Common Bleeding Episodes

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INTRODUCTION

Depending on the severity of the underlying bleeding disorder, bleeding episodes may range from frequent in persons with severe bleeding disorders to rare, only occurring with surgery or other procedures, in persons with mild bleeding disorders. When possible, prevention of bleeding is the goal in managing patients with a bleeding disorder. However, when bleeding does occur, it is important to recognize signs and symptoms at the earliest possible time and to treat appropriately. Patient education is critical for long-term success in bleeding disorders management. It should be started at an early age and reinforced throughout all the developmental stages of a person with a bleeding disorder. Parent and family involvement is an integral part of this education and management process.

PREVENTION OF BLEEDS

Prevention of bleeds should be stressed in patient and family education sessions. Although bleeding can occur without a known trauma, skills and techniques to prevent or minimize the risk of bleeding from injury should be taught with ongoing reinforcement. Prevention can be accomplished through protecting the joint and strengthening the surrounding musculature. Protecting the susceptible joints is accomplished in several ways. During the early developmental phases of crawling and walking, for example, sewing additional protective padding in the knees of clothes offers the young child improved joint protection.

It is important to educate persons with bleeding disorders about which activities increase the risk for joint and muscle bleeds, for example contact sports, and to encourage them to make informed choices about their own safety. Children and adults should be encouraged to wear protective gear when engaging in physical activities or sports. Any barriers to compliance with safety recommendations should be identified, and further education on the benefits of protective equipment should be provided.

EXERCISE

Regular physical exercise is the best way to develop strong bones and muscles. Joints that are well supported by strong muscles are better able to withstand the trauma of daily life, from walking to playing.

Physical activity that is age-appropriate should always be encouraged. Not only is recreational activity important for every individual, but exercise also contributes to muscle strength and joint stability, which reduces the number of joint bleeds. The Hemophilia Treatment Center (HTC)

physical therapist is a valuable member of the treatment team and is able to provide further education about specific exercise regimens for each patient. Inform patients that it is important to stop exercising when a bleed starts and to not begin again until the bleed has resolved.

PATIENT AND FAMILY EDUCATION

Education is an integral and continuous part of the nurse/ patient interaction and leads to empowered patients who are more likely to follow their treatment regimen. Each patient's educational needs should be assessed on an ongoing basis and the educational plan modified to meet those changing needs. People with bleeding disorders need to be educated to recognize the early symptoms of bleeds and how to act quickly and appropriately on that information. Early and aggressive treatment is the most effective tool in managing bleeding episodes.

COMMON BLEEDING TYPES AND THEIR MANAGEMENT

HEMARTHROSIS (JOINT BLEEDING)

Hemarthrosis (joint bleeding) is the most common clinical problem associated with hemophilia. During normal activities, small capillaries in the tissues and joint spaces can break as an individual walks, climbs stairs, or bumps against objects. The greater the trauma or strain, the greater the number of capillaries that are broken. As joints undergo stress, the blood-rich synovial membrane (the layer of cells overlying the cartilage of the joint that produces synovial fluid to keep the joint lubricated) can become pinched, pulled, stretched and bumped. The result is bleeding into joints, with or without a known injury. A normal coagulation system will prevent or stop the bleeding, but in people with an underlying bleeding tendency such as hemophilia, the bleeding does not stop, and the result is a joint bleed.

PATHOPHYSIOLOGY

In a person with a bleeding disorder, joint bleeding begins with a break in the small vessels of the synovial membrane and causes mild discomfort and a slight limitation of joint motion. Bleeding that is left untreated for several hours results in significant pain, joint swelling, warmth, and more significant loss of range of motion. To absorb and clear blood from the joint, the synovial membrane produces an enzyme known as plasmin that breaks down unwanted protein. Plasmin does not differentiate between blood protein and cartilage protein, and thus both are attacked. Plasmin does its job well, and eventually most of the entrapped blood is cleared from the joint. In the process, plasmin also destroys the synovium. At the same time, hemoglobin, the iron-containing compound in red blood cells, is chemically changed into another compound called hemosiderin, a storage form of iron that is not cleared from the joint. Hemosiderin becomes embedded in the joint cartilage and in the synovial membrane, where it becomes a source of chronic inflammation and irritation. Additionally, white blood cells in the joint fluid release cytokines, proteins that cause further inflammation and damage.

