الآيــة

بسم الله الرحمن الرحيم

قال تعالى :-

((رَبِّ أَوْزِعْنِي أَنْ أَشْكُرَ نِعْمَتَكَ الَّتِي أَنْعَمْتَ عَلَيَّ وَعَلَى وَالِدَيَّ وَأَنْ أَعْمَلَ صَالِحاً تَرْضَاهُ

وَأَدْخِلْنِي بِرَحْمَتِكَ فِي عِبَادِكَ الصَّالِحِينَ))

صدق الله العظيم

النمل: الآية (19)

Dedication

To my mother and father

To my husband

Acknowledgment

In the name of allah ,the most gracious and the most merciful

first and foremost,Alhamdulillah,all praises to allah for the strengths and his utmostgratitude and appreciation to my supervisor prof. **Dr. Hussain JadAlkarim**ahmedfor all sincere advices,ideas,guidance and support during this thesis .Iwish to thank my co-supervisor Associate prof. **Dr**. **MohammedSiddigAbdulaziz** .for his guides and support which helped to make this research possible.This research could not have been achieved without the assistance and support I received .

I gratefully acknowledge to the ***Dr***. ***AbolgasimAbass*** for helping in data analysis,and to the role models for hard workers in the lab of Radiation and Isotope Center -Khartoum (RICK), ***Dr***.***Babikir and Miss***. ***Nada Salih*** for their willingness in answering many of my questions, advice and crucial contribution. I am grateful in every possible way and hope to collaborate in the future.

I owe a special dept to my beloved family who has given me infinite support especially my parents , Saadabdelgader,jalilasaad my sisters for their endless love,prayers and encourgment***Dr***.***Malka*** ,***Dr***.***Rasha***, ***Dr***.***Sara***,and my brother Mohammed saad.My gratitude is beyond words.lastly,I am deeply grateful for the love,help and sacrifice that I have received from my loving husband, Adilmohrim,who helped andsupported me with greatepatiences,and deep pleasure with love to my sweety kids Haneen,Faris,Mohammed and jalila.

Finally, I would like to thank everyone who contributed to this research, as well as expressing my apology to those whom I could not mention personally one by one.

Rania Saad ,January 2015

Abstract

This retrospective perspective study was conducted in Radiation and Isotope Center Khartoum (RICK), during the period from June 2012 to December 2014. This study aimed to detectimmunoexpression of keratin(CK) and epithelial membrane antigen(EMA) among Sudanesepatients with nasopharyngeal carcinoma and detection of Cytomegalovirus(CMV), Epstein Barr Virus(EBV) and Herpes Simplex Virus(HSV).

patients ages ranged between 17 to 88 years with a mean age of 50 years. Most patients were older than the age of 50 years representing 77 (51.3%) and the remaining 73(48.7%) were younger than50 years)97(64.7%) of study subjects were males. While, 53 (35.3%) of study subjects were females.All samples were stained with hematoxylin and eosin to confirm histopathologicaldiagnosis, immunohistochemichemistry (avidin biotin) for detection of CK and EMA Cytokeratinstumer marker .

Molecular technique (PCR)for detection of EBV, CMV,and HSV.The relationship between CK and EMA and these viruses were showed as followCK expression was demonstrated in 150 samples, 144/150(96%) were CK positive and the remaining 6/150(4%) were CK negative (internal control). CK and EBV correlation was identified in 92/144(64%). CK and CMV correlation was identified in 53/144(37%). CK and HSV correlation was identified in 18/144(12.5%) for immune-expression of EMP2 and molecular identification of herpes viruses (EBV=92, CMV=53 and HSV=18) correlations. loss of EMP2 (negative) was identified in 10/92 and the remaining 82/92were positive. 53 positive CMV loss of EMP2 (negative) was identified in 10/53 and the remaining 43/53were positive.

Out of the 18 positive HSV loss of EMP2 (negative) was identified in 4/18 (22.2%) and the remaining 14/18(77.8%) were positive. Furthermore, 26 EMA negative were found HSV negative, consequently, EMA expression was demonstrated by immunohistochemistry using EMA antibodies.

EBV, CMV and HSV were identified by polymerase chain Reaction (PCR) and the results were showed s follow : loss of EMA (negative) was identified in 10.9%, 18.9%, and22.2%, of EBV, CMV and HSV, respectively.

