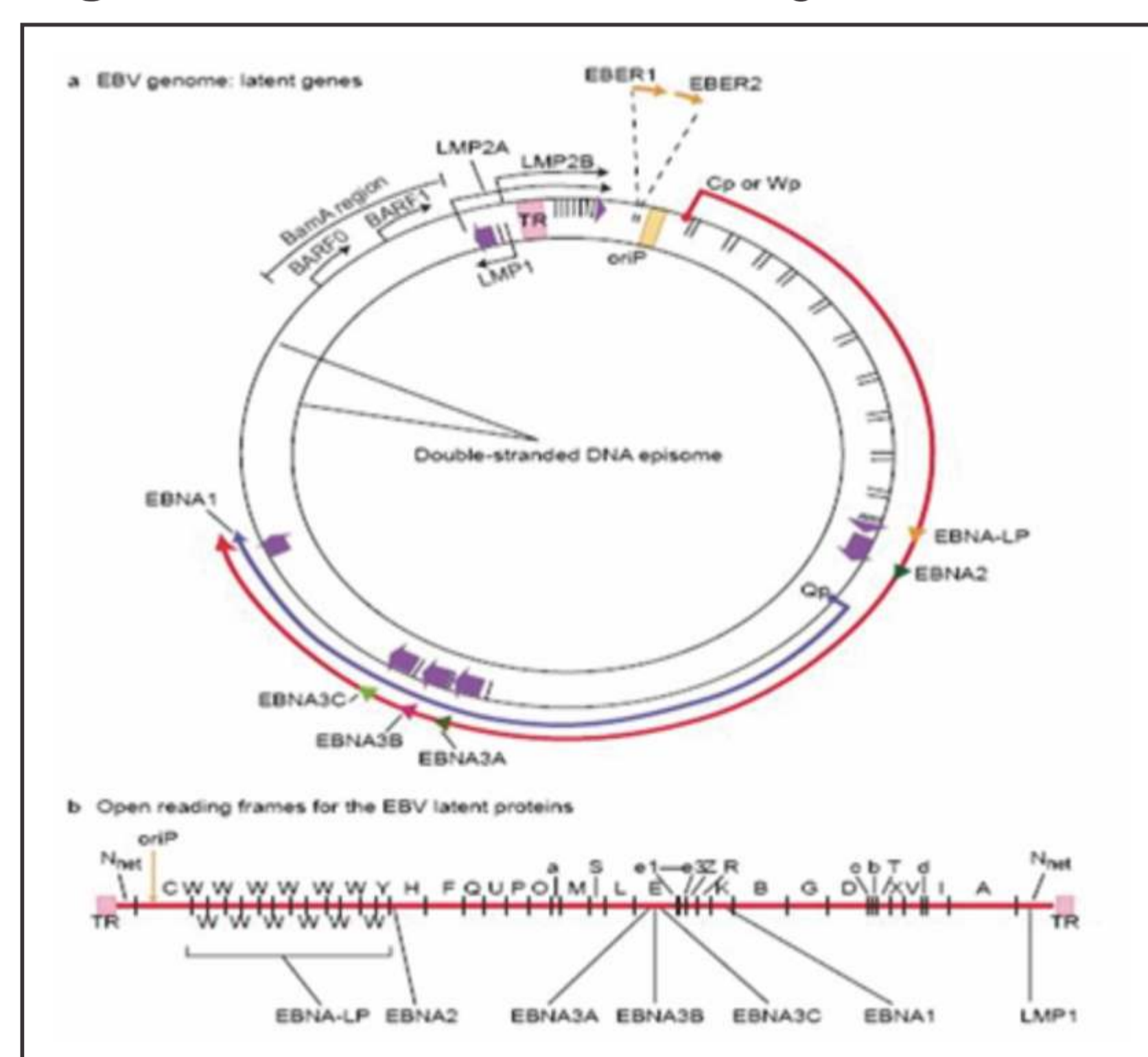
