Facultate: Medicină
An: IV, Serie Engleză
Examen: Chirurgie generală

Număr capitol: 1
Nume capitol: Surgical Bleeding. Bleeding Disorders, Hypercoagulable States

1	**A preexisting homeostatic defect should be suspected when:**	
a.	a prior history of bleeding exists	**True**
b.	abnormal bleeding begins within the first 30 minutes of the operative period	**True**
c.	a history of congenital bleeding disorder exists	**True**
d.	a history of acquired bleeding disorders exists	**True**
e.	the uremic syndrome is present	**True**
f.	abnormal bleeding begins within the first 45 minutes of the operative period	**False**
g.	abnormal bleeding begins within the first hour of the operative period	**False**
h.	abnormal bleeding begins within the first 2 hours of the operative period	**False**
i.	abnormal bleeding begins within the first incision	**False**
j.	abnormal bleeding begins within the last 30 minutes of the operative period	**False**

2	**The lethal triad of metabolic derangements of transfusion therapy consists:**	
a.	Acidosis	**True**
b.	Hypothermia	**True**
c.	Coagulopathy	**True**
d.	And has been recognized as a significant cause of death for patients with trauma	**True**
e.	And has been recognized as a significant cause of death for patients with massive blood loss	**True**
f.	Hyperthermia	**False**
g.	Alkalosis	**False**
h.	Thrombocytosis	**False**
i.	Leukocytosis	**False**
j.	Neutropenia	**False**

3	**Hemophilia A is characterized by:**	
a.	Reduced or absent factor VIII activity	**True**
b.	Presence of factor VIII molecule	**True**
c.	Joints and intramuscular bleeding	**True**
d.	X-linked inheritance	**True**
e.	Only male patients	**True**
f.	Male and female patients	**False**
g.	Reduces factor VIII activity and von Willebrand activity	**False**
h.	Mucocutaneous bleeding	**False**
i.	Autosomal dominant inheritance	**False**
j.	Incidence in 1% of the US population	**False**

4	**Von Willebrand disease is characterized by:**	
a.	Reduced or absent factor VIII activity	**False**
b.	Presence of factor VIII molecule	**False**
c.	Joints and intramuscular bleeding	**False**
d.	X-linked inheritance	**False**
e.	Only male patients	**False**
f.	Male and female patients	**True**
g.	Reduces factor VIII activity and von Willebrand activity	**True**
h.	Mucocutaneous bleeding	**True**
i.	Autosomal dominant inheritance	**True**
j.	Incidence in 1% of the US population	**True**

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5	**Intraoperative complications**	
a.	shock may cause or aggravate consumptive coagulopathy	**True**
b.	massive transfusion of stored packed red blood cells (PRBCs) alone may lead to bleeding	**True**
c.	standard of care has become the administration of a balanced, 1:1:1 transfusion of PRBCs, platelets, and plasma	**True**
d.	cryoprecipitate for patients receiving massive transfusions of red blood cells	**True**
e.	calcium for patients receiving a massive transfusion of red blood cells	**True**
f.	magnesium for patients receiving a massive transfusion of red blood cells	**False**
g.	standard of care has become the administration of a balanced, 1:2:3 transfusion of PRBCs, platelets, and plasma	**False**
h.	local hemostatic agents cannot control intraoperative bleeding from extensive tissue dissection	**False**
i.	potassium for patients receiving massive transfusions of red blood cells	**False**
j.	shock cannot cause or aggravate consumptive coagulopathy	**False**

6	**Monitoring of anticoagulant therapy:**	
a.	Unfractionated heparin – aPTT or anti-Xa activity	**True**
b.	LMWH, Eliquis, Lixiana – anti-Xa activity	**True**
c.	Warfarin – PT, INR	**True**
d.	Argatroban, Dabigatran, bivalirudin – aPTT, TCT	**True**
e.	Xarelto, Arixtra – anti-Xa activity	**True**
f.	Unfractionated heparin –PT or anti-Xa activity	**False**
g.	LMWH, Eliquis, Lixiana – PT, INR	**False**
h.	Warfarin – aPTT, TCT	**False**
i.	Xarelto, Arixtra – anti-VIIa activity	**False**

