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Medical Management in the Acute Hip Fracture Patient: A Comprehensive Review for the Internist

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ABSTRACT

Each year, more than 250,000 Americans will suffer a broken hip from a fall from no more than standing height. The National Osteoporosis Foundation estimates that more than 500,000 acute hip fractures will occur annually by the year 2040. The costs associated with this healthcare phenomenon are staggering and will continue to increase with an aging population.

Hospitalists routinely comanage orthopedic patients as either consultants or as primary physicians in the hospital setting. A unique set of problems exists in this population. Among them are perioperative cardiac risk, perioperative anemia from acute blood loss, venous thromboembolism prophylaxis, and problems with the timing of surgery. It is imperative that hospitalists understand the orthopedic surgeon's point of view in managing these particular problems and become familiar with the evidence supporting or refuting treatment modalities related to these subject areas. In addition, an understanding of the anatomy and surgical options and complications related to each type of fracture allows the hospitalist to become familiar with postoperative rehabilitation needs. It cannot be overstated that addressing hip fracture prevention must be a part of every patient's perioperative care because the incidence of a repeat fracture is significant. Morbidity related to the fracture and comorbidities also need close examination.

This article aims to provide a solid understanding of the issues associated with the acute hip fracture population to enhance practice and allow for the best outcome for patients.

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INTRODUCTION

Hip fractures are an increasing problem, with each individual fracture conferring substantial costs to the individuals affected and to society in general. One-third of elderly people living independently fall every year, with 10% of these falls resulting in a hip fracture.[1] Up to one-quarter of those suffering a hip fracture die within the first year.[2] The remaining survivors have a shorter life expectancy than the general population.[2] Eighty percent of these survivors can expect to suffer some form of permanent disability, and up to 60% of these patients will require long-term skilled nursing care.[2]

Multiple factors greatly increase the risk of hip fracture:

- Gender—Hip fractures are more prevalent in women. Postmenopausal women are twice as likely as premenopausal women to have a hip fracture.[3]
- Increased age
- Polypharmacy—The elderly are more likely to take multiple medications, including anxiolytics, opiates, and diuretics, for chronic medical conditions.[4]
- Low body mass index[5]
- Low bone mineral density[5]
- Chronic alcohol and tobacco use
- Disabilities, such as a severe stroke, Parkinson disease, and neuropathy[5]
- Previous hip fracture

The costs of care and treatment of hip fractures are immense. The direct cost of hip fracture care in 1996 was estimated at $4.3 billion.[6] This expense increased to greater than $19 billion in 2000,[7] and the latest data from the Centers for Disease Control and Prevention project this amount to rise to $54.9 billion by 2020.[7] With seemingly endless inflation in healthcare costs associated with hip fractures, medical management becomes increasingly important in the acute setting to minimize complications and to decrease the length of hospital stay while maximizing patient recovery. Hip fracture prevention remains a challenge for primary care physicians, subspecialists, and hospitalists alike because medication compliance

and effectiveness are not ideal. Better methods for educating patients about osteoporosis treatment and prevention need to be instituted, with a successful result expected to save millions in healthcare dollars.

HIP FRACTURE CLASSIFICATION

Hip fractures can be classified into intracapsular (femoral neck) fractures that are contained within the hip capsule itself and extracapsular (intertrochanteric and subtrochanteric) fractures (Figure 1).[8]

Intracapsular Fractures

The femoral neck region begins at the femoral head proximally and extends to the greater and lesser trochanters distally (Figure 1). Femoral neck fractures account for 45% of all acute hip fractures in the elderly.[9] A limited regional blood supply complicates the healing of femoral neck fractures, making these fractures more susceptible to nonunion and avascular necrosis of the femoral head, even with operative repair. Intrascapular fractures are further classified as nondisplaced or displaced based on radiographic findings (Figure 2).[10,11]

Most femoral neck fractures result from a low-impact fall from a standing position or from twisting on a planted foot.[12] Patients typically present with sudden onset of groin pain after a fall and the inability to walk or bear weight. Often, an externally rotated and shortened limb is observed on the side of the fracture with little to no external bruising at the fracture site. Femoral neck fractures can also present as an insufficiency fracture in the presence of severe osteoporosis—a fracture without a fall.[13] Patients with insufficiency fractures often present with vague pain in the groin, knee, buttock, or thigh without obvious predisposing trauma.