Chronic inflammation from repeated bleeds causes the synovial membrane, normally less than 1/8-inch thick, to increase in thickness and develop a more extensive capillary network that is more easily pinched during motion. This condition is known as synovitis. The result is more frequent bleeds into an already damaged joint. This creates a vicious cycle that results in more frequent bleeds and leads to a "target joint." Over time, the joint space narrows, cartilage and bone erode, and cysts form that limit motion and can lead to permanent disability, known as hemophilic arthritis. [1]

INCIDENCE

Joint hemarthroses are the most common types of bleeding in people with hemophilia, especially those with severe hemophilia. Joints undergo a multitude of stresses depending on activity. The most common sites of joint bleeding are the hinge joints (knees, elbows and ankles), with the weight-bearing hinge joints of the knees and ankles being the most susceptible. Less frequent sites for bleeding are the ball-and- socket joints (hips and shoulders). The spine, ribs, skull, and pelvis are seldom sites for joint bleeding because they do not have synovial membranes. [2]

Persons with severe hemophilia bleed into their joints an average of two to three times per month even without trauma or other challenges. Persons with moderate hemophilia usually suffer joint bleeds only after trauma. Persons with mild hemophilia seldom have joint bleeds unless they sustain major trauma or surgery. [3] Persons with von Willebrand disease (VWD) do not develop hemarthroses unless they have severe VWD.

MANAGEMENT OF HEMARTHROSIS

Acute joint hemarthroses are accompanied by pain, warmth, swelling, and immobility, symptoms that worsen quickly if there is no intervention. Objective symptoms are not obvious in the initial stage of joint bleeding, but patients often report a "distinct but painless sensation just prior to the onset of intra-articular bleeding." [4] To stop joint bleeding and prevent irreversible joint damage, it is important to act on these early symptoms.

To effectively manage a hemarthrosis in a healthcare setting, the treatment plan should include a nursing interview, nursing assessment of subjective and objective symptoms, implementation of recommended interventions, and evaluation of the effect of the interventions. Documentation and educational needs assessment and planning should also be included.

NURSING ASSESSMENT

Early joint bleeding may be associated with trauma, or it may occur spontaneously. These types of bleeds generally are first noted when children begin to walk and may be considered spontaneous if they are associated with minimal or imperceptible trauma. When obtaining a history of the bleeding episode, one should ascertain when the symptoms first started and if the involved joint is subject to frequent bleeds. If a joint endures repeated bleeding episodes, four or

more in six months or 20 or more hemorrhages during a lifetime, it is called a "target joint." [5] Target joints require aggressive and prolonged treatment. Chapter 9 discusses further assessment and treatment of chronic target joints.

ASSESSMENT OF EARLY HEMARTHROSIS

Symptoms are mostly subjective at the early onset of a joint bleed. The patient will report symptoms such as a bubbling or tingling sensation, but there will be no objective physical signs. It is important to believe the patient when he or she reports these early symptoms. When the patient reports the beginning of a joint bleed, the nurse's assessment is limited to evaluating and documenting these subjective symptoms.

Young children are unable to understand and report early symptoms of a joint bleed. In young children, a joint bleed may present as the child not using the affected extremity, holding or protecting an extremity, or exhibiting pain and reduced range of motion. Within a short period of time, the clinical presentation can worsen, and the symptoms become more objective and measurable (Table 1). There will not be any obvious swelling or change in temperature in the very early stages of hemarthrosis. [6]

Table 1 SUMMARY OF SIGNS AND SYMPTOMS OF JOINT BLEEDING

SIGNS/SYMPTOMS	EARLY JOINT BLEEDING	LATE JOINT BLEEDING
Pain	Mild or moderate	Moderate or severe
Skin temperature	No difference	Warmer than normal
Range of motion	Some limitation	Marked limitation
Size of joint	None or slight swelling	Increased swelling

* National Hemophilia Foundation. Progression of Joint Disease: The Hemophilia Educational Resource Project. *The Hemophilia Patient/Family Education Model*. 1981.