j.	Argatroban, Dabigatran, Bivalirudin – aPTT or anti-Xa activity	**False**

7	**Post-operative bleeding:**	
a.	is caused by inadequate hemostasis during surgery	**True**
b.	residual heparin that remains after cardiopulmonary or peripheral vascular bypass surgery can cause significant oozing or overt bleeding	**True**
c.	shock due to any cause that results in consumptive coagulopathy can lead to significant postoperative bleeding	**True**
d.	altered liver function after partial hepatectomy is often associated with bleeding	**True**
e.	if a large portion of the liver is removed, the remaining liver may need 3 to 5 days to increase its production of clotting factors sufficiently to support hemostasis	**True**
f.	factor XIII deficiency is a frequent disorder but must be considered as a possible cause of delayed postoperative bleeding	**False**
g.	bleeding by factor XIII deficiency appears immediately post-operatively	**False**
h.	all are caused by inadequate hemostasis during surgery	**False**
i.	shock due to any cause that results in consumptive coagulopathy cannot lead to significant postoperative bleeding	**False**
j.	altered liver function after partial hepatectomy is never associated with bleeding	**False**

8	**Hypercoagulable states in the surgical patient:**	
a.	both congenital and acquired disorders can put surgical patients at risk for venous thromboembolism	**True**
b.	a positive history of thrombosis associated with pregnancy, oral contraceptives, or hormone replacement therapy should alert practitioners to the possibility of an underlying hypercoagulable state	**True**
c.	patients with protein C deficiency may develop “Coumadin-induced skin necrosis” if a long overlap period with heparin is not performed	**True**

d.	low dose heparin (5,000 international units), subcutaneously administered, provides adequate protection from thromboembolism for short periods without compromising surgical hemostasis	**True**
e.	for patients with a documented hematologic risk factor for thrombosis who have never had a thromboembolic event, prophylaxis with pneumatic compression boots or low-dose heparin is adequate	**True**
f.	for patients with a documented hematologic risk factor for thrombosis who have never had a thromboembolic event, prophylaxis with low-dose heparin is not adequate	**False**
g.	both congenital and acquired disorders cannot put surgical patients at risk for venous thromboembolism	**False**
h.	a positive history of thrombosis associated with pregnancy, oral contraceptives, or hormone replacement therapy should not alert practitioners to the possibility of an underlying hypercoagulable state	**False**
i.	only congenital disorders can put surgical patients at risk for venous thromboembolism	**False**
j.	only acquired disorders can put surgical patients at risk for venous thromboembolism	**False**

9	**The following are true about particular cases regarding hemorrhagic disorders or procoagulant states:**	
a.	clotting and pulmonary embolism are the leading causes of death in pregnant females	**True**
b.	aging does not bring about any major changes to the hemostatic system	**True**
c.	patients with renal failure are more prone to bleeding events primarily because of platelet malfunction secondary to uremia	**True**
d.	patients with cirrhosis, acute liver failure (including “shock liver” and hepatitis), and other liver dysfunctions have metabolic coagulopathy as a result of decreased protein production	**True**
e.	patients on dialysis are also at risk for thrombotic events because of chronic platelet activation	**True**
f.	patients on dialysis are not at risk for thrombotic events because of chronic platelet activation	**False**
g.	patients with cirrhosis, acute liver failure (including “shock liver” and hepatitis), and other liver dysfunctions do not have a metabolic coagulopathy	**False**
h.	patient with cirrhosis and other liver dysfunctions have metabolic coagulopathy as a result of increased protein production	**False**

i.	clotting and pulmonary embolism are not the leading causes of death in pregnant females	**False**
j.	aging brings major changes to the hemostatic system	**False**