This study concluded that : In NPC, there is significant correlation between loss of expression of EMA and human herpes viruses (EBV, CMV and HSV). The study found that there is strong correlation between Herpes viruses EBV and CMV and cytokeratin expression in NPC but not HSV. Knowledge of the exact interaction between cytokeratins and these viruses may stimulate new ideas that help in prognosis, treatment and overall management of patients with NPC.There was a high loss of EMA in NPC, which is corresponding to high NPC types. Loss of CK expression is relatively linked to high NPC types. Further studies to highlight the biological interrelation between theses markers and NPC is deemed necessary.

However, and to the best of our knowledge no study have investigated the exact interaction (s) between EMA and Herpes viruses. So this study is a stimulation for further research in this area.

The study recommended more surveys for the work of communities of patients using more immunohistchemistry with more markers to study the relationship with nasopharyngeal carcinoma in most advanced molecular techniques to confirm the role of the this special stains and technique in the development of nasopharyngeal cancer in the Sudan.

ملخص الأطروحة

اجريت هذه الدراسة الوصفية التقدمية في المركز القوميللعلاج بالاشعه والطب النووي بالخرطوم في الفترة من يونيو 2012حتىديسمبر2014.هدفت هذه الدراسة منالكشف المناعي بالكيراتينومستضد الانسجة الطلائية لدى المرضى السودانيين المصابين بسرطان الانف البلعومي وعلاقته بفيروسات(ابشتاينبار,والفيروس المضخم للانسجةوالهيربسسيمبليكس). تراوحت أعمارهم بين 17 و 88 سنة . 64.7% من المرضى كانوا ذكورا و 35.3% كانوا إناثا.وكانت متوسط اعمارهم 50 سنه .تم صبغ جميع العينات بطريقة كيمياء الانسجهالمناعيه وطريقه الاحياء الجزئية.(تفاعل البلمرة المتسلسل).

وجدت الدراسة ان السايتوكيراتينكانت نتيجته في 150 عينه على النحو التالي 144\150كانت نتيجتها ايجابيه اما البقيه 6\150 كانت سالبه (كضابط داخلي).حيث وجد 92\144 حالة ايجابيه من الابشتاينبار و52سالبه. اما الفيروس المضخم للخلايا وجدت 35\144 ومع الهيربس كانت 18\144.

ولقد كانت علاقة صبغة الكيمياء المناعية(مستضد الانسجة الطلائية)مع الفيروسات الثلاث على النحو التالي :

(اي بي في=92,وسي ام في=53,اتش اس في=18)كانت نسبة الابشتاين فايرس10\92سالبة و82\92موجبه. اما الفيروس المضخم للخلايا 10\53 سالبة و43\53 موجبة. والهربس 4\18 سالبه و14\18موجبة ،حيث يستخدم مستضد انتجين الانسجة الطلائيةللكشف بطريقة كيمياء مناعة الانسجة.

الفيروسات الثلاث ابشتاينباروالفيروس المضخم للخلايا والهربس سمبلكس يتم الكشف عنهم بطريقة البلمرة المتسلسلة حيث وجدت نسبهم كالتالي 58% ،36% ، و10.7% على التواليي .

لقد استنتجت هذة الدراسة انه هناك علاقة قوية بين فيروسي الابشتاينوالسايتوميجالوفايرس مع سرطان الانف البلعومي ،اما الهربس سمبلكس ليست له هذةالعلاقه .

وعلى حد علمنا لم تطرق اي دراسة الى علاقة الايما ككاشف مناعي للانسجة مع سرطان الانف البلعومي وهذا للتحفيز لمثل هذة البحوث على دراستها في هذا المجال .

وأخيرا، توضح البيانات العلمية المنشورة بان استمرارية الاصابه بفيروس ابشتين بار يلعب دورا هاما في تطور سرطان البلعوم الانفي ومن المحتمل إن تقترن بعوامل خطورة أخرى.

وقد اوصت الدراسة بعمل مسوحات اكثر لمجتمعات المرضى باستخدام التقنيات الجزيئيه الاكثر تقدما لتاكيد دور فيروس ابشتين بار فى تطور سرطان البلعوم الانفي فى السودان.

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