

## بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

### قال الله تعالى

(اللَّهُ نُورُ السَّمَوَاتِ وَالْأَرْضِ مَثَلُ نُورِهِ كَمِشْكَاةٍ فِيهَا مِصْبَاحٌ الْمِصْبَاحُ فِي زُجَاجَةٍ الزُّجَاجَةُ كَأَنَّهَا كَوْكَبٌ دُرِّيٌّ يُوقَدُ مِنْ شَجَرَةٍ مُبَارَكَةٍ زَيْتُونَةٍ لَا شَرْقِيَّةٍ وَلَا غَرْبِيَّةٍ يَكَادُ زَيْتُهَا يُضِيءُ وَلَوْ لَمْ تَمْسَسْهُ نَارٌ نُورٌ عَلَى نُورٍ يَهْدِي اللَّهُ لِنُورِهِ مَنْ يَشَاءُ وَيَضْرِبُ اللَّهُ الْأَمْثَالَ لِلنَّاسِ وَاللَّهُ بِكُلِّ شَيْءٍ عَلِيمٌ)

### صدق الله العظيم

سورة النور الآية 35

## **DEDICATION**

**To those who spend weeks months and years of their lives and saving**

**Ours life to my parent.....**

**Brothers especially Dr. mohammed khalel & Abd Alla salah**

**And sisters especially Ebtesam**

**To my husband**

**To those who taught me a letter**

**To my friends....**

**With my absolute love ...**

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## **Abstract**

This is retrospective descriptive study performed in Khartoum state, during period from March to July 2012. The study aimed to identify the expression MUM1 protein receptor among Sudanese with lymphoma's patients..

Thirty blocks were collected from patients with lymphoma attending to Radio Isotope Center in Khartoum by using simple random selection method. Samples were collected by surgical method then processed and sectioned using the standard techniques. Sections were stained using two method, histochemical methods using haematoxylin and eosin for histopathology diagnosis and immunohistochemical methods using polymer base technique for detection of MUM1 protein receptors. In addition the results of CD30, 15, and CD20 were collected from file.

The ages of the involved patients ranged between one year to 75 years with mean age 28 ( $\pm 23.3$ ) years old. Most of the patients were aggregating at age ranges older than 41 years representing 18 (60%) and the remaining 12 (40%) were younger than 41 years. In this study 20 (66.7%) of the involved patients were males and 10 (33.3%) patients were females.

Out of 30 patients, histopathological diagnosis revealed diffuse large B-cell non Hodgkin's lymphoma's (NHL) in 18 (60%) patients, 5 (16.7) patients represented as mantle NHL and the remaining 7 (23.3%) patients were classical Hodgkin's lymphoma's (HL).

In this study MUM1 receptor status showed positive expression in 15 (50%) patients, and negative in 15 (50%) patients.

Among the study subjects CD30 and CD15 receptors were positive in 7 (23.3%) patients, and negative in 23 (76.7%) patients. CD20 receptor status was positive in 23 (76.7%) patients, and negative in 7 (23.3%) patients.

Among the study subjects 18 (60%) patients of the diagnosed samples with diffuse large B cell NHL, 10 (55.6%) patients were males and 8 (44.4%) patients were females. Mantle cell NHL was represented by 5 (16.7%) patients, 4 (80%) patients were male and 1 (20%) was female. 7 (23.3%) of the selected samples were classical HL, 6 (85.7%) were males and 1 (14.3%) was female with statistical significant association (P. value < 0.05).

Histopathological diagnosis and MUM1 receptor expression showed that positive in 10 (66.7%) patients and negative in 8 (53.3%) patients among diffuse large B-cell NHL. 5 (33.3%) positive patients and 2 (13.3%) negative patients were classical HL. 5 (33.3%) has no reaction with MUM1 protein represented as mantle cell NHL with statistical insignificant association (P. value > 0.05).

Among the study subjects, CD30 status showed positive expression in 7 (23.3%) patients and negative in 23 (76.6%) patients, among the 7 (23.3%) patients positive for CD30, MUM1 show positive expression in 5 (33.3%) patients with statistical insignificant association (P. value > 0.05).

Among the study subjects, CD15 status showed positive expression in 7 (23.3%) patients and negative in 23 (76.6%) patients, among the 7 (23.3%) patients positive for CD15, MUM1 show positive expression in 5 (33.3%) patients with statistical insignificant association (P. value > 0.05).

Among the study subjects, CD20 status showed positive expression in 23(76.6%) patients and negative in 7 (23.3%) patients, among the 23 (76.6%) patients positive for CD20, MUM1 show positive expression in 10 (66.7%) patients with statistical insignificant association (P. value > 0.05).

The histopathological diagnosis and CD30, CD15 and CD20 receptors status showed that 7 (23.3%) of demonstrated samples were positively expressed CD30 and CD15 marker, were CHL. 23 (76.7%) patients were CD20 positive were diffuse large B cell NHL and mantel cell NHL with statistical significant association (P. value < 0.05)

In this study we conclude that MUM1 receptor expression among Sudanese patients with lymphoma is associated with lymphomas type.