ASSESSMENT OF LATE AND SEVERE HEMARTHROSIS

After several hours of bleeding into the enclosed joint space, objective signs of bleeding will become evident. Accumulation of blood in the joint space can cause severe pain, and this increase in pain will be the most alarming subjective symptom. Pain scales can be useful to assess objectively the subjective impression of pain. In addition, the temperature of the skin over the affected joint is likely to be warmer than the opposing joint. The joint's range of motion will be decreased from its baseline. A goniometer can be used to accurately measure the joint range of motion and is useful in objectively monitoring the progress of the hemarthrosis. If the joint has a great deal of arthropathy and is normally restricted, the assessment will be difficult, and the nurse may need to rely on the patient's assessment of how severe the restriction in range of motion is. Another reference is notes from prior physical therapy exams.

At this later stage of joint bleeding, swelling is usually more obvious. Again, it is helpful to compare the size of the affected joint to the size of the opposite joint as well as to measure the

joint circumference for comparison later. Use of anatomical landmarks or a ball point pen to mark the point of measurement will help ensure that the same point is used for subsequent measurements. A record should be kept of the date and time of each measurement. Note that if the patient has synovitis in the joint, it may be chronically swollen and difficult to assess. Again it may be necessary to rely on the patient's report of chronic swelling and/or notes from prior physical therapy exams.

COMPLICATIONS OF JOINT BLEEDING

Unfortunately, synovitis and joint destruction are often eventual outcomes of recurrent joint bleeds and may occur even when joint bleeds are appropriately managed. "Synovitis presents with a grossly distended, but not tense or painful, joint. Synovitis is often associated with muscle atrophy. Although there is often some restriction of movement, many joints affected with synovitis can retain a good range of motion." [2] Recommended treatment for synovitis often starts with a regimen of frequent factor infusions, called prophylaxis, corticosteroids for reduction of joint inflammation, and joint immobilization in combination with physical therapy. If these measures are not successful, the treatment regimen is often repeated. If the synovitis is persistent and does not respond to treatment, a synovectomy (removal of the enlarged, inflamed synovium), either by arthroscope or radionuclide injection, is often the next step.

MUSCLE HEMORRHAGE

PATHOPHYSIOLOGY

Muscle bleeding in people with bleeding disorders may take place within the muscle fibers or in the surrounding connective tissue that holds muscles together. A considerable amount of blood can accumulate, especially in large muscles, and can cause significant blood loss and swelling. Generally, as a muscle hemorrhage expands, it causes further tearing of muscle tissue, and thereby further bleeding occurs. Thus, a muscle hemorrhage can cause more loss of blood than a joint bleed. Bleeding into muscles can occur in a single muscle or in muscle groups, such as the shoulder, upper arm, forearm, thigh, hamstring, calf, or iliopsoas muscle. [1] Refer to Chapter 6 of this Nursing Handbook for further information on iliopsoas hemorrhage.

INCIDENCE

Muscle hemorrhage is the second most common site of bleeding in the hemophilia population. It can occur seemingly spontaneously in people with severe hemophilia and generally occurs only with trauma in people with mild and moderate hemophilia and von Willebrand disease.

COMPLICATIONS

Nerve and blood vessel damage can occur due to pressure from the swollen muscle as it blocks the normal blood flow to the affected extremity. Signs of pressure on a nerve or blood vessel

include numbness, tingling, or areas of coolness distal to the involved muscle. [7] A muscle bleed that is not treated can cause permanent muscle and nerve damage. [8]

NURSING ASSESSMENT

A detailed history of the presenting symptoms of muscle hemorrhage is important. Included in this assessment is location of bleeding, pain perception, skin discoloration, proximal tingling or numbness, and associated joint range of motion limitations. If the muscle hemorrhage is occurring in an extremity, serial measurements of the circumference of the area are helpful to ascertain whether medical interventions are successful.