10	**Transfusion of platelets:**	
a.	is indicated for patients who have clinical bleeding, and either absolute thrombocytopenia or a relative thrombocytopenia due to platelet dysfunction	**True**
b.	patients with normal platelet function typically do not experience clinical bleeding until the absolute platelet count drops to 30,000 to 50,000 platelets/μL and often even lower than this	**True**
c.	platelet dysfunction often occurs as a result of medical conditions, such as renal failure, or as a result of medications such as nonsteroidal anti-inflammatory drugs and clopidogrel	**True**
d.	patients with dysfunctional platelets will often manifest clinical bleeding with platelet counts in the normal range	**True**
e.	the therapeutic effect of platelet transfusion depends upon the patient's pathologic state	**True**
f.	the therapeutic effect of platelet transfusion does not depend upon the patient's pathologic state	**False**
g.	patients with dysfunctional platelets will not manifest clinical bleeding	**False**
h.	platelet dysfunction often occurs as a result of medical conditions, such as cardiac failure	**False**
i.	a typical transfusion of six platelet concentrates can be expected to raise the platelet count by approximately 10,000 platelets/ μL	**False**
j.	a typical transfusion of four platelet concentrates can be expected to raise the platelet count by approximately 50,000 to 100,000 platelets/ μL	**False**

11	**Immunologic transfusion reactions are:**	
a.	febrile reactions	**True**
b.	acute and delayed hemolytic transfusion reactions	**True**
c.	thrombocytopenia	**True**

d.	anaphylactic shock	**True**
e.	urticaria	**True**
f.	chronic renal failure	**False**
g.	thrombocytosis	**False**
h.	hypertension	**False**
i.	increased urine output	**False**
j.	strengthening the immune system	**False**

12	**Major transfusion reactions are:**	
a.	fever	**True**
b.	chills	**True**
c.	hypotension	**True**
d.	hemoglobinuria	**True**
e.	decreased urine output	**True**
f.	rash	**False**
g.	urticaria	**False**
h.	hypertension	**False**
i.	increased urine output	**False**
j.	glycosuria	**False**

13	**Potential side effects associated with transfusion are:**	
a.	metabolic derangements	**True**
b.	immunologic reactions	**True**
c.	infectious complications	**True**

d.	volume overload	**True**
e.	pulmonary complications	**True**
f.	cardiac complications	**False**
g.	renal complications	**False**
h.	cerebral complications	**False**
i.	hypovolemia	**False**
j.	vascular complications	**False**

14	**Transfusion of red blood cells:**	
a.	are available as (1) whole blood, (2) PRBCs, (3) washed red blood cells, (4) leukoreduced red blood cells, and (5) divided or pediatric unit red blood cells	**True**
b.	washed and leukoreduced red-cell preparations are used to transfuse red cells to patients who have had hypersensitivity or nonhemolytic febrile transfusion reactions to ordinary PRBCs, and for transplant patients	**True**
c.	transfusion of PRBCs is indicated when the red blood cell mass is with a subsequent compromise of oxygen delivery to tissues and organs	**True**
d.	the decision to transfuse, and the amount of blood to be transfused, is multifactorial and must be individualized on the basis of a number of factors	**True**
e.	there are no firm current indications for the transfusion of whole blood, with the exception of the need for a massive transfusion or the need for a lifesaving transfusion when component therapy is not available	**True**
f.	one unit of PRBCs contains about 700 mL of red cells	**False**
g.	transfusion of one unit of PRBC into an average 70-kg person can be expected to raise the hematocrit by 25%	**False**
h.	PRBCs are typically stored between 10°C and 16°C	**False**
i.	the red blood cells have a shelf life of approximately 82 days	**False**

j.	the hematocrit of a typical unit of PRBCs is approximately 17%	**False**

15	**The decision to transfuse, and the amount of blood to be transfused, is multifactorial and must be individualized on the basis of:**	
a.	the reason for anemia	**True**
b.	the degree and acuity/chronicity of anemia	**True**
c.	underlying medical conditions, particularly cardiac, pulmonary, and renal disease	**True**
d.	anticipated future transfusion requirements	**True**
e.	hemodynamic instability	**True**
f.	hemodynamic stability	**False**
g.	the red blood cell mass is increased	**False**
h.	optimal oxygen delivery to tissues and organs	**False**
i.	no future transfusion requirements	**False**
j.	Hemoglobin values under 5 g/dL	**False**

