



SNS COLLEGE OF ALLIED HEALTH SCIENCES
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DEPARTMENT OF CARDIOPULMONARY PERFUSION CARE
TECHNOLOGY

COURSE NAME: INTRODUCTION TO SURGERY AND CSSD
THIRD YEAR

UNIT I :

TOPIC 3 : HAEMORRHAGE



HAEMORRHAGE





INTRODUCTION



Haemorrhage is the loss of blood escaping from the circulatory system. Bleeding can occur internally, where blood leaks from blood vessels inside the body, or externally, either through a natural opening such as mouth, nose, ear, urethra, vagina or anus, or through a break in the skin. Uncontrolled bleeding can rapidly lead to shock and death.



DEFINITION

The term haemorrhage refers to excess loss of blood due to rupture of blood vessel

or

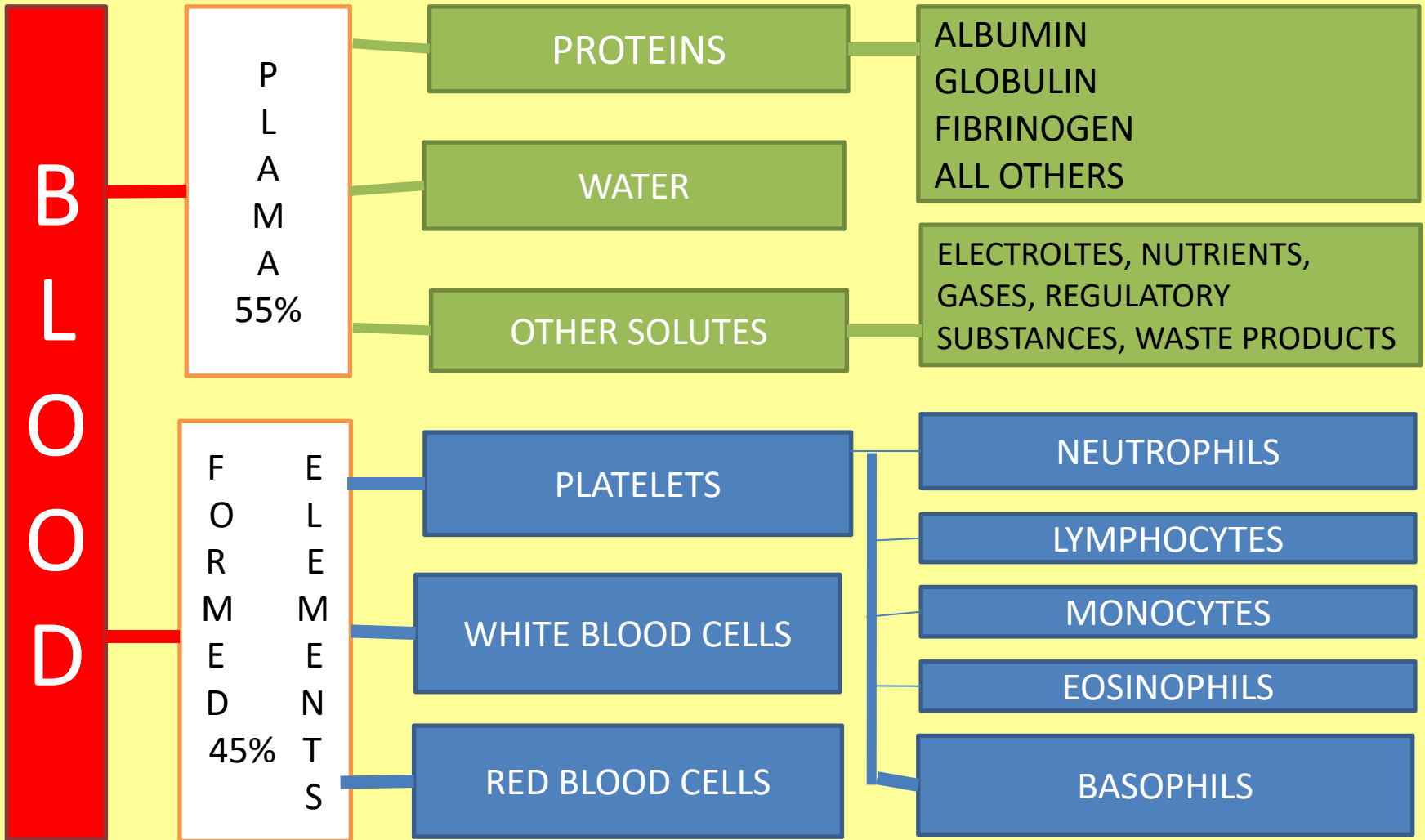
Loss blood from the body as a result of injury or illness

or

Haemorrhage means the loss of blood from the vascular system associated with an absolute reduction in the circulating blood volume



COMPOSITION OF BLOOD





CLOTTING MECHANISM



- Defense mechanism of circulatory system to leakage.
- Involves complex series of reactions.
- Adequate amount of calcium and all clotting factors are essential
- Clotting factors include, thromboplastin, prothrombin, thrombin and fibrinogen.
- Clot formed is called fibrin.
- Platelets and other blood cells also play an important role in clot mechanism.