PREVENTING COMPLICATIONS

Historically, joint and muscle bleeding were treated only with acute onset. Now medical providers believe that treating young patients with factor replacement on a regular basis after their first or second joint bleed can substantially reduce the incidence of synovitis and long-term joint destruction. This preventive treatment approach is called primary prophylaxis. Refer to Chapter 7 of this Nursing Handbook for specific prophylaxis guidelines.

The management of acute hemorrhage involves aggressive on-demand therapy, which includes daily factor treatment for 24 to 72 hours after a joint or muscle bleed. The amount and duration of factor concentrate infusions will depend on the type and severity of the hemorrhage. Most patients with bleeding disorders have specific treatment recommendations that outline product, dose, and frequency of factor infusions depending on the type and severity of the bleed. For more information on treatment guidelines, consult the most recent recommendations of NHF's Medical and Scientific Advisory Council, available at www.hemophilia.org.

FACTOR CONCENTRATE INFUSIONS FOR JOINT AND MUSCLE HEMORRHAGES

Early and aggressive factor replacement therapy for joint and muscle bleeds has immediate and long-term benefits. It stops the bleeding that causes pain, swelling, and limited mobility and prevents future joint and muscle damage. The earlier the bleeding episode is identified and treated, the better the prognosis is for a return to full pre-bleed function.

DO NOT WAIT UNTIL CLINICAL SYMPTOMS WORSEN BEFORE INFUSING.

The choice of factor product brand may vary from patient to patient. The dose of factor product is based on the patient's weight, baseline plasma factor level, and the severity of the bleed. Ranges of appropriate doses are discussed in Chapter 6 .of this Nursing Handbook.

ADJUNCT THERAPY FOR JOINT AND MUSCLE HEMORRHAGE

In addition to factor replacement, adjunct measures such as R.I.C.E (Rest, Ice, Compression, Elevation) may be started when a joint or muscle bleed is recognized. R.I.C.E. is often difficult to follow, especially within the pediatric population, but even a little R.I.C.E. is better than none.

1. **Rest.** The affected joint should be rested for 12 to 24 hours or longer, depending on the severity of the bleed. Some providers will recommend using a temporary splint as an immobilizer or crutches to help rest the extremity. The joint should never be forced into a straightened or anatomical position but rather should be splinted in a position of comfort. Splints can be made out of plaster or thermal plastic materials. After 24 hours, the splint should be removed and the joint reassessed for signs of reduced swelling, decreased pain, and increased range of motion. The HTC physical therapist can determine the correct splint to be used.
2. **Ice.** Ice placed on an actively bleeding joint or muscle decreases the blood flow to the area, limits the amount of bleeding and inflammation that occur, and provides some measure of pain relief. Different ice applications that are available are ice gel, a bag of frozen vegetables, or a Cryo-cuff. This device provides a sleeve or boot which can be filled with ice water to provide a chilling effect as well as compression.
3. **Compression.** A pressure wrap with an Ace bandage or similar wrap on a bleeding joint or muscle limits its inflammation. Make certain the wrap is not too tight by checking the color, sensation, and temperature of the skin distal to the wrap. Alternatively, a Cryo-cuff may be used to provide both ice and compression.
4. **Elevation.** Elevate the affected extremity above the heart to decrease blood flow to the hemorrhage area.

The value of ice or compression wraps in controlling pain varies with each patient and is often left to the discretion of the patient. Immobilizing the joint in the early stages may be helpful, but if the bleeding in the joint is repetitive, a splint or brace may be required until the pain and bleeding subside.

