

## RECOMMENDATIONS

- Serial measurement of serum neopterin at acute attack of encephalitis and during the course of the disease then after complete course of treatment.
- Measurement of serum neopterin in combination with other inflammatory cytokines like interleukin 6 for predicting severity and outcome of patients with encephalitis
- Measurement of CSF and serum Neopterin and comparison between them and find which is more sensitive in predicting the severity and outcome of patient with encephalitis
- Measurement of S100 B protein in CSF and in serum and find which of them is more sensitive marker for brain damage and outcome of patients with encephalitis
- Measurement of serum Neopterin and S100 B protein and see their roles in bacterial encephalitis and non infectious encephalitis

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## الملخص العربي

إلتهاب الدماغ الفيروسي هو حالة طبية طارئة . سلسلة التورط الدماغى وتطور المرض يعتمد بشكل أساسى على عامل محدد مسبب للمرض والحالة المناعية للمضيف . على الرغم من أن العلاج المحدد يقتصر فقط على بعض من العوامل الفيروسية ، فالتشخيص الفورى الصحيح وإدخال العلاج الدقيق المتوافق مع الأعراض له تأثير قوى على البقاء على قيد الحياة ويقلل من مدى إصابة الدماغ الدائمة في الناجين.

وقد أجريت دراسات متعددة للكشف عن علامات جديدة لمتابعة تطور المرض والتقدير لما هو محتمل حدوثه منه .واحدة من هذه العلامات هو النيوترين الذي تنتجه الخلايا الوحيدة/ الخلايا الضامة عندما يتم تنشيطها من خلال الإنترفيرون جاما الذى يتم إفرازه من الخلايا اللمفية تي كجزء من الإستجابة المناعية للجسم وتقييم تركيز النيوترين يسمح بتقدير مستوى تنشيط المناعة الخلوية ، وكذلك الرصد و التنبؤ بتطور المرض.

الخلايا النجمية هي الخلايا الأكثر شيوعا في أنسجة المخ وبروتين الإس ١٠٠ بى يتم تصنيعه بداخل خلايا شوان والخلايا النجمية الدبقية. وهو بروتين ملزمة الكالسيوم الحمضية ويعتقد أن يكون وسيطا للتفاعلات العصبية الدبقية في الدماغ الطبيعى .الأضرار التي تلحق بالخلايا النجمية تسبب تسرب بروتين الإس ١٠٠ بى خارج الخلية في النخاع الشوكى ونسبة صغيرة منه تتسرب إلى الدورة الدموية . لذا فإن تحديد مستوى بروتين الإس ١٠٠ بى للتلغف الدماغى فى حالات إلهاب الدماغ الفيروسي يمكن أن تكون مفيدة .

وكان الهدف من هذا العمل هو دراسة الدلالة الاكلينيكية لبروتين الإس ١٠٠ بى و النيوترين في المرضى الذين يعانون من الألهاب الدماغى.

وقد أجريت الدراسة على ٤٠ شخص الذين قد تم تقسيمهم إلى مجموعتين :

- المجموعة الأولى : تتكون من عشرين مريض يعانون من الأعراض الأكلينيكية ونتائج إيجابية لتحليل النخاع الشوكى وذلك لإشتباههم فى إلهاب الدماغ الفيروسي .
- المجموعة الثانية : تتكون من عشرين متطوع من الأصحاء ظاهريا متطابقين فى العمر والجنس.

وقد تم اختيار المرضى من أولئك الذين يحضرون إلى مستشفى حميات الإسكندرية الذين تم تشخيصهم على أنهم مشتبه بأنهم يعانون من إلهاب الدماغ الفيروسي .

وتعرض جميع المرضى والمتطوعين الى أخذ تاريخ مرضى تفصيلى وفحص إكلينيكى شامل تم التركيز فيه على الأعراض الخاصة بالجهاز العصبى ، صورة دم كاملة ، سكر عشوائى بالدم وبروتين سى التفاعلى . تعرض المرضى فقط لبذل قطني لتحليل السائل النخاعي، ومزرعة بكتيرية للسائل النخاعي وتصوير رنين مغناطيسى دماغى وأشعه مقطعية دماغيه .

وقد تم تقدير بروتين الإس ١٠٠ بى و النيوترين بواسطة الفحص بطريقة الإنزيم المرتبط المناعى.

في دراستنا وجدنا أن مستوى النيوترين بالدم كان أعلى بكثير في المرضى الذين يعانون من إلهاب الدماغ الفيروسي ممن يشتهب فيهم من المتطوعين الأصحاء .