16	**Massive hemorrhage following injury – bleeding requiring a transfusion of:**	
a.	10 or more units of PRBCs / 24 hours	**True**
b.	more than 4 units / 1 hour	**True**
c.	replacement of patient's entire blood volume / 24 hours	**True**
d.	replacement of patient's 50% blood volume / 4 hours	**True**
e.	rate of blood loss > 150mL/min with hemodynamic instability	**True**
f.	10 or more units of PRBCs / 4 hours	**False**
g.	more than 10 units / 1 hour	**False**
h.	replacement of patient's entire blood volume / 4 hours	**False**
i.	replacement of patient's 70% blood volume / 4 hours	**False**

j.	rate of blood loss > 150mL/min with hemodynamic stability	**False**

17	**The following laboratory results may be useful in diagnosing DIC:**	
a.	prolonged activated partial thromboplastin time (aPTT)	**True**
b.	prolonged prothrombin time (PT)	**True**
c.	hypofibrinogenemia	**True**
d.	thrombocytopenia	**True**
e.	the presence of fibrin and fibrinogen split products and positive D-dimers	**True**
f.	negative D-dimers	**False**
g.	thrombocytosis	**False**
h.	hyperfibrinogenemia	**False**
i.	normal activated partial thromboplastin time (aPTT)	**False**
j.	normal prothrombin time (PT)	**False**

18	**Arterial thrombosis occurs in:**	
a.	Antiphospholipid syndrome	**True**
b.	Prothrombin 20210 mutation	**True**
c.	HIT Syndrome	**True**
d.	Elevated PAI-1 activity	**True**
e.	Anomalous coronary arteries	**True**
f.	Factor V Leiden	**False**
g.	Protein C deficiency	**False**
h.	Protein S deficiency	**False**
i.	Trauma	**False**

j.	Pregnancy, oral contraceptive therapy, or hormone replacement therapy	**False**

19	**Venous thrombosis occurs in:**	
a.	Factor V Leiden	**True**
b.	Protein C deficiency	**True**
c.	Protein S deficiency	**True**
d.	Trauma	**True**
e.	Pregnancy, oral contraceptive therapy, or hormone replacement therapy	**True**
f.	Antiphospholipid syndrome	**False**
g.	Prothrombin 20210 mutation	**False**
h.	HIT Syndrome	**False**
i.	Elevated PAI-1 activity	**False**
j.	Anomalous coronary arteries	**False**

20	**The etiology of IDC may be any of the following:**	
a.	the release of tissue debris into the bloodstream after trauma or an obstetrical catastrophe	**True**
b.	the introduction of intravascular aggregations of platelets as a result of activation by various materials, including ADP and thrombin	**True**
c.	extensive endothelial damage, which denudes the vascular wall and stimulates coagulation and platelet adhesion	**True**
d.	hypotension that leads to stasis and prevents the normal circulating inhibitors of coagulation from reaching the sites of the microthrombi	**True**
e.	blockage of the reticuloendothelial system	**True**

f.	the introduction of intravascular aggregations of platelets as a result of inactivation by various materials, including ADP and thrombin	**False**
g.	extensive endothelial repair	**False**
h.	brain trauma or surgery because the brain is not rich in thromboplastin, which activates clotting if released into the circulation	**False**
i.	hypertension that leads to stasis and prevents the normal circulating inhibitors of coagulation from reaching the sites of the microthrombi	**False**
j.	severe pulmonary disease	**False**

21	**Local hemostatic agents include:**	
a.	Gelfoam – gelatin sponge	**True**
b.	Surgicel – oxidized cellulose	**True**
c.	Helistat – collagen sponge	**True**
d.	Avitene, Hemtotene – microfibrillar collagen	**True**
e.	topical thrombin & topical ε-aminocaproic acid	**True**
f.	Surgicel – gelatin sponge	**False**
g.	Enoxaparinum – oxidized cellulose	**False**
h.	Dabigatran – collagen sponge	**False**
i.	Clexane – microfibrillar collagen	**False**
j.	Heparin	**False**