ASPIRATION

Thirty years ago, it was generally accepted that "Should a hemarthrosis progress sufficiently to cause severe distention of the joint, making the overlying skin tense and shinny, aspiration of the blood may be necessary." [9] The benefits of aspiration have since been challenged, and this procedure is no longer performed routinely. Generally, joint aspirations are only done to rule out an intra-articular infection in a joint that is not responding to factor replacement therapy. The patient's factor level must be corrected with factor replacement therapy before the aspiration.

PAIN CONTROL

Pain in a bleeding joint results from pressure against the synovial lining and adjacent tissue and from the inflammation caused by trapped blood. Pain with muscle hemorrhage is also quite common and increases in intensity if the bleed progresses unabated. Depending on the stage of bleeding, the pain can range from mild to severe. Analgesics, including narcotics, may be necessary until acute bleeding is under control. Analgesics that contain aspirin products and most NSAIDs should be avoided. At times, it may be necessary to consult a pain management specialist. See Chapter 18 of this Nursing Handbook for information regarding pain management.

PHYSICAL THERAPY

Once a bleed has resolved, the individual may need physical therapy to restore full range of motion and function in the affected joint. The HTC physical therapist may devise a home exercise program or may employ a variety of treatment modalities in the physical therapy (PT) department. Note that factor replacement must be given before PT sessions.

For joints that have chronic arthropathy with loss of range of motion, pain, joint deformity, and chronic swelling, treatment goals are directed to pain relief and maintenance of joint function. The HTC physical therapist can help determine appropriate exercise modalities to assist the patient to regain or maintain joint and muscle function.

HEMATOMAS, LACERATIONS, CUTS AND SCRAPES

PATHOPHYSIOLOGY

Bleeding under the skin surface causes a hematoma or soft tissue bleeding. This bleeding can cause a raised area accompanied by skin discoloration or a bruised appearance. The skin discoloration that is seen in bruising and/or with a hematoma will begin as a bluish or purple color. With time, the discoloration will fade and change to green, then brown, and then yellow. These areas may be tender to the touch but generally are not painful otherwise. Occasionally, a hematoma can become significant with much swelling and/or a hard lump under the skin surface. This may become quite painful until the bleeding stops and the blood is reabsorbed. It is important to educate parents that infants with a bleeding disorder may sometimes bruise simply by being picked up, and toddlers will likely bruise more often as they are learning to become more mobile.

A person with hemophilia generally does not experience extensive bleeding due to minor injuries, such as small cuts and scrapes, because the hemophilia does not affect platelet function, and tissue factor and factor VII stored in the underlying tissue allow clotting to occur. Therefore, these minor injuries generally will not cause a significant bleeding problem. If a person with hemophilia sustains a serious, deep laceration caused by a sharp instrument or piece of glass,

application of a pressure dressing and factor replacement will be necessary, and suturing may be needed to close the wound and allow adequate healing.

NURSING ASSESSMENT

The nurse should obtain a history of the current bleeding episode. It is important to determine if a hematoma is limited to the soft tissue area or if muscles are involved as well.

INTERVENTIONS

If there is moderate or severe swelling with the hematoma or bruise, an ice pack may be useful to help stop bleeding and decrease discomfort. An infusion of factor replacement products may be needed, especially for large hematomas.

Small cuts and scrapes may require direct pressure for a short time to stop bleeding. The area should be cleaned thoroughly and covered with a bandage. A laceration will require suturing, and factor replacement will be needed before and for several days after to prevent rebleeding and allow adequate healing to take place.**Complications**

Hematomas, bruising, cuts, and scrapes usually do not cause long-term medical complications. Medical staff and families need to be aware, however, that discoloration due to bruising may be misinterpreted and reported as abuse in a child with a bleeding disorder. Investigations of child abuse reports are not uncommon in families that have a child with a newly diagnosed bleeding disorder. A pamphlet produced by NHF addressing abuse and neglect issues in the bleeding disorders population is available to provide information to family members and caregivers.

MENORRHAGIA

Heavy menstrual bleeding (menorrhagia) may occur in women and adolescent females with bleeding disorders, most commonly von Willebrand Disease, rare coagulopathies, and those symptomatic carriers of hemophilia who have lower than normal factor levels.

