Anemia & Surgery

Anemia is a level of hemoglobin or hematocrit which is lower than normal. Hemoglobin is the substance in red blood cells that carries oxygen to all parts of your body. Hematocrit shows the percentage of your blood which is made up of red blood cells. Anemia can be temporary. It also can be caused by long term disease or illness. People with mild anemia may not have symptoms. Or they may have only mild symptoms. People with severe anemia can feel tired, get short of breath with activity, and have problems with daily activities.

Studies have shown that anemia is present in 34% to 56% of patients before surgery. This depends on the type of problem they are having surgery for and their overall health. After surgery, anemia is even more common. It affects 84% to 90% of patients.

CAUSES

Anemia may be present before surgery, especially in people who have cancer or other chronic diseases.

- A major cause is the inflammation associated with these conditions.

Inflamed tissues produce small proteins that affect:

- Iron metabolism.
- Erythropoietin (a hormone that controls production of red blood cells) production by the kidneys.
- Bone marrow.

- Hemoglobin is carried by red cells. When there are not enough red cells, hemoglobin is not able to deliver enough oxygen to your body's organs.
- Another cause of anemia before surgery is low levels of iron due to internal bleeding.
- Bleeding episodes and giving blood for frequent blood tests can also contribute to anemia after surgery.

EFFECTS OF UNTREATED ANEMIA

Anemia after surgery has been linked to:

- A higher risk of infection.
- A longer need for breathing assistance with a ventilator.
- Higher death rates than seen in people who do not have anemia after surgery.

After certain types of surgery, patients who are anemic have a higher risk of pneumonia, severe chest pain, heart attacks, and even death due to heart problems.

Patients who have anemia before surgery are more likely than those who do not have anemia to:

- Need blood transfusions.
- Have long hospital stays.
- Die during or after surgery.

These findings do not guarantee you will live longer if anemia is corrected. But they do show how important it is to treat your anemia before elective surgery.

SYMPTOMS

Most people do not realize they are anemic until a blood test shows a low hemoglobin or hematocrit. Symptoms and signs usually develop when anemia is moderate to severe. They may include:

- Fatigue.
- Chest pain.
- Trouble breathing.
- Numbness or coldness in your hands and feet.
- Weakness.
- Dizziness.
- A fast heartbeat.
- Pale skin.
- Irritability.
- Headaches.

TREATMENT

Surgery patients with anemia are at risk of receiving blood transfusions before, during, or after surgery. Transfusions include risks. These include:

- Infections.
- Allergic reactions.

- Human errors in blood banking and blood type matching.

In surgery, transfusion has been shown to increase the chance of infection, a more prolonged hospital stay, and sometimes death.

- You should ask your surgeon to find out if you are anemic before you arrive in the hospital for surgery so you will have the opportunity to avoid transfusions.
- Drugs that stimulate the production of red blood cells have been approved to correct pre-surgery anemia.
  - They have been shown to reduce transfusions in anemic patients whose surgery involves large amounts of blood loss. These drugs are most effective when given three to four weeks before surgery. So it is important to know if you are anemic as soon as possible.
- Your caregiver will provide the treatment that is best for you based on what is causing the anemia. Close communication with your caregiver will help you to receive the best anemia treatment available.

Normal Lab Values:
Normal hemoglobin is greater than 12 g/dL for women, with a hematocrit which is greater than 36%.
Normal hemoglobin is greater than 14 g/dL for men, with a normal hematocrit which is greater than 42%.

GLOSSARY OF TERMS

Hemoglobin: Substance carried by red blood cells which delivers oxygen throughout your body.
Hematocrit: Percentage of red blood cells in a blood sample.
Erythropoietin: Hormone that regulates red blood cell production.

This information is courtesy of the National Anemia Action Council. For more information see www.anemia.org.

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