

- In patients with advanced liver disease, ammonia levels should be monitored, and treatment to prevent clinical encephalopathy with lactulose or a similar agent should be initiated.

### Recommendation 7.5.3:

- In hemophilia patients with gastrointestinal bleeding, endoscopic and radiologic imaging should be performed to identify all sites of bleeding. **CB**

### Recommendation 7.5.4:

- In hemophilia patients with gastrointestinal bleeding, hemoglobin levels should be monitored regularly. **CB**
- An acute abdominal (including retroperitoneal) hemorrhage can present with abdominal pain and distension and can be mistaken for a number of infectious or surgical conditions. It may also present as a paralytic ileus.
- Abdominal bleeds must be treated immediately to raise and maintain the patient's factor levels until the etiology can be defined.
- Perform a clinical assessment of the patient with a physical examination, pain assessment, and history taking including bleed history. An ultrasound and/or CT scan can identify the site and extent of abdominal bleeding.
- Determine appropriate treatment in consultation with a specialist.<sup>28-30</sup> (See Table 7-2.)

## 7.6 | Renal hemorrhage

- Bleeding in the kidneys (renal hemorrhage) can occur spontaneously or following injury.
- Urinary tract bleeding may be the first sign of malignancy in the bladder, particularly in older patients.
- Symptoms may include abdominal pain and swelling, severe flank and back pain, and hematuria.
- Patients with mild painless hematuria can be treated with complete bed rest and vigorous hydration (3 L/m<sup>2</sup> body surface area/day), with or without clotting factor replacement as feasible, for 48 hours unless there is concurrent renal or cardiac impairment. Avoid DDAVP when hydrating intensively.<sup>33</sup>
- All renal bleeding should be treated as urgent.

### Recommendation 7.6.1:

- For hemophilia patients with urinary tract hemorrhage, the site of bleeding should be identified and clotting factor replacement therapy should be administered immediately. **CB**

### Recommendation 7.6.2:

- Hemophilia patients with renal bleeding should be given adequate hydration and prescribed bed rest until bleeding stops. **CB**

- If there is pain or persistent gross hematuria, it is important to watch for clots and urinary obstruction.<sup>33,34</sup> Avoid use of antifibrinolytic agents.<sup>33</sup>

### Recommendation 7.6.3:

- In hemophilia patients with renal bleeding, antifibrinolytics should not be administered. **CB**

### Recommendation 7.6.4:

- In hemophilia patients with renal bleeding, clotting factor replacement therapy should continue until the bleeding is resolved. **CB**
- Refer the patient to a urologist for evaluation of a local cause if hematuria (gross/macrosopic or microscopic hematuria) persists or if there are repeated episodes. (See Table 7-2.)

## 7.7 | Ophthalmic hemorrhage

- Bleeding in the eye (ophthalmic hemorrhage) is uncommon unless associated with trauma or infection of the eye.
- Eye bleeds should be treated immediately to raise the patient's factor level, with factor levels maintained until the etiology of the bleed can be defined, followed by appropriate treatment in consultation with a specialist.<sup>28-30</sup>

### Recommendation 7.7.1:

- In hemophilia patients with ophthalmic bleeding, clotting factor levels should be raised immediately and the patient evaluated by an ophthalmologist. **CB**

### Recommendation 7.7.2:

- In hemophilia patients with ophthalmic bleeding, regular physical examination should be carried out every 6-8 hours for the duration of the ophthalmic bleed.
- **REMARK:** Imaging may be included as clinically indicated. **CB**

### Recommendation 7.7.3:

- In hemophilia patients with ophthalmic bleeding, treatment and monitoring should be continued until the bleeding is resolved. **CB**
- Refer the patient for evaluation by an ophthalmologist as soon as possible. (See Table 7-2.)

## 7.8 | Oral hemorrhage

- The most common causes of bleeding in the mouth (oral hemorrhage) are dental extraction, gingival bleeding (often due to poor oral hygiene), and trauma.