Surgical management is the treatment of choice for the majority of femoral neck fractures, but treatment for nondisplaced femoral neck fractures can be nonoperative. Nonoperative treatment involves protected weight bearing with crutches for 6 weeks.[14,15] Nonoperative repair is usually reserved for patients who present late after a fracture or who have significant comorbidities and a high operative risk.[14]

The treatment of displaced femoral neck fractures is more complex, and surgical repair is usually the treatment of choice. These fractures are not amenable to nonoperative management, which should be reserved for patients with extremely high surgical risk or nonambulatory elderly patients with dementia and very limited life expectancies.[15,16]

Extracapsular Fractures

Intertrochanteric fractures comprise 45% of acute hip fractures.[9] The intertrochanteric region of the femur

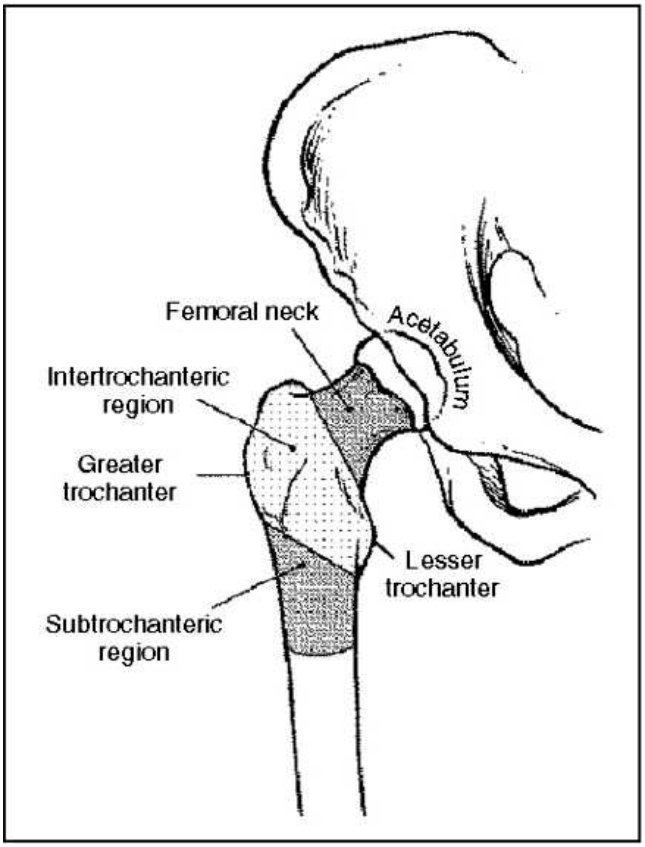

Figure 1. Anatomic regions of the hip where fractures are likely to occur. (Reprinted with permission from Zuckerman JD. *N Engl J Med*. 1996 Jun 6;334(23):1519-1525.[8])

lies between the greater and the lesser trochanters (Figure 1).[8] The majority of these fractures occur in the osteoporotic geriatric population and result from a fall from a standing height with direct contact of the lateral thigh or torsion of the lower extremity. This part of the femur has an excellent blood supply, and nonunion or avascular necrosis is rare. Patients usually present with tenderness over the greater trochanter and possibly significant bruising and swelling.

Intertrochanteric fractures are classified as stable or unstable; surgical management is the best treatment option for both.[17] The goal of surgery is to achieve a stable fracture reduction and fixation, allowing early weight bearing and mobilization of the patient.[17] Nonoperative management is only considered for nonambulatory patients with minimal pain and for medically unstable patients with major uncorrectable comorbid disease or terminal illness.[17]

Subtrochanteric fractures occur between the lesser trochanter and a point 5 cm distal (Figure 1).[9,18] The usual presentation is groin pain after a minor slip or fall that leads to direct lateral hip trauma.[18] Patients may also present with knee or posterior thigh pain that is worse with hip flexion and

