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Letter to Editor Open Access

Letter to the Editor: Classical Hodgkin Lymphoma and the Measles Virus

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Letter to the Editor

An association between measles virus (MV) proteins and RNA and classical Hodgkin lymphoma (cHL) was first demonstrated by immunohistochemistry, RT-PCR and in situ hybridization, in 2004 [1]. We used several commercial and experimental anti-MV antibodies. Total RNA was extracted from all available snap-frozen tissue and from a few FFPE tissues out of a random cohort of 154 cHL untreated patients. Of the 154 biopsies, 82 (54%) were positive for at least two MV antigens. By Southern blot, 4 of 15 hemagglutinin (HA) MV-RNAs, as well as 2 of 16 nucleoprotein (NP) MV-RNAs were positive. In situ hybridization showed that 2 of 7 HA and 8 of 21 NP-MV-RNAs were positive [1].

We carried out a clinic pathological correlation with the MV protein expression, as it was the most available. Measles virus positive expression had a predilection for females (p=0.036), nodular sclerosis HL (p=0.0013) and early stages of the disease. Nevertheless, it appears that MV-positive patients had a worse prognosis [1].

Maggio [2] rejected our thesis, as they could not show evidence of three MV transcripts in 18 of their 44 cases of cHL, as well as in 7 of the 22 frozen tissues that we submitted to them. The strict selection they used, included picking-up those cases with the best tumor cell morphology and with the highest RNA quality. Thus, of our 7 cases chosen, we had previously studied five, 2 of which had a very faint signal and 3 were negative. In addition they chose a probably inappropriate housekeeping gene [3].

Wilson [4] disproved also our findings. These scientists used also GAPDH as a housekeeping gene, but we believe that cHL contains low RNA abundance, due to ribonucleases found in the eosinophils present in many of the cases. In addition, RNA can also deteriorate with a long shelf life. Moreover, a high proportion of their patients had suffered from measles, mainly in childhood.

Their immunostains were carried out exclusively with the NP-MV, clone 49-21, from Immunological Direct, Oxford, UK [4]. Using the same antibody, we found 37 of 72 positive cases.

A possible mechanism of action for the MV in cHL has been suggested. As other viruses, the MV may modulate apoptosis [5]. In the absence of known viral oncogenicity, apoptosis regulation by the MV may contribute to lymphomagenesis in cHL [5].

Several years have elapsed since the release of our data. It is striking that, in addition to our demonstration of MV expression in endometrial cancers, in breast and lung cancers [6-8], more extensive research on the present topic should have been expected. However, a negative attitude towards the pursuit of this investigation may be due to two main reasons: when two major laboratories discard the findings of a more usual research group, this does not encourage other scientists to carry on with the given research. Moreover, as the measles virus has been associated lately, to a large extent, with oncolytic viral therapy of cancer [9], little incentive is left for a more classical investigation of the MV, which is however totally unrelated.

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Competing Interests

I have declared that no competing interest exists.

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