SIGNS & SYMPTOMS



Early signs and symptoms

- ❖ Restlessness and anxiety
- ❖ Coldness : temperature is slightly abnormal
- ❖ Bloodpressure is lowered
- ❖ Pulse rate is slightly increased
- ❖ Pallor
- ❖ Increased thirst



Signs and symptoms after severe haemorrhage

- ❖ Extreme pallor
- ❖ Coldness is profound
- ❖ Air hunger : respirations are rapid and sighing
- ❖ Pulse rate is very rapid
- ❖ Blood pressure is extremely low
- ❖ Thirst is extreme
- ❖ Volume of urine output is diminished



Signs and symptoms of internal bleeding

- ❖ May appear quickly or take days to appear
- ❖ Bruising
- ❖ Painful, tender area
- ❖ Vomiting or coughing up blood



Classification



- > Depending on the nature of the vessel involved
- > Depending on the timing of haemorrhage
- > Depending on the duration of haemorrhage
- > Depending on the nature of bleeding
- > Depending upon time of interention



Depending on the nature of the vessel involved



ARTERIAL	VENOUS	CAPILLARY
BRIGHT RED	DARKER RED	BRIGHT RED
EMITTED AS SPURTING JET	STEADY AND COPIOUS FLOW	RAPID AND OOZING
CAN LEAD TO SEVERE BLOOD LOSS	COLOUR BECOMES MORE DARKER WITH OXYGEN DENATURATION	BLOOD LOSS BECOMES SERIOUS IF CONTIOUES FOR HOURS
OFTEN HARD TO CONTROL	USUALLY EASY TO CONTROL	GENERALLY MINOR & EASY TO CONTROL



Depending on the timing of haemorrhage



PRIMARY

- Occurs at the time of surgery
- Cause is injury to vessels
- May be arterial, venous or capillary
- More common in surgery on malignancies

REACTIONARY

- Bleeding within 24 hours (usually 4-6 hrs) of surgery
- Cause is slipping of ligature, dislodgement of clot or cessation of reflex vasospasm
- Blood starts when there is a rise in the arterial or venous pressure



Depending on the timing of haemorrhage (cont)



SECONDARY

- Occurs after 7-14 days of surgery
- Cause is sloughing of vessel due to infection, pressure necrosis or malignancy.
- 1st a warning stain followed by a sudden severe bleed
- Common after hemorrhoids surgery, GI surgery & amputations



Depending on the duration of haemorrhage



- **Acute Haemorrhage**
- **Chronic Haemorrhage**



Depending on the nature of bleeding



EXTERNAL HAEMORRHAGE or REVEALED

- External or visible bleed - soft tissue injuries
- Bleeding from the limb vessels, wound, nose etc.

INTERNAL HAEMORRHAGE or CONCEALED

- Internal or invisible bleed - Blunt or Penetrating trauma
- May remain concealed as in ruptured spleen or liver
- Concealed haemorrhage may become revealed as in haemetemesis or melaena in peptic ulcer bleed



Depending upon type of intervention



- **SURGICAL HAEMORRHAGE** : is the result of injury and amenable to surgical control, or from angioembolism.
- **NON - SURGICAL HAEMORRHAGE** : is general ooze from all raw surface due to coagulopathy, it cannot be stopped by surgical mean, require corection coagulation abnormalities.



COMPLICATIONS OF HEMORRHAGE



- Internal bleeding is considered a leading cause of trauma-associated mortality globally.
- If untreated, severe or chronic hemorrhaging might lead to organ failure, seizures, coma, external bleeding, and eventually death. Even with treatment, severe internal bleeding is often fatal.
- Early identification and treatment of internal bleeding can reduce the risk of complications and help a person make a full recovery.



Management of Haemorrhage



- NURSING MANAGEMENT
- MEDICAL MANAGEMENT



MEDICAL MANAGEMENT



Investigations

General

All baseline investigations

Specific

- PT, APTT to check clotting profile.
- ABG's to check perfusion
- CBC to review Hb, Hct levels, and platelet count
- RFT's to review renal profile when urine output is less or diminished



Control of External Bleeding

- Place dressing over the wound and apply direct pressure
- If patient is bleeding from an arm or leg, elevate the injured area above heart level to reduce blood flow
- Apply a pressure bandage
- If bleeding still cannot be controlled, apply pressure at a pressure point while keeping pressure on the wound



Control of internal bleeding

- **For minor internal bleeding** (such as bruise on my leg from bumping into the corner of a table), follow the steps of the RICE procedure:
 - ❖ Rest the injured area
 - ❖ Ice or cold pack application over the injury
 - ❖ Compression over injured area by applying an elastic bandage
 - ❖ Elevation of an injured arm or leg. if it is not broken.
- **For serious internal bleeding**
 - ❖ Care for shock by raising legs 6 to 12 inches, and cover the patient to maintain warmth
 - ❖ If vomiting occurs, roll the patient onto his/her side to keep airway clear
 - ❖ Monitor breathing
 - ❖ identification and correction of underlying problem



THANK YOU