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Research Article

Is There Any Relationship between Human Herpesvirus-8 and Multiple Myeloma?

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Background. Human herpesvirus-8 (HHV-8) is associated with some human diseases including Kaposi's sarcoma and also some B-cell lymphoproliferative disorders. Few studies have highlighted the potential role of HHV-8 in the development of multiple myeloma (MM) which is known as a malignant proliferation of plasma cells derived from a single clone. *Aims*. The aim of this study was to find a relationship between HHV-8 and MM using polymerase chain reaction (PCR) method. *Materials and Methods*. This study was conducted on 30 formalin-fixed, paraffin-embedded (FFPE) bone marrow biopsies of multiple myeloma and 30 normal FFPE bone marrow biopsies. After the sample preparation, Deoxyribonucleic acid (DNA) was extracted by nonheating procedure. PCR for HHV-8 virus was carried out with commercial kit and the PCR products were visualized by gel electrophoresis. Finally, the statistical analysis was performed. *Results*. HHV-8 virus was not detected by PCR from FFPE blocks of multiple myeloma samples, while only one of the controls showed DNA band of the corrected molecular weights. Fisher's exact test showed that no statistical differences were found between the two groups ($P = 0.999$). *Conclusion*. Our report adds to the body of evidence that there is no association between HHV- 8 and MM against a major role of HHV-8 infection in the pathogenesis of clonal plasma cell proliferation.

1. Introduction

Human herpesvirus-8 (HHV-8), also called Kaposi's sarcoma-associated herpesvirus (KSHV), is a member of the gamma herpesvirus family [1]. This virus was first identified in Kaposi's sarcoma tissues obtained from patients with acquired immunodeficiency syndrome (AIDS) by Chang et al. in 1994 [2]. It has been implicated that HHV-8 may be associated with some human diseases including primary effusion lymphoma, a rare subtype of B-cell non-Hodgkin's lymphoma (NHL) [3], multicentric Castleman disease [4], angiosarcoma [5], angiolymphoid hyperplasia with eosinophilia [6], sarcoidosis [7], squamous cell carcinoma [8], pityriasis rosea [9], and multiple myeloma (MM) [10].

Multiple myeloma or plasma cell myeloma is a hematologic malignancy caused by neoplastic plasma cells which synthesize abnormal amounts of monoclonal immunoglobulins or immunoglobulin fragments [11]. This is primarily a disease of the middle-aged and the elderly with a median age at diagnosis of about 62 years [12] that affects slightly more men than women [13]. Plasma cell myeloma is the second most common blood malignancy in USA after NHL, causing about 1% of human malignancies and 13% of hematological neoplasms [12]. It is found that about 86,000 incident cases