قرآن كريم

أعوذ بالله من الشيطان الرجيم

بسم الله الرحمن الرحيم

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صدق الله العظيم

من الأية(٥٠) سورة الفرقان

Dedication

I dedicate this work to the soul of my parents the compassionates

To my wonderful and lovely wife for her patience, encouragement and continues support

To my children Mohamed ,Elmothanna and my sweet twins for dreaming proudly about their father holding a PhD degree

To my brothers and sisters

To my best friends for their Cheers

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ABSTRACT

Early identification of deep venous thrombosis (DVT) in trauma patients would result in an early initiation of treatment, thereby decreasing the frequency of complications. The aim was to study the deep vein thrombosis in fractured lower extremities using Duplex ultrasonography

This prospective study was carried out at Ribat Universal Hospital in Khartoum Sudan from January 2016 and March 2018 included 176 patents(129 males and 47 females; mean age of 51.5±19.5 years) with fractured lower extremities were thoroughly evaluated by Doppler exam with respect to fracture site and pattern, fixation type, associated injuries, time before immobilization, and venous Duplex ultrasound (VDUS) findings. Each affected limb was assessed for the presence of DVT using a Sonoline G 60S ultrasound (US) unit. The analysis was performed with the Statistical Package for the Social Sciences (SPSS) version 22.

The incidence of DVT in the current study was (12.5%) the high rates of DVT noted in 10(16.4%) patients with age group (58-77)years old, 10(13.7%)patients with periacetabuler fractures, 5(20.%) patients with femur fractures,3(23.1%) patients with multiple fractures,6(20%) patients with late immobilization more than10hours, 3(42.9%)patient with TBS fixation and 3(23%)patients having multiple fractures. Sensitivity and specificity of the findings of compressibility and respiratory phasicity for DVT detection in patients with fractured lower extremities were 81.25% and 87.50% and 100% and 100% respectively. In addition, the absence of compressibility and phasicity had positive predictive value (PPV) of 100% and 100% and negative predictive value (NPV) of 93.75% and 95.65% respectively.

In this study the rate of DVT was high on complex fractures, delayed immobilization and on fractures that immobilized by traditional bone setter (TBS). US exam of DVs in the brightness mode (B-mode) with compression maneuvers should be the first-line imaging modality for suspected DVT in patients with fractured lower extremities.

ملخص البحث

إن التشخيص المبكر للجلطة الوريدية العميقة (DVT) في مرضى الحوادث قد يؤدي إلى البدء المبكر للعلاج ، وبالتالي تقليل تكرار المضاعفات. كان الهدف هو دراسة تجلط الأوردة العميقة في الأطراف السفلية المكسورة باستخدام الموجات فوق الصوتية دوبلكس.

أجريت هذه الدراسة الاستباقيه في مستشفى الرباط الجامعي في الخرطوم السودان من يناير ٢٠١٦الي مارس ٢٠١٨ وشملت ١٧٦(١٢٩ من الذكور و ٤٧ من الإناث ؛ متوسط العمر ٥١,٥ ± ١٩,٥ سنة) مصابا بكسور الاطراف السفليه تم تقييمهم بدقة من خلال فحص الدوبلر فيما يتعلق بموقع و نمط الكسر ، نوع التثبيت ، الإصابات المصاحبة ، المدة الزمنيه قبل التثبيت ، و نتائج الموجات فوق الصوتية الوريدية (VDUS) تم تقييم كل طرف مصاب من أجل وجود DVT باستخدام جهاز الموجات فوق الصوتية Sonoline G 60S تم إجراء التحليل باستخدام الحزمة الإحصائية للعلوم الاجتماعية (SPSS) الإصدار ٢٢

كان معدل الاصابة بجلطات الاوردة العميقة في الدراسة الحالية هو (١٢,٥ ٪). لوحظ ارتفاع معدلات تجلط الأوردة العميقة في ١٠ (١٦,٤ ٪) من المرضى الذين تتراوح أعمارهم بين (٥٨-٧٧) سنة ، ١٠ (١٣,٧ ٪) من المرضى الذين يعانون من كسور حول المخروقة ، ٥ (٢٠. ٪) من المرضى الذين يعانون من كسور عظم الفخذ ، ٣ (٢٣,١ ٪)من المرضى الذين يعانون من كسور متعددة ، ٦ (٢٠ ٪) من المرضى الذين يعانون من التثبيت المتأخرللكسر أكثر من ١٠ ساعات، ٣ (٤٢,٩ ٪) من مرضي التثبيت بالجبيره البلديه و ٣ (٢٣ ٪) من المرضى الذين يعانون من كسور متعددة. كانت حساسية وخصوصية نتائج الانضغاطية والطور التنفسي للكشف عن الاصابة بجلطات الاوردة العميقة في المرضى الذين يعانون من كسور الأطراف السفلية ٨١,٢٥ ٪ و ٨٧,٥٠ ٪ و ١٠٠ ٪ و ١٠٠ ٪ على التوالي. بالإضافة إلى ذلك ، كان لغياب الانضغاطية والطور التنفسي القيمة التنبؤية الإيجابية (PPV) من ١٠٠ ٪ و ١٠٠ ٪ والقيمة التنبؤية السلبية (NPV) من ٩٣,٧٥ ٪ و ٩٥,٦٥ ٪ على التوالي.

في هذه الدراسة وُجد أنّ معدل الإصابة بتجلُّط الأوردة العميقة مرتفعٌ عند الكسور المعقدة والمتأخرة التثبيت وعلى كسور الجبيره البلديه. إن فحص الجلطة العميقة DVT بالوجات فوق الصوتيه العادية في وضع السطوع (B-mode) مع مناورات الضغط يجب أن يكون هو الخط الأول لتصوير المرضى المشتبه بهم الذين يعانون من كسور الأطراف السفلية

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LIST OF ABBREVIATION

CTA	Computed Tomography Angiography
DUS	Duplex Ultrasound
DVT	Deep Vein Thrombosis
MRA	Magnetic Resonance Angiography
NPV	Negative Predictive Value
PE	Pulmonary Embolism
PPV	Positive Predictive Value
US	Ultrasound
VDUS	Venous Duplex Ultrasound
VTE	Venous Thrombo-Embolism
PTA	percutaneous transluminal angioplasty
THR	total hip replacement
PTS	postthrombotic syndrome
LMW	low molecular weight
WBC	White Blood Cells
CBC	Complete Blood
CT	Computed Tomography
CFD	Color flow Doppler