22	**Transfusion-related acute lung injury :**	
a.	occurs in about 1 out of every 5,000 transfusions	**True**
b.	occurs with transfusion of any blood component but is most common with transfusions that contain plasma, such as FFP or platelets	**True**

c.	is characterized by noncardiogenic pulmonary edema following transfusion	**True**
d.	the inciting event is unknown, but likely immunologic	**True**
e.	the onset of pulmonary edema and respiratory insufficiency is generally within 1 to 2 hours of beginning the transfusion, but it can happen up to 6 hours after a transfusion	**True**
f.	occurs in about 1 out of every 50,000 transfusions	**False**
g.	occurs with transfusion only of FFP or platelets	**False**
h.	is characterized by cardiogenic pulmonary edema	**False**
i.	the inciting event is known, but unlikely immunologic	**False**
j.	the onset of pulmonary edema and respiratory insufficiency is generally within 10 to 20 hours of beginning the transfusion, but it can happen up to 26 hours after a transfusion	**False**

23	**Graft-versus-host disease:**	
a.	occurs when immunosuppressed patients receive donor leukocytes in blood component therapy	**True**
b.	these cells are unrecognized as foreign cells by the recipient	**True**
c.	these cells mount an immune response against recipient tissues	**True**
d.	the onset of symptoms is often delayed for weeks and includes fever, rash, liver dysfunction, and diarrhea.	**True**
e.	can be prevented by using leukocyte-reduced red cells and/or irradiated red cells	**True**
f.	occurs when immunocompetent patients receive donor leukocytes in blood component therapy	**False**
g.	these cells are recognized as foreign cells by the recipient	**False**
h.	these cells untangle an immune response	**False**
i.	the onset of symptoms is often delayed for minutes and includes fever, rash, liver dysfunction, and diarrhea.	**False**
j.	can be prevented by using irradiated lymphocytes	**False**

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24	**Preoperative evaluation for bleeding and clotting disorders can be assessed by:**	
a.	history - in all patients as part of routine preoperative evaluation	**True**
b.	physical examination as part of routine preoperative evaluation	**True**
c.	aPTT	**True**
d.	INR	**True**
e.	thrombin time	**True**
f.	history only of the patients with bleeding and clotting disorders	**False**
g.	in patients without evidence of bleeding disorders	**False**
h.	in patients in whom bleeding is not anticipated because of the nature of the surgery	**False**
i.	laboratory studies (aPTT, PT) are not used for screening in patients with bleeding disorders	**False**
j.	physical examination alone in patients with bleeding and clotting disorders	**False**

25	**Causes of acquired bleeding disorders are:**	
a.	advanced liver disease	**True**
b.	anticoagulation therapy	**True**
c.	acquired thrombocytopenia	**True**
d.	uremia	**True**
e.	DIC	**True**
f.	hemophilia A	**False**
g.	Von Willebrand Disease	**False**
h.	found only in male patients	**False**
i.	found only in female patients	**False**
j.	autosomal dominant	**False**

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26	**Acute traumatic coagulopathy:**	
a.	is known as trauma-induced coagulopathy	**True**
b.	is present on admission in approximately 25% of major trauma patients	**True**
c.	occurs independently of injury severity	**True**
d.	is associated with a 4-fold higher mortality rate	**True**
e.	results from inadequate tissue perfusion, not excessive consumption of circulating clotting factors	**True**
f.	is unknown trauma-induced coagulopathy	**False**
g.	is present on admission in approximately 55% of major trauma patients	**False**
h.	occurs dependently of injury severity	**False**
i.	is associated with an 8-fold higher mortality rate	**False**
j.	results from adequate tissue perfusion and excessive consumption of circulating clotting factors	**False**

27	**Damage-control resuscitation:**	
a.	is a comprehensive strategy to guide the care of critically injured bleeding trauma patients	**True**
b.	the main objective is to minimize blood loss until definitive hemostasis is achieved	**True**
c.	damage-control surgery involves an abbreviated initial intervention to stop bleeding and ongoing bacterial contamination, followed by a more definitive procedure after resuscitation and stabilization in the intensive care unit	**True**
d.	essential principles of DCR include early hemorrhage control during transport and avoidance of delays in surgical or angiographic hemostasis	**True**
e.	is the current standard of care for patients with severe abdominal, thoracic, pelvic, and extremity injuries, and it results in significantly improved survival	**True**
f.	is a comprehensive strategy to guide the care of stable injured trauma patients	**False**
g.	its main objective is to maximize blood loss until definitive hemostasis is achieved	**False**

h.	damage-control surgery involves an abbreviated initial operation to stop bleeding and ongoing bacterial contamination, and a definitive procedure is not necessary	**False**
i.	essential principles of DCR include early hemorrhage control during transport and delays in surgical hemostasis	**False**
j.	is the current standard of care for patients with severe injuries, and results is not significantly improved survival	**False**