### الخلاصة

اجريت هذه الدراسة الوصفية فى ولاية الخرطوم فى الفترة من شهر مارس الى شهر يوليو 2012. هدفت هذه الدراسة الى اكتشاف مست قبلات ال MUM1 بروتين فى مرضي سرطان الغدد الليمفاوية باستخدام التقنية النسيجية الكيميائية والتقنية النسيجية المناعية الكيميائية .

ثم اخذ 30 عينة من اشخاص مصابين بسرطان الغدد الليمفاوية من مستشفى العلاج بالاشعة والطب النووى باستخدام الطريفة العشوائية للجمع .

ثم اخذ العينات بطريفة جراحية ومن ثم تمت معالجتها و قطعها ومن ثم صبغها بطريقين ' طريفة كيميائية باستخدام صبغة الهيماتوكسيلين للتشخيص المبدئي ' والطريفة المناعية البولمر بيز للكشف عن مست قبلات ال MUM1 بروتين .

كانت اعمار المرضى تتراوح بين 1-75 سنة بمتوسط اعمار 28 سنة وأظهرت الدراسة ان معظم المصابين كانت اعمارهم من 40 الى 60 وكان عددهم 13 مريضا (43.3%).

اظهرت الدراسة ان اكثر المصابين من الرجال وبلغ عددهم 20 مريض (66.7%) مقارنة بالنساء اللاتى كان عددهن 10 مريضات (33.3%).

اظهر التشخيص لتلك العنيتات أن 23 من المرضى من النوع non hodgkin lymphomas ويضم هذا النوع ال diffuse larg B.cell وهم 18 مريضا وال mantle cell فى 5 من المرضى والمتبقي من النوع hodgkin lymphoma وتضم ال classical وكانت فى 7 من المرضى .

فى هذه الدراسة وجد ان مست قبلات ال MUM1 بروتين كانت موجبة الظهور فى 15 مريض بنسبة بلغت (50%) بينما كانت سالبة الظهور في 15 مريض بنسبة (50%).

وجد فى هذه الدراسة ان مست قبلات ال (CD30 و CD15) كانت موجبة الظهور فى 7 مرضى (16.7%) بينما كانت سالبة الظهور فى 23 مريضاً (76.6%)

ووجد ايضا ان مست قبلات ال CD20 كانت موجبة الظهور فى 23 مريضا (76.6%) بينما كانت سالبة الظهور فى 7 مرضى (16.7%)

فى هذه الدراسة وجد ان مست قبلات ال MUM1 بروتين كانت موجبة الظهور فى 15 مريض (50%) وكانت كالاتى فى ال DLB2 كانت موجبة فى 10 مرضى (66.7%) وفى نوع ال classical كانت

موجبة فى 5 مرضى (33%) ' بينما كانت سالبة الظهور فى 15 مريض (50%) موزعة كالاتى فى ال DLB2 فى 8 مرضى بنسبة بلغت (53.3%) وفى ال CHL فى 2 مريض بنسبة بلغت (3.13%) ' بينما ال mantle لم تظهر اى استجابة لمستقبلات ال mum1 بروتين (القيمة الاحتمالية اكبر من 0.05). فى هذه الدراسة وجد ان هنالك علاقة بين مستقبلات ال MUM1 بروتين وبين مستقبلات (CD30,CD15) حيث اظهرت الدراسة ان 7 من العينات كانت موجبة الظهور ل (CD30,CD15) بنسبة (23.3%) وكانت 5 من تلك العينات موجبة لمستقبلات ال MUM1 بنسبة بلغت (33.3%) (القيمة الاحتمالية اكبر من 0.05). اظهرت الدراسة ان مستقبلات ال CD20 كانت موجبة الظهور فى 23 من العينات بنسبة بلغت (76.6%) ' 10 من تلك العينات كانت موجبة الظهور ل MUM1 بروتين بنسبة (66.7%) (القيمة الاحتمالية اكبر من 0.05). اظهرت الدراسة ان 7 (23.3%) من العينات كانت موجبة الظهور لمستقبلات ال CD30 و CD15 وجميعها كانت من ذوات ال (76.6) 23 ' classical HL (%) من العينات كلنت موجبة الظهور لمستقبلات ال CD20 وهذه كانت من نوع ال diffuse large B cell NHL و mantle cell NHL (القيمة الاحتمالية اصغر من 0.05). خلصت الدراسة الي ان استجابة مستقبلات ال mm 1 بروتين لدي المرضى السودانيين بسرطان الغدد الليمفاوية مرتبطة بنوع السرطان الليمفي.

**List of abbreviations:**

|        |  |
|--------|--|
| HL     | Hodgkins Lymphomas                               |
| NHL    | Non- Hodgkins Lymphomas                          |
| DLBCL  | Diffuse Large Cell B-Cell Lymphoma               |
| CHL    | Classical Hodgkin's Lymphoma                     |
| GC     | Germinal Center                                  |
| CD     | Cluster of Differentiation                       |
| IDRC   | Interdigitating Reticulum Cells                  |
| EBV    | Epstein-Barr virus                               |
| NLPHD  | Nodular Lymphocyte-Predominant Hodgkin's Disease |
| HLA    | Human Leukocyte Antigen                          |
| HIV    | Human Immunodeficiency Virus                     |
| IRF    | Interferon Regulatory Factor                     |
| HTLV-1 | Human T-cell Leukemia Virus type 1               |
| FUT4   | Fucosyltransferase 4                             |



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