

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قال تعالى

وَقَضَىٰ رَبُّكَ أَلَّا تَعْبُدُوا إِلَّا إِيَّاهُ وَبِالْوَالِدَيْنِ إِحْسَانًا
إِمَّا يَبْلُغَنَّ عِنْدَكَ الْكِبَرَ أَحَدُهُمَا أَوْ كِلَاهُمَا فَلَا تَقُلْ
لَهُمَا أَفْ وَلَا تَنْهَهِمَا وَقُلْ لَهُمَا قَوْلًا كَرِيمًا (23)
وَاخْفِضْ لَهُمَا جَنَاحَ الذُّلِّ مِنَ الرَّحْمَةِ وَقُلْ رَبِّ
ارْحَمْهُمَا كَمَا رَبَّيَّانِي صَغِيرًا (24)

صدق الله العظيم

سورة الإسراء الآيات 23-24

Content	Page
Dedication	I
Acknowledgement	
Abstract	
المستخلص	
Abbreviation	
List of figure	
List of tables	
Chapter one Introduction & literature review	
1.1 Introduction	
1.2 literature review	
1.2.1 Normal Haemostasis	
1.2.1.1 Normal Components of Haemostasis	
1-2.1.1.1 Vascular tissue	
1-2.1.1.2 Platelets	
1-2.1.1.3 Coagulation System	
1-2.1.1.4 Fibrinolytic System	
1.2.1.2 Coagulation System Dysfunction in DM	
1.2.1.3 Platelet Dysfunction in DM	
1.2.1.4 Hemostasis Alteration in DM	
1.2.1.5 Fibrinolytic alteration in DM	
1.2.1.6 Fibrinogen and factor VIII alteration in DM	
1.2.2 Diabetes mellitus	
1.2.2.1 DM classifications	
1.2.2.1.1 Type 1 Diabetes	
1.2.2.1.2 Type 2 Diabetes	
1.2.2.2 Complications of DM	
1.2.2.2.1 Acute complications	
1.2.2.2 .2 Chronic complications	
1.2.2.3 Potential Pathogenic Mechanisms of Diabetic Complications	
1.3 Objectives	
1.4 Rationale	
Chapter two Material and methods	
2.1 Study design	
2.2 Study population	
2.2.1 Inclusion Criteria	

2.2.2	Exclusion Criteria	
2.3	Sampling technique	
2.4	Sample size	
2.4	Data collection	
2-6	Sample collection and treatment	
2.7	fibrinogen measurement	
2-7-1.	Test Principle	
2-7-2.	Procedures	
2-7-3	Quality Control (QC)	
2-8	Technique of factor viii assay	
2-8-1	principle	
2-8-2	procedure	
2-8-3	Quality Control	
2-8-4	EXPECTED VALUES	
2.9	Ethical consideration	
2.10	Data analysis	
Chapter three Result		
3.	Results	
Chapter four Discussion, conclusion, and recommendation		
4.1	Discussion	
4.2	Conclusion	
4.3	Recommendation	
References		
References		
Appendixes		

Appendix 1

Questionnaire

جامعة السودان للعلوم والتكنولوجيا

كلية علوم المختبرات الطبية

قسم أمراض الدم ومبحث المناعة الدمويه

Name.....الاسم

Age.....العمر

Sex.....الجنس

Do you have diabetes? هل عندك

مرض السكري؟

Yes

☐

NO

☐

What type of diabetes ?

مرض السكري؟

Type IDM

☐

type II DM

☐

GDM

☐

Diabetic treatment

علاجات تستخدمها

☐

Oral hypoglycemic drug OHG

insulin

☐

OHG and insulin

☐

others.....

Do you smoke?