28	**Acquired deficiency of the vitamin K–dependent clotting factors:**	
a.	can develop in patients who are poorly nourished and are receiving antibiotics	**True**
b.	II	**True**
c.	VII	**True**
d.	IX	**True**
e.	X	**True**
f.	can develop in patients who are well nourished and are not receiving antibiotics	**False**
g.	III	**False**
h.	VIII	**False**
i.	XI	**False**
j.	V	**False**

29	**Primary fibrinolysis:**	
a.	is a disorder that occurs when the fibrinolytic pathway is activated, leading to the production of plasmin without antecedent activation of the coagulation pathway	**True**
b.	occurs after fibrinolytic therapy with drugs such as tissue plasminogen activator, which are used to lyse coronary artery or peripheral artery thromboses	**True**

c.	is also seen in conjunction with surgical procedures on the prostate, which is rich in urokinase	**True**
d.	occurs in patients with severe liver failure	**True**
e.	congenital deficiencies of α2-antiplasmin can also cause primary fibrinolysis	**True**
f.	congenital deficiencies of α2-antiplasmin can also cause secondary fibrinolysis	**False**
g.	is also seen in conjunction with surgical procedures on the prostate, which is low in urokinase	**False**
h.	occurs after fibrinolytic therapy with drugs such as tissue plasminogen inactivator	**False**
i.	occurs after fibrinolytic therapy with drugs such as tissue plasminogen activator, which are used to lyse coronary veins or peripheral venous thrombosis	**False**
j.	occurs in patients with severe cardiac failure	**False**

30	**Secondary fibrinolysis:**	
a.	is most often seen in response to DIC	**True**
b.	the coagulation pathways are activated, followed by the fibrinolytic pathway	**True**
c.	manifestations of coagulation pathways activation in laboratory tests include hypofibrinogenemia	**True**
d.	manifestations of coagulation pathways activation in laboratory tests include the presence of fibrin split products and positive D-dimers	**True**
e.	as the DIC is corrected, the secondary fibrinolysis resolves	**True**
f.	is a disorder that occurs when the fibrinolytic pathway is activated, leading to the production of plasmin without antecedent activation of the coagulation pathway	**False**
g.	occurs after fibrinolytic therapy with drugs such as tissue plasminogen activator, which are used to lyse coronary artery or peripheral artery thromboses	**False**
h.	is also seen in conjunction with surgical procedures on the prostate, which is rich in urokinase	**False**
i.	occurs in patients with severe liver failure	**False**
j.	congenital deficiencies of α2-antiplasmin can also cause secondary fibrinolysis	**False**

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31	**The metabolic complications of transfusion therapy:**	
a.	hypocalcemia	**True**
b.	hyperkalemia	**True**
c.	hypokalemia	**True**
d.	hypothermia	**True**
e.	are typically seen in the context of transfusion of large amounts of blood products, or transfusion of older blood products, or both	**True**
f.	hypernatremia	**False**
g.	hyperuricemia	**False**
h.	Metabolic alkalosis	**False**
i.	are typically seen in the context of transfusion of small amounts of blood products	**False**
j.	are typically seen in the context of transfusion of fresh blood products	**False**

32	**The following are true about surgical bleeding:**	
a.	the patients with Hemophilia A and von Willebrand Disease have normal PT and prolonged aPTT	**True**
b.	some over-the-counter medication can cause bleeding disorders	**True**
c.	von Willebrand disease has autosomal dominant inheritance	**True**
d.	joints and intramuscular are the sites of bleeding in case of Hemophilia A	**True**
e.	most commonly used platelet-inhibiting drugs are Aspirin and Clopidogrel	**True**
f.	mucocutaneous is the site of bleeding in case of Hemophilia A	**False**
g.	most commonly used platelet-inhibiting drugs are warfarin and heparins	**False**
h.	herbal supplement cannot cause bleeding disorders	**False**
i.	the patients with Hemophilia A and von Willebrand Disease have prolonged PT and normal aPTT	**False**
j.	von Willebrand disease has X-linked inheritance	**False**