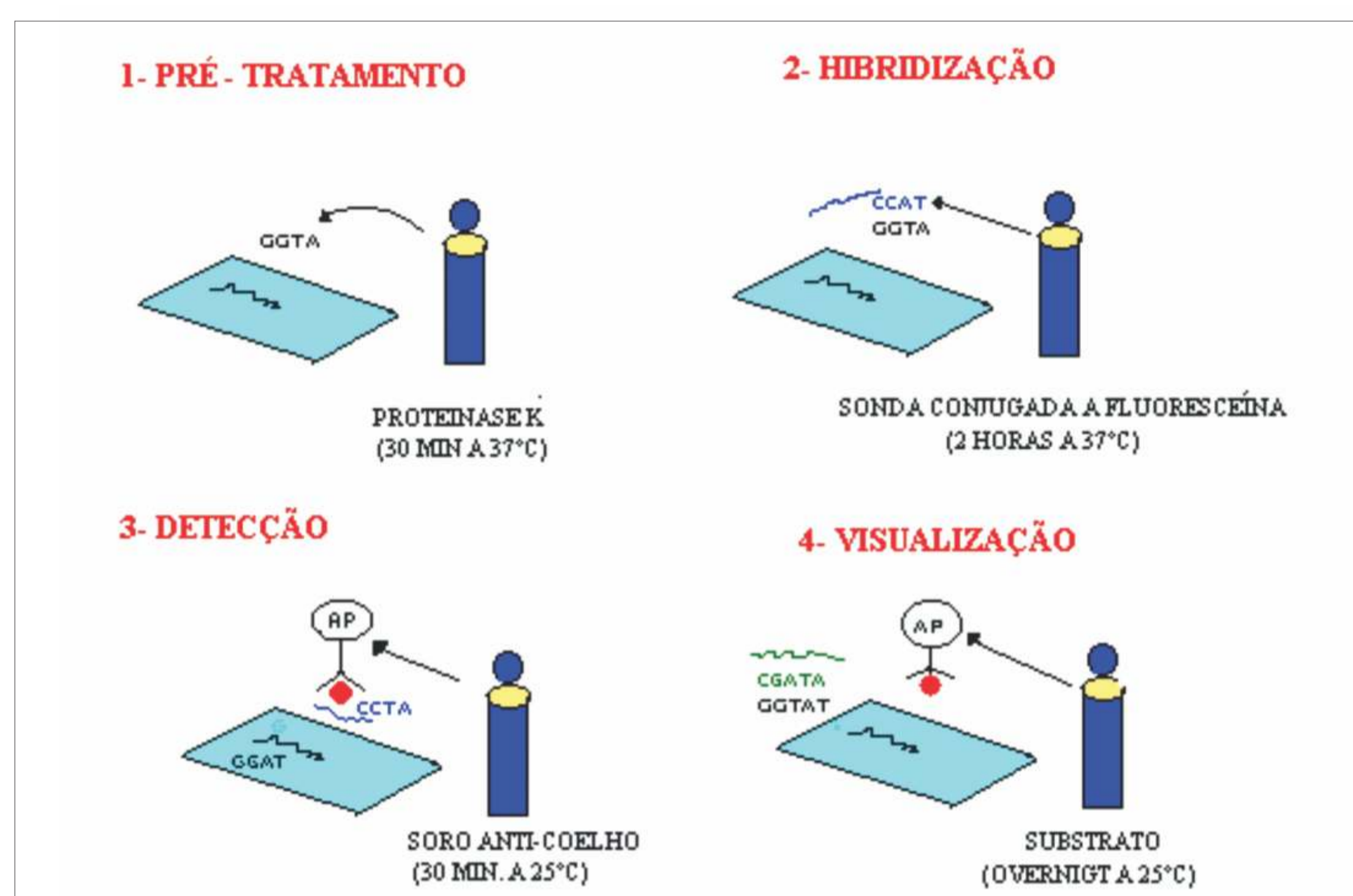


