Sudan University of Science and Technology

College of Graduate Studies and Scientific Researches

Detection of Cytomegalovirus Inclusion Bodies in Product of Conception Using Histochemical Staining Methods

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Dedication

to

my parent

my brothers and sister

my husband and lovely kid

my teachers

To Sudanese health and care

I gift this work to all of you

lubna

Acknowledgement

Praise to Allah. So thankfull to every one who helped and support me to finish this work, special thank to Dr. Mohamed Siddig AbdElaziz who help me from A to Z.

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Thanks for you all

Lubna

اجريت هذة الدراسة الرجعية المستشفوية بمستشفي بحري التعليمي هدفت الدراسة الي إكتشاف الجسم المشتمل بالخلية للفيروس المضخم للخلايا الذي نبحث عنه في بـ قايا الحمل (الانسجة المجهضة) بخملات المشيمة باستخدام طرق الصبغ للنسيج الكيميائية هيماتكسلين والايوسين,ماكيفيللو وبي اي اس .

تم جمع 76 قالب مدعم بشمع البرافين من الإرشيف من عام 2007 حتي 2010 لحالات تم تشخيصها كإجهاض خلال الثلاث أشهر الاولي من الحمل .تم جمعها وصبغها وتشخيصها لإكتشاف الجسم المشتمل بالخلية للفيروس المضخم للخلايا .تم جمع المعلومات الخاصة بالمرضي من إرشيف الإ قامة الـ قصيرة بالمستشفي .

يتراوح عمر المرضى بين 22 إلي 47 سنة ومتوسط الاعمار 31 سنة.

النتائج التشخيصية للعينات عكست الاتي 13(17.1%) جسم مشتمل بالخلية للفيروس المضخم للخلايا بإستخدام صبغة هيماتكسلين والايوسين و 55(72.4%) عينة طبيعية لخملات المشيمة و 6(7.9%) تنكسية لخملات المشيمة و 1(1.3%) سرطانية لخملات المشيمة و 1(1.3%) استسـ قائية لخملات المشيمة.

تم إكتشاف) % 17.1 13(جسم مشتمل بالخلية للفيروس المضخم للخلايا بإستخدام صبغة هيماتكسلين والايوسين,) 3.93%(باستخدام ماكيفيللو و) 14.511%(بإستخدام بي اي اس . مع وجود علا قة ذات دلالة احصائية بين الاصباغ الثلاث المختلفة (p,<0.05)

وجدت الدراسة ان عمر المرضى الذين يتعرضون للإجهاض يتراوح بين 26 الي 30 سنة وليس هنالك علا قة بين الزيادة في العمر وحدوث حالات الإجهاض. وجدت الدراسة إن هنالك علا قة بين سكن المرضى و نتائج التشخيص للإجهاض معظم المرضى من منط قة بحري شمال(P<0.05)

وجدت الدراسةانه لا وجود لعلا قة ذات دلالة احصائية بين النتائج التشخيصية وعدد مرات الاجهاض والعلامات السريرية للمرضى (P>0.05)

خلصت الدراسة الي أنه يمكن إكتشاف الجسم المشتمل بالخلية للفيروس المضخم للخلايا. باستخدام طرق الصبغ للنسيج الكيميائية هيماتكسلين والايوسين,ماكيفيللو وبي اي اس (P<0.05). وجد أن الإصابة بالفيروس المضخم للخلايا متصاحبة مع حالات الإجهاض وتم تحديد المشتمل بالخلية للفيروس المضخم للخلايا في بـ قايا الحمل بنسبة 17.1% .

Abstract

This is a retrospective hospital based study which conducted in Khartoum North teaching hospital, aimed to detect cytomegalovirus inclusion bodies in product of conception (aborted tissues) in chorionic villi by applying conventional histochemical stains, Haematoxyline and eosin, Machiavellos and PAS stain.

Seventy six archived paraffin blocks from 2007 to 2010 of known cases of miscarriage at first trimester were collected, stained and examined for cytomegalovirus inclusion bodies. The patients' information was collected from the archived short stay files.

The patients' age ranged between (22-47) year with mean age 31year.

The histopathological results (H&E) reflect the following results:The inclusion body represent13 (17.1%) haematoxyline and eosin in chorionic villi(trophoblast infected cell), 55(72.4%)normal chorionic villi ,6(7.9%) degenerate chorionic villi,1(1.3%)choriocarcinoma and 1(1.3%)hydropic chorionic villi .

Cytomegalovirus inclusion bodies were detected in 13(17.1%) by hamatoxyline and eosin stain, 3(3.9%)by Machiavello's and 11(14.5%) by PAS stain. With significant relation between different three stains ($p<0.05$).

According to the work the patients age suffering of miscarage ranged from 26-30 years ,the corelation between age and histological results was found to be statistcally insignificant($p>0.05$).

The study found that there is association between resident of patients and histopathological results,as most of patents from Bahri shemal ($p<0.05$).

The study found no signficant relation between miscarriage number,clinical remarks and histopathologiacal results.($p>0.05$).

The study concluded that cytomegalovirus inclusion bodies were detected using histochemical staining method, haematoxyline and eosin, Machiavello stain and PAS .haematoxyline and eosin considered as abest method for detection of cytomegalovirus inclusion body, special stain applied as confirmatory tools.Cytomegallovirus infection appear as one of causes of miscarage.17.1%.

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List of abbreviation

HCMV	HUMAN CYTOMEGALOVIRUS
CMV	CYTOMEGALOVIRUS
DNA	DEOXY RIBONUCLIC ACID
TORCH	TOXOBLASMA,RUBELLA,CTOMEGALOVIRUS,HERPS VIRUS.

PAS	PERIODIC ACID SCHIEF'S REAGENT
CD4	CLUSTER DIFRENTATION
IL	INTERLUKEN
TNF	TUMER NECROSIS FACTOR
AIDS	ACQUIRED IMMNEDIEFECIENCY SYNDROME
HIV	HUMAN IMMUNEDEIECIENCY VIRUS
EC	ENDOTHIELIAL CELL
ELISA	ENZYME LINKED IMMUNOASSAY SORBENT
IGM	IMMUNOGLOBULINM
RIA	RADIOIMMNO ASSAY
IGG	IMMUNOGLOBULIN G
GI	GASTROINTESTINAL
H&E	HAEMATOXLINE AND EOSIN
PCR	POLYMARAZE CHAIN REACTION
CSF	CREBRO SPINAL FLUID
RNA	RIBONUCLIEC ACID
HSV	HERPS VIRUS SIMPLEX
VZV	VIROCELLA ZOSTER VIRUS
RPL	RECURENT PREGNANCY LOSS
CMV-1GIV	CTOMEGALLOVIRUS-IMMUNEGLOBULINE INTRAVENOUS
D&C	DALITATION AND CURRTAGE
HCG	HUMAN CORTECOGONADOTRPHIN
DIC	DISSEMINATED INTRAVASCLAR COAGULOPATHY
LMP	LAST MENSTERUALPERIOD
DPX	DESTRINE POLYLYTHINE XYLENE

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