33	**Indication of fresh frozen plasma:**	
a.	abnormally elevated PT	**True**
b.	abnormally elevated aPTT	**True**
c.	clinical bleeding	**True**
d.	bleeding with the need for an invasive procedure	**True**
e.	dilutional coagulopathy following massive transfusion or resuscitation	**True**
f.	vitamin K deficiency	**False**
g.	bleeding with the need for a minimally invasive procedure	**False**
h.	normal PT	**False**
i.	normal aPTT	**False**
j.	normal PT and normal aPTT	**False**

34	**Preoperative evaluation for bleeding and clotting disorders can be assessed by:**	
a.	history of patient	**True**
b.	physical examination	**True**
c.	aPTT, PT	**True**
d.	thrombin time	**True**
e.	whole blood platelet function	**True**
f.	ASAT, ALAT	**False**
g.	albumin	**False**
h.	thrombelastogram	**False**
i.	ionogram	**False**
j.	creatinine	**False**

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35	**Treatment of intraoperative bleeding:**	
a.	from needle holes, vascular suture lines, or extensive tissue dissection can often be controlled through the use of local hemostatic agents	**True**
b.	gelatin sponge (e.g., Gelfoam) is a local hemostatic agent	**True**
c.	oxidized cellulose (Surgicel) is a local hemostatic agent, effective in bleeding from suture points	**True**
d.	topical ε-aminocaproic acid is a local hemostatic agent	**True**
e.	microfibrillar collagen (Avitene, Hemotene) is a local hemostatic agent	**True**
f.	from needle holes, vascular suture lines, or extensive tissue dissection cannot be controlled through the use of local hemostatic agents	**False**
g.	topical aprotinin is not a local hemostatic agent	**False**
h.	gelatin sponge (e.g., Enoxaparinum) is a local hemostatic agent	**False**
i.	oxidized cellulose (Clexane) is a local hemostatic agent, effective in bleeding from suture points	**False**
j.	topical ε-aminocaproic acid is not a local hemostatic agent	**False**

36	**Massive transfusion protocols:**	
a.	1:1:1 transfusion of PRBCs, platelets, and plasma	**True**
b.	tranexamic acid is conditionally recommended for severely bleeding adult trauma patients	**True**
c.	supplementary calcium should be given with every 2 units of PRBCs	**True**
d.	tranexamic acid (TXA) to inhibit fibrinolysis	**True**
e.	administration of rVIIa may reduce the need for massive transfusions	**True**
f.	3:2:1 transfusion of PRBCs, platelets, and plasma	**False**
g.	administration of rVIIa has a significant mortality benefit	**False**
h.	tranexamic acid (TXA) used more than 3 hours after injury	**False**
i.	supplementary calcium should be given with every 4 units of PRBCs	**False**

j.	tranexamic acid is not recommended for severely bleeding adult trauma patients	**False**

37	**Treatment of DIC includes:**	
a.	to remove the precipitating factors	**True**
b.	if DIC is severe, replacement of coagulation factors is required to correct the coagulation defect	**True**
c.	cryoprecipitate is the best method for the replacement of a profound fibrinogen deficit	**True**
d.	platelet transfusions may also be required	**True**
e.	fresh frozen plasma (FFP) is useful for replacing other deficits that are identified	**True**
f.	not to remove the precipitating factors	**False**
g.	if DIC is severe, replacement of coagulation factors is not required to correct the coagulation defect	**False**
h.	cryoprecipitate is the worst method for the replacement of a profound fibrinogen deficit	**False**
i.	platelet transfusions is not required	**False**
j.	fresh frozen plasma (FFP) is not useful for replacing other deficits that are identified	**False**