PATHOPHYSIOLOGY

Menorrhagia is defined subjectively as excessive, prolonged loss of menstrual blood on a regular basis, or as profuse menstrual bleeding that saturates one pad per hour. This occurs in 50% to 75% of women with VWD. [10] Objectively, menorrhagia is defined as blood loss that is greater than 80 ml of blood per menstrual cycle or that lasts longer than 7 days. [11]

NURSING ASSESSMENT

The nurse should obtain a history of the current bleeding episode as well as past history of menstrual bleeding. When assessing menstrual bleeding, one should ask how many pads or

tampons are used per day, amount of saturation of blood on each pad or tampon, and how many days each period lasts.

MANAGEMENT

See Chapter 2 of this Nursing Handbook for information on von Willebrand Disease treatment. Chapter 5 contains treatment information on rare coagulopathies.

EPISTAXIS

Epistaxis (nose bleeding) is quite common in persons with von Willebrand Disease (VWD) but is less common in people with hemophilia. The phenomenon is related to differences in platelet function in these two bleeding disorders. Generally, bleeding from the small blood vessels in the nasal passage requires adequate platelet function for cessation, so persons with VWD are more likely to experience epistaxis. Prolonged nose bleeding may be caused by breathing dry air, nose picking, sneezing and strong blowing. [12] Epistaxis may be related to blunt trauma. Additional causes of nosebleeds include respiratory infections, nasal or sinus infections, allergies, use of medicated nasal sprays, high altitude, surgery, and foreign objects in the nose.

Epistaxis is not just a problem for children with a bleeding disorder. Estimates suggest that 25% of all children will have significant epistaxis at some point during their childhood. As a person goes through puberty, nosebleeds decrease in frequency and severity and may stop altogether in early adulthood. For a person with an underlying bleeding disorder, nose bleeding can be more severe and last longer. However, it is important to note that even in a person with a bleeding disorder, most epistaxis episodes can be controlled at home without acute intervention.

NURSING ASSESSMENT

It is important to obtain a history of the current acute episode of epistaxis, history of nosebleeds in the patient and family, measures employed to stop the acute bleeding, and other pertinent medical information, such as allergies, current illnesses, and current OTC medications.

MANAGEMENT OF EPISTAXIS

The initial steps to stop bleeding in a person with a bleeding disorder do not differ from a person without one. These steps include having the patient sit up, lean forward, and pinch the bridge of the nose for a continuous 10 to 15 minutes. Instruct the patient to try not to swallow any blood. Rather, he/she should spit the blood out of the mouth. Factor replacement products or DDAVP/Stimate ® may be necessary to stop the bleeding.

An Ear, Nose, and Throat (ENT) consultation should be considered if the nose bleed lasts longer than 30 minutes, if it involves both nostrils, if conservative measures have failed, or if there is a suspicion of a foreign object or nasal fracture.

Once the bleeding in the nose has stopped, follow-up measures are important to prevent rebleeding while the area heals. These measures include moisture in the form of a room humidifier, saline nasal spray, Vaseline ointment® in the front part of the nares, no strenuous activities, and no rubbing or blowing the nose. Antifibrinolytic agents, such as Amicar®, are useful adjuncts to maintain clot stability until healing is well underway. Additionally, a multivitamin with iron may be recommended in a person with chronic nose bleeding who has developed iron-deficiency anemia.

COMPLICATIONS

Frequent epistaxis episodes can lead to anemia if they are not controlled early. In addition, if a person swallows blood, gastric distress can occur in the form of nausea, vomiting of coffee-ground material, and black, tarry stools.

MOUTH BLEEDING

PATHOPHYSIOLOGY

Bleeding from gums around teeth may be due to minor injury, teeth eruptions, dental problems, or dental restorations. Bleeding from tongue, lips, frenulum, and inside the cheek may occur following blunt trauma or accidental biting. Generally, mouth bleeds look more serious than they are, and it may be difficult to tell how much blood is lost because the blood is mixed with saliva and some is swallowed. If the mouth continues to ooze and the blood is swallowed so that the persistence of oozing is not recognized and treated, serious or life-threatening anemia can occur. Because saliva contains enzymes that break down blood clots, clots in the mouth are likely to break down before the area is completely healed, leading to rebleeding.

