**DVT Quiz**

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**QUESTIONS**

1. Fill in the blank:
   
   Venous thromboembolism (VTE) is a major national health problem, with an overall age- and sex-adjusted incidence of more than .... per 1,000 annually.

2. Which is the preferred probe for diagnosis of Deep Vein Thrombosis (DVT)?

3. Choose the best correct option for the following statement
   
   Which of the following are possible complications caused by venous thromboembolism (VTE)?
   
   a. Recurrent VTE.
   b. Post-thrombotic syndrome.
   c. Chronic thromboembolic pulmonary hypertension.
   d. Death
   e. All of the above

4. Choose the best correct option for the following statement.

   Which of following is NOT a known risk factor for VTE development?
   
   a. Obesity.
   b. Hypertension.
   d. Total knee replacement (TKR) surgery.
   e. Birth control pills.

5. D-dimer levels remain elevated in DVT for what duration?

6. Spot - What does the two images demonstrate?

7. Spot - Which sign?

8. Spot - What does the image demonstrates ?

9. Spot – What does following images indicate?

10. Diagnosis -Spotter.

11. Spot on– What does following image suggest?

12. Which month is DVT awareness month?

13. Which day is World Thrombosis Day?
14. Spot - Diagnosis

15. Fill in the blank-

What is Economy class syndrome? When it was first described?

16. Identify the device and explain mechanism of action?

17. Select the single best response
Which of the following agents don’t increase the risk of DVT when used alone?

a. Thalidomide
b. Tamoxifen
c. Adjuvant hormonal therapy
d. Antiangiogenic agents
e. All of the above

18. Spot on- Identify

19. Select the single best response
Upper extremity DVT accounts for _% of total DVT incidence-

a. <1%
b. 5-10%
c. 10-20%
d. 20-25%
e. 30-35%

20. Select the single best response
All can be used for treatment of DVT in pregnancy except-

a. Unfractionated Heparin
b. Low molecular weight heparin
c. Novel oral anticoagulants (NOACs)
d. None of Above

ANSWERS

1. Venous thromboembolism is a major national health problem, with an overall age- and sex-adjusted incidence of more than 1 per 1,000 annually. The incidence of venous thromboembolism is virtually equivalent to the incidence of stroke [1].

2. The preferred probe is the high-frequency linear array probe, because it provides better resolution, and its flat surface is ideal for achieving adequate compression. When determining the correct choice between probes with different US frequencies, choose the one that will provide the best resolution for the required depth [2,3].

3. e. All of the above.

Venous thromboembolism (VTE) is a common disease that is associated with significant risk of recurrence, chronic complications, and substantial mortality. Impaired thrombus resolution is the common denominator behind VTE complications, which are postthrombotic syndrome (PTS) and chronic thromboembolic pulmonary hypertension (CTEPH) [4].

4. b. Hypertension.

The origins of clots are described by the Virchow triad which includes stasis (e.g. TKR surgery ), endothelial injury, and hypercoagulability (e.g. Factor V Leiden gene mutation, Birth control pills etc) [5]. Several studies have addressed the relationship between obesity and recurrent VTE [6].

5. D-Dimer antigen levels are elevated in the acute phase of clot formation as would occur in acute deep venous thrombosis, and also the fibrinolytic stage that would occur in the setting of acute pulmonary embolism. D-Dimers have a half-life of 4 to 6 hours. Continued fibrinolysis that occurs in DVT and pulmonary embolism causes the D Dimer to remain elevated for about 7 days [7].

6. Normal Compressibility of common femoral vein. Normal venous ultrasound findings include unidirectional flow, compressibility of the vein, and a lumen free of internal echoes. In order to demonstrate the compressibility of a normal vein, minimal external compression is needed with the transducer in the transverse position [8].

7. At the saphenofemoral junction in the groin: the common femoral vein (CFV) represents the head of Mickey Mouse while the great saphenous vein (GSV) and the femoral artery (CFA) represent the ears [9].

8. Colour Doppler ultrasound showing a dilated vein, filled with anechoic material. These findings are consistent with deep vein thrombosis. Images of acute, chronic & recurrent DVT showed [10].

9. A, The normal waveform which varies with respiration and during the cardiac cycle flowing toward the heart (away from the transducer, below the baseline). There is a small normal component of reverse flow (above the baseline). B, An abnormal waveform with flat uniform signal toward the heart. The color component shows the vein itself to be patent. This indicates obstruction above the level of the scan [10].

10. Phlegmasia cerulea dolens is a severe form of deep venous thrombosis characterized by severe venous outflow obstruction, marked limb swelling, pain, bluish discoloration, and even venous gangrene, if the condition is untreated [11].

11. Free floating thrombus in LFV extending into CFV [12].

12. March is Deep Vein Thrombosis (DVT) Awareness Month [13].

13. October 13 is World Thrombosis Day [14].


15. The term ‘economy class syndrome’ refers to the occurrence of thrombotic events during long-haul flights that mainly occur in passengers in the economy class of the aircraft. This syndrome results from several factors related to the aircraft cabin (immobilization, hypobaric hypoxia and low humidity) and the passenger (body mass index, thrombophilia, oral contraceptives or hormone replacement therapy, cancer), acting together to predispose to excessive blood coagulation, which can result in venous thromboembolism. The first cases of VTE associated with air travel were reported in 1954 [16].

16. A-V Impulse foot compression system helps to prevent Deep Vein Thrombosis (DVT) and Pulmonary Embolism (PE) by mimicking the natural hemodynamic process of walking and weight bearing [17].

17. a. Thalidomide [18].

18. Heparin coated polyurethane CVC-Preventive role in catheter associated thrombosis [19].

19. a. 5-10%.

Upper extremity deep vein thrombosis (UEDVT) accounts for approximately 5 to 10 percent of all cases of DVT with incidence increasing due to higher frequency of intravenous catheter use [20].

20. c. NOAC.

The Royal College of Obstetricians & Gynaecologists' (RCOG) recent guidelines in April 2015 states 'Non-vitamin K anticoagulants should be avoided in pregnancy, and use of NOACs is not recommended in women who are breast feeding [21].

REFERENCES


14. World Thrombosis Day

15. Subclavian Vein Thrombosis Workup.


17. A-V Impulse™ Foot Compression System.


