

Positive sections for both LMP-1 and Bcl-2 showed brown diffuse cytoplasmic stain of HRS cells of HD (Figure 1 & 2).

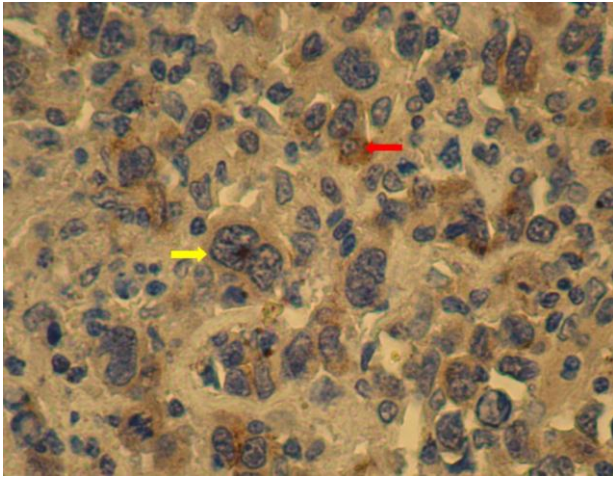


Figure 1. Moderate, brown, diffuse cytoplasmic LMP-1 expression in HRS cells in lymph node from patient with Hodgkin's lymphoma (40X)

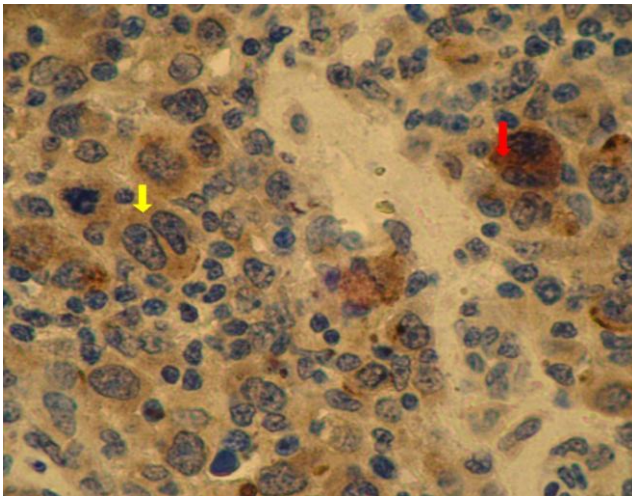


Figure 2. Moderate, brown, diffuse cytoplasmic Bcl-2 expression in HRS cells in lymph node from patient with Hodgkin's lymphoma (40X)

LMP-1 was detected in 90% of Hodgkin's lymphoma cases versus 60% of control, (p value =0.007). However when applying T-test for immunohistochemical expression in control and lymphoma cases, the three digital analysis

parameters of the Digimizer were significantly higher in lymphoma than control group as shown in table 2.

Table 2. Comparison of the digital parameters of LMP-1 between control and Hodgkin's lymphoma cases

Parameter	Control	Lymphoma	P value
Intensity	0.91±0.14	0.32±0.23	<0.001
Fractional area	4.76±0.54	10.1±2.50	0.041
DLI	5.91±1.26	38.32±41.66	0.001

DLI = Digital labeling index

By using Digimizer software analysis for grading the intensity of the stained sections, all positive lymphoma cases showed high and moderate expression in contrast to control where all the positive cases showed weak expression as shown in table 3.

Table 3. Distribution of the control and Hodgkin's lymphoma cases into different grades of intensity of LMP-1 expression*

Intensity grade	Control	Lymphoma	Total
Negative	8(40%)	5(10%)	13(19%)
Weak	12(60%)	0	12(17%)
Moderate	0	9(18%)	9(13%)
Strong	0	36(72%)	36(51%)
Total	20(100%)	50(100%)	70(100%)

Chi square test was valid although the cases show different pattern of expression

By applying spearman rank linear correlation, there was significant inverse correlation between the age and LMP-1 in all three digital parameters of Digimizer. Figure 3 showed the positive correlation between the age and Digital labeling index of LMP-1 expression. Furthermore all children who were less than 16 years (9/50) were positive for LMP-1 expression as shown in table 4.