هل تدخن

Yes

☐

NO

☐

Do you use other

medication and specify هل

علاجات اخرى ؟ واذكرها

تستخدم اي

Result:-

Fibrinogen.....mg\dl

Factor VIII.....%

Appendix II

بسم الله الرحمن الرحيم

المعاليات العلية برنامج ماجستير-مختبرات طبية

كلية الدراسات العليا برنامج ماجستير-مختبرات طبية

تخصص علم الدم

براءة اخلا قية

الاسم

..

سوف يتم اخذ عينة من الدم (5مل) من الوريد بواسطة ح قنة طعن وذلك بعد مسح منطقة اخذ العينة
بواسطة المطهر. كل الادوات المستخدمة لاخذ العينة معقمة ومتبع فيها كل وسائل السلامة المعملية. وانا
ا. قربان هذه العينات يتم تحليلها فقط لطلب البحث

اوافق انا المذكور اعلاه علي اخذ عينة لاجراء الدراسة

الامضاء

التاريخ.....

Appendix III

2-9-3.Reagents

□ Stago STA® Fibrinogen (for *in vitro* diagnostic use only) – contains lyophilized human calcium thrombin at a concentration of approximately 80 NIH unit/mL. each vial was reconstituted with 5 mL of distilled water. Reconstituted material was incubating at room temperature (18° C - 25° C) for 30 minutes. After incubation, the solution was gently mixed by swirling the vial without creating bubbles. The reagent was Handled and disposed as a biohazard.

□ Control: Precision BioLogic CRYOcheck™ Pooled Normal Plasma: normal citrated human plasma from a minimum of 20 healthy individuals, buffered using Hepes buffer, aliquoted and rapidly frozen. Each vial was thawed (1.0 mL) at 37° C + 1° C in a waterbath for 4 minutes (1.0 mL) or 5 minutes (1.5 mL). plasma was Allowed to acclimate to room temperature (18 - 25° C) and inverted gently prior to use.

□ Calibration Reference Plasma

□ Distilled Water

□ Owren's-Koller (veronal) buffer – buffered solution at pH of 7.35. the manufacture instruction for disposed were followed to prevent formation of explosive metallic azides .

2-9-4.KIT Reagents

□ Reagent 1: freeze dried titrated sodium calcium thrombin containing a specific heparin inhibitor.

□ Reagent 2: Ready for use Owren-Koller buffer, pH 7.35 contains sodium azide as preservative.

2-9-6.Reagent preparation and storage

- Reagent 1: Each vial was reconstituted with 2 ml of distilled water and allowed it to stand at room temperature (18-25 °C) for 30 minutes.
- Reagent 2 was ready for use.

2-10-2reagent

Factor VIII Deficient Substrate Plasma (Cat. No. 5193)

Ingredients: The reagent is human plasma which contains less than 1% Factor VIII activity. Precautions: For *In-Vitro* Diagnostic Use Only.

Preparation for Use: Each vial was Reconstituted of Factor VIII Deficient Substrate Plasma with 1.0 mL deionized water. Swirled gently and allowed to stand 15 minutes at room temperature to ensure complete dissolution.

Storage and Stability: The lyophilized product is stable until the expiration date printed on the vial and box labels when stored at 2 to 6°C. The reconstituted product is stable for 8 hours. After the initial reconstitution period, the product was kept on ice for the duration of testing.

Materials Provided:

Cat. No.

- Factor VIII Deficient Substrate Plasma 5193
- Other Supplies Available from Helena
- Helena APTT Reagent Kits
- 10 x 5.0 mL - 250 tests 5383
- 10 x 10 mL - 500 tests 5384
- 10 x 10 mL - APTT Reagent 5385

□ 10 x 10 mL - Calcium Chloride 5386

Helena APTT-SA Reagent Kits

□ 10 x 10 mL - 500 tests 5389

□ 10 x 10 mL - APTT-SA Reagent 5387

□ 10 x 5 mL - 250 tests 5388

Materials required but not provided:

□ 12 x 75 mm plastic test tubes

□ Stopwatch

Plastic or siliconized glass serological pipettes and syringes