MANAGEMENT OF A MOUTH BLEED

Small cuts in the cheek, on the tongue or on the lip can be controlled with direct pressure applied by biting down on a gauze pad. Antifibrinolytics (Amicar®) are useful to maintain a clot in the mouth once bleeding has stopped. Additional interventions to prevent rebleeding include eating a soft diet, sucking frozen Popsicles, and avoiding the use of pacifiers, straws, baby bottles, and extremely hot foods. When these interventions are unsuccessful in stopping bleeding or preventing rebleeding, an infusion of factor concentrate may be necessary.

It is important to plan ahead when a patient is having a dental procedure such as teeth cleaning or a filling so that a dose of factor is given before and Amicar is given afterwards. Prior planning will greatly decrease the likelihood of bleeding with these procedures. It is also important to note that certain forms of dental anesthesia, particularly mandibular nerve blocks, can cause bleeding and should be avoided if possible, unless a dose of factor has been given in consultation with the HTC team.

NURSING ASSESSMENT

As with other bleeding episodes, the history of the mouth bleed needs to be ascertained: when did the bleeding start, and were there any precipitating factors such as trauma that caused the bleed. The mouth should be examined carefully to determine the extent and location of bleeding.

COMPLICATIONS

Excessive bleeding with subsequent swelling into the tongue, the floor of the mouth, or the cheek may lead to airway obstruction. [13] This can cause a life-threatening emergency (refer to chapter 8). Additionally, if bleeding is prolonged or recurs frequently, iron-deficiency anemia can develop. Finally, as with epistaxis, swallowing excessive blood caused by mouth bleeding can lead to nausea, vomiting of coffee-ground material, and black, tarry stools.

HEMATURIA

PATHOPHYSIOLOGY

Hematuria (blood in urine), both macroscopic and microscopic, is not uncommon in people with underlying bleeding disorders. It can occur spontaneously or can be associated with other causes, such as infection, trauma, obstruction, or renal stones. This type of bleeding may or may not be associated with pain. Often, urinary bleeding is idiopathic in this population. [13] Significant blood loss may occur.

MANAGEMENT OF HEMATURIA

In most instances, hematuria resolves with conservative measures, such as providing fluids to flush the kidneys and bladder, corticosteroids to firm up the renal vascular bed, and decreased activity or bed rest. Treatment with factor concentrate for several days may be necessary if conservative treatment measures fail to stop the bleeding. Radiographic studies such as an ultrasound should be done to determine the location of the bleeding and to see if there is a stone or a renal fracture. [10] Antifibrinolytics such as Amicar® are contraindicated for this type of bleeding in order to avoid the risk of clotting in the kidneys, ureters, bladder, and urethra. Medical evaluation of hematuria should occur if it is associated with significant pain or trauma, if urine is a bright red color, or if bleeding continues following factor infusion.

NURSING ASSESSMENT

Specific information about the hematuria need to be ascertained, including history of trauma, duration of bleeding, prior history of hematuria, specific color of the urine, any associated pain or fever, and other pertinent signs and symptoms.

COMPLICATIONS

Significant sequelae may occur with urinary bleeding. At times, blood loss may be sufficient enough to require a transfusion of red blood cells. If there are clots associated with the hematuria, obstruction of the urinary tract may occur. This obstruction requires immediate medical attention by an urologist to prevent long-term complications.

DOCUMENTATION OF BLEEDING EPISODES

The nursing interview, assessment, interventions, and outcomes regarding any bleeding episode should be documented in the patient's medical record. Psychosocial support and patient education should also be documented. If this patient is not regularly followed by this HTC, the patient should be advised to contact his or her primary HTC provider for follow-up evaluation and treatment.

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