38	**The lethal triad:**	
a.	consists of the interrelation of acidosis, hypothermia, and coagulopathy	**True**
b.	has been recognized as a significant cause of death for patients with trauma	**True**
c.	acidosis, pH <7.35, results in poor tissue perfusion because of decreased cardiac output	**True**
d.	begins and ends with bleeding	**True**
e.	has been recognized as a significant cause of death for patients with massive blood loss	**True**
f.	consists of the interrelation of acidosis, hyperthermia, and coagulopathy	**False**
g.	consists of the interrelation of alkalosis, hypothermia, and coagulopathy	**False**
h.	acidosis, pH >7.85, results in poor tissue perfusion because of decreased cardiac output	**False**

i.	acidosis, pH <7.15, results in poor tissue perfusion because of increased cardiac output	**False**
j.	acidosis, pH <7.25, results in great tissue perfusion because of decreased cardiac output	**False**

39	**The specific complications of pregnancy hypercoagulable states include:**	
a.	recurrent fetal loss	**True**
b.	fetal growth retardation	**True**
c.	preeclampsia	**True**
d.	eclampsia	**True**
e.	clotting and pulmonary embolism	**True**
f.	premature detachment from the placenta	**False**
g.	low levels of factor VIII	**False**
h.	low fibrinogen	**False**
i.	decrease of circulating blood volume	**False**
j.	decrease of circulating blood volume with relative anemia	**False**

40	**Factor Xa Inhibitors:**	
a.	Low molecular weight heparin	**True**
b.	Apixaban	**True**
c.	Edoxaban	**True**
d.	Rivaroxaban	**True**
e.	Fondaparinux	**True**
f.	Warfarin	**False**
g.	Argotroban	**False**

h.	Dabigatran	**False**
i.	Bivalirudin	**False**
j.	Coumadin	**False**

41	**The metabolic derangements of transfusions therapy:**	
a.	Hypocalcemia	**True**
b.	Hyperkalemia	**True**
c.	Hypokalemia	**True**
d.	Hypothermia	**True**
e.	The lethal triad: acidosis; hypothermia and coagulopathy	**True**
f.	Hypercalcemia	**False**
g.	Hyperuricemia	**False**
h.	Hyperbilirubinemia	**False**
i.	Hyperthermia	**False**
j.	The lethal triad: alkalosis; hypothermia and coagulopathy	**False**

42	**Populations more susceptible to hypothermia:**	
a.	Elderly patients	**True**
b.	Frail patients	**True**
c.	Pediatric patients	**True**
d.	Burnt patients	**True**
e.	Diabetic patients	**True**
f.	Patients without thyroid dysfunction	**False**
g.	Adolescents	**False**

h.	Healthy patients	**False**
i.	Cardiac patients	**False**
j.	Patients who need minimum care	**False**

43	**Predictors of massive transfusion requirements include:**	
a.	ER systolic blood pressure ≤ 90mmHg	**True**
b.	Heart rate ≥ 120 beats/minute	**True**
c.	Positive FAST scan	**True**
d.	Penetrating injury	**True**
e.	Early recognition and treatment are critical to survival	**True**
f.	ER systolic blood pressure > 90mmHg	**False**
g.	Heart rate < 100 beats/minute	**False**
h.	Negative FAST scan	**False**
i.	Nonpenetrating injury	**False**
j.	Early recognition and treatment isn't critical to survival	**False**

44	**Hemophilia A is characterized by EXCEPT:**	
a.	Male and female patients	**True**
b.	Reduces factor VIII activity and von Willebrand activity	**True**
c.	Mucocutaneous bleeding	**True**
d.	Autosomal dominant inheritance	**True**
e.	Incidence in 1% of the US population	**True**
f.	Reduced or absent factor VIII activity	**False**
g.	Presence of factor VIII molecule	**False**

h.	Joints and intramuscular bleeding	**False**
i.	X-linked inheritance	**False**
j.	Only male patients	**False**

45	**Von Willebrand disease is characterized by EXCEPT**	
a.	Male and female patients	**True**
b.	Reduces factor VIII activity and von Willebrand activity	**True**
c.	Mucocutaneous bleeding	**True**
d.	Autosomal dominant inheritance	**True**
e.	Incidence in 1% of the US population	**True**
f.	Reduced or absent factor VIII activity	**False**
g.	Presence of factor VIII molecule	**False**
h.	Joints and intramuscular bleeding	**False**
i.	X-linked inheritance	**False**
j.	Only male patients	**False**