Figure 2. *In situ hybridization (ISH)* using *EBER 1* probe of EBV.



Kit "Novocastra laboratories™", United Kingdom, England.

## RESULTS

The 12 patients with Burkitt lymphoma were male 66.7% (8/12) and 33.3% (4/12) of female. The *EBER 1* gene of EBV was detected in 83.3% (10/12) of the cases by *ISH* 60% (6/10) male and 40% (4/10) female with ages ranging from 3 to 98 years old (mean 23,8).

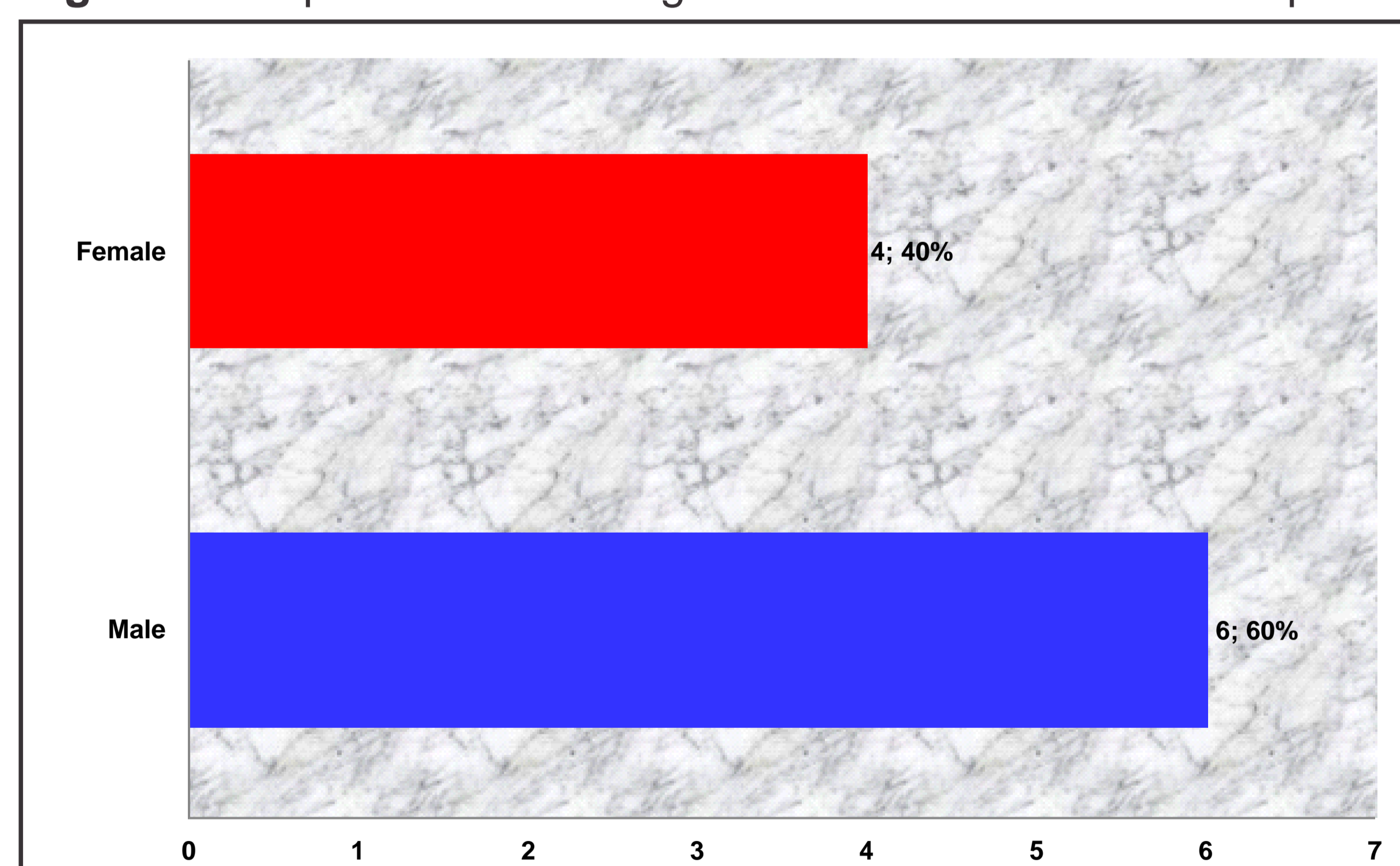
## OBJECTIVE

Our study aimed to describe the frequency of *EBER 1* gene of EBV1 in cases of Burkitt lymphoma diagnosed in the Institute Ophir Loyola, Belém, Brazil.

## MATERIAL AND METHODS

Retrospective study includes 12 patients who were suffering from Burkitt lymphomas consecutively diagnosed in the Department of Pathology, from the Institute Ophir Loyola, Belém, Brazil, a local reference cancer hospital, from January 1996 to December 2005. Paraffin embedded tissue from 12 cases of lymphomas were examined for EBV antigen using *EBER 1* probe in situ hybridization (*ISH*) commercial kit (Novocastra laboratories™, United Kingdom- England).

Figure 3. Frequency of *EBER 1* gene of EBV in cases Burkitt lymphoma.



## CONCLUSION

This study showed a relevant viral infection rate (70%) *EBER 1* gene in 15 years old. Further studies are needed to better investigate the presence of EBV genotypes in tissue biopsies in the Northern Region of Brazil.