أيضا أظهرت الدلالة الإحصائية زيادة مستوى النيوترين بالدم فيما يتعلق بشدة الأعراض والمضاعفات مثل الأعراض التي تخص العين، والسير بطريقة غير طبيعية وتأخر الكلام.

وجدنا أن مستوى النيوترين أعلى في غير الناجين، وكان هناك دلالة إحصائية إيجابية تربط بين النيوترين وحدث الموت في مرضى الألهاب الدماغى.

وجدنا أن القيمة المتوسطة لمستوى النيوترين بالدم أعلى بكثير في هؤلاء المرضى الذين يعانون من تغييرات ملحوظة فى التصوير بالرنين المغناطيسى على المخ من هؤلاء الذين لا يعانون من هذه التغييرات الملحوظة فى التصوير بالرنين المغناطيسى على المخ .

في دراستنا كان مستوى بروتين الإس ١٠٠ بى أعلى بكثير في المرضى الذين يعانون من إلتهاب الدماغ الفيروسي ممن يشته بههم بالمجموعة الضابطة .

كما وجد أن القيمة المتوسطة لبروتين الإس ١٠٠ بى كانت أعلى بكثير في مرضى الإلتهاب الدماغى الذين تم وضعهم على جهاز التنفس الصناعى من هؤلاء المرضى الذين لم يتم وضعهم على جهاز التنفس الصناعى .

### من هذه الدراسة يمكننا إستنتاج التالى:

- فى العموم تشير هذه البيانات إلى أن مستوى النيوترين بالدم أعلى بكثير في المرضى الذين يشته بأنهم يعانون من إلتهاب الدماغ الفيروسي عن المتطوعين الأصحاء ولذلك هو علامة جيدة للإلتهاب الدماغ الفيروسي.
- يمكن أن يكون قياس النيوترين بالدم معلمة مفيدة في توقع خطورة و حدوث مضاعفات للمرضى الذين يعانون من إلتهاب الدماغ الفيروسي المشتبه بهم، جنبا إلى جنب مع غيرها من المظاهر الإكلينيكية التقليدية وصورة تحليل السائل النخاعى .
- القيمة المتوسطة لنسبة النيوترين بالدم أعلى بكثير في هؤلاء المرضى الذين معهم معايير رائعة من التصوير بالرنين المغناطيسي من المرضى الذين معهم معايير غير ملحوظة. ولذلك، فإن القدرة على قياس العلامات البيولوجية في سوائل الجسم وربطها مع معايير التصوير بالرنين المغناطيسى مهمة في تحديد نشاط المرض.
- ارتفاع مستوى النيوترين بالدم في غير الناجين ولذلك فان هناك دلالة إحصائية إيجابية بين النيوترين والموت في المرضى الذين يعانون من الإلتهاب الدماغى وارتفاع مستواه هو مؤشر جيد لحدوث حصيلة سيئة في مرضى الإلتهاب الدماغى.
- القيمة المتوسطة لبروتين الإس ١٠٠ بى بالدم أعلى بكثير في المرضى الذين يشته بأنهم يعانون من إلتهاب الدماغ الفيروسي من المجموعه ذات الصحية الجيدة . وقد تبين أن زيادة بروتين إس ١٠٠ بى في السوائل البيولوجية هو علامة على وجود إلتهاب دماغى في مرضى الإلتهاب الدماغى.
- القيمة المتوسطة لبروتين الإس ١٠٠ بى بالدم أعلى بكثير في مرضى الإلتهاب الدماغى الذين قد تم وضعهم على جهاز التنفس الصناعى من هؤلاء الذين لم يتم وضعهم عليه . لذلك زيادة تركيزه تعكس تلف الأنسجة و حصيلة المرضى الذين يعانون من الإلتهاب الدماغى .



جامعة الإسكندرية  
كلية الطب  
قسم طب المناطق الحارة

الدلالة الإكلينيكية لبروتين إس ١٠٠ بى ونيوبترين فى الدم عند المرضى المصابين  
بالإلتهاب الدماغى

رسالة مقدمة

لقسم طب الأطفال - كلية الطب - جامعة الإسكندرية  
ضمن متطلبات درجة

الماجستير

فى

طب المناطق الحارة

من

أسماء إبراهيم سعد محمد خليل  
بكالوريوس الطب والجراحة، ٢٠٠٦  
كلية الطب، جامعة الإسكندرية

[٢٠١٥]



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بالإلتهاب الدماغى

رسالة مقدمة من  
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للحصول على درجة

الماجستير

فى

طب المناطق الحارة

التوقيع

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