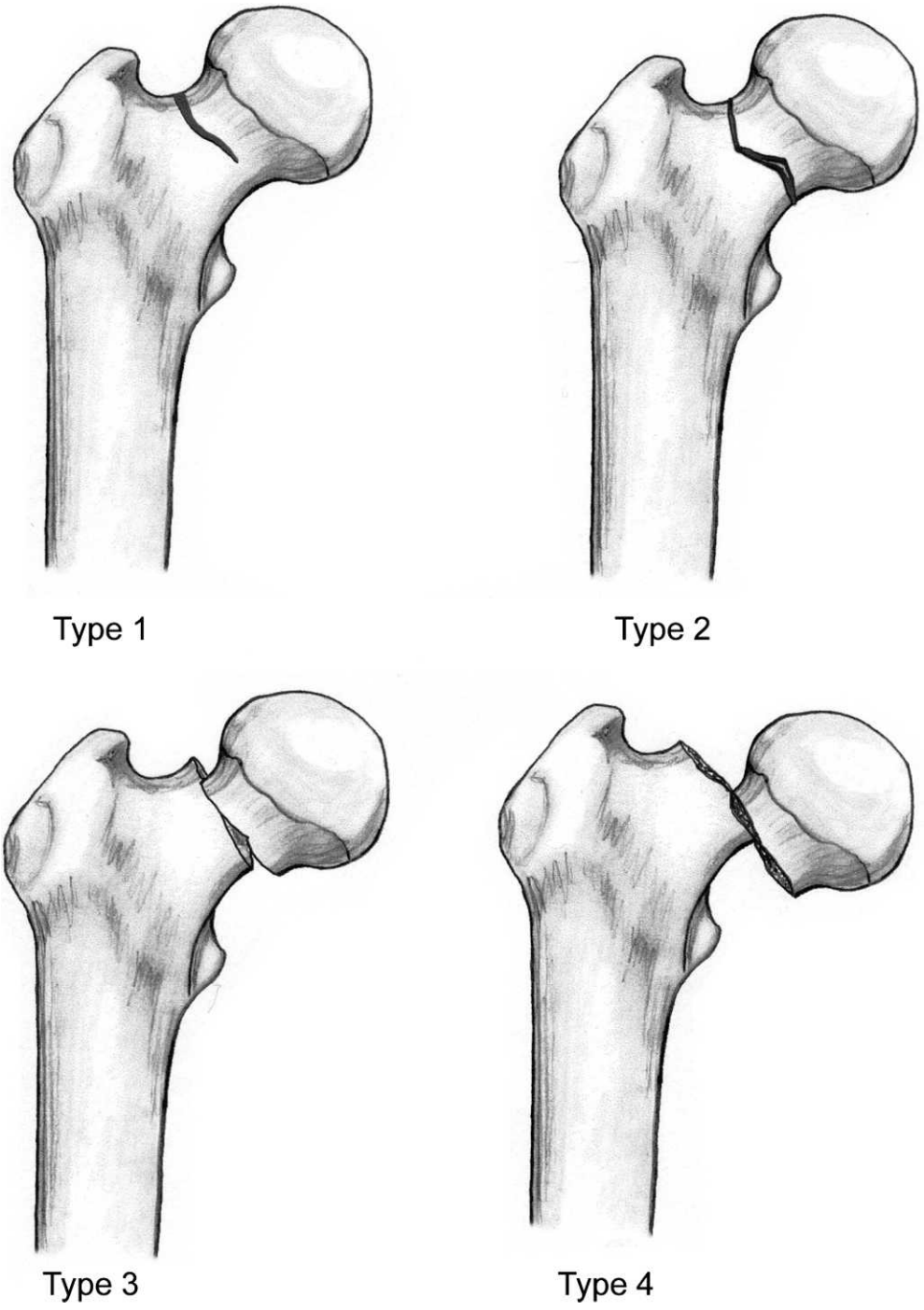

Figure 2. Garden classification: Type 1—undisplaced and incomplete fracture; Type 2—undisplaced complete fracture; Type 3—complete fracture but incompletely displaced; Type 4—complete fracture and completely displaced. (Reprinted with permission from Malanga GA, Jasey NN Jr., Solomon J. Femoral Neck Fracture. Medscape. Jan 28, 2009. http://emedicine.medscape.com/article/86659-overview. Accessed February 12, 2011.[11])

rotation. Also, subtrochanteric fractures may include pathologic fractures caused by other disease processes, especially in patients with an active malignancy or a history of malignancy.[18] Physical findings at the time of injury include a shortened extremity on the fractured side and a leg in either internal or external rotation. Surgical stabilization is standard treatment, and nonoperative measures are only

considered for patients who are deemed at very high surgical risk or who have a limited life expectancy.[18]

A hip fracture can cause substantial bleeding into the injured thigh, and patients should be monitored for the development of acute anemia, hemorrhagic shock, and compartment syndrome.

DIAGNOSTIC IMAGING

The diagnosis of an acute hip fracture is usually based on clinical suspicion. Elderly patients presenting with a history of minor trauma and pain localized to the affected hip or ipsilateral groin, the inability to bear weight, and obvious physical findings of a shortened and externally rotated lower extremity justify imaging to confirm a hip fracture. Patients with occult hip fractures may complain only of vague pain in their buttocks, knees, thighs, groin, or back. They may have no obvious physical deformity, may bear weight after minor trauma, and have normal radiographs. Patients with a history of simple fall, age above 70 years, and female gender are at an increased risk of occult fracture; a high index of suspicion is necessary in these demographic groups.[19]

The majority of hip fractures are found by plain radiography, the initial imaging modality used in the diagnosis of hip fracture, which has a sensitivity ranging from 90%-95%.[19-22] Standard x-ray examination of the hip includes an anteroposterior (AP) view of the pelvis and an AP and cross-table lateral view of the involved hip. Plain x-rays without evidence of fracture do not exclude the diagnosis of hip fracture.

Magnetic resonance imaging (MRI) has become the imaging modality of choice for diagnosing occult hip fractures not detected by radiography. MRI has been shown to have 100% sensitivity and 100% specificity in diagnosing occult hip fractures.[19-22] Compared to radiograph,[22] bone scan,[23] and computed tomography (CT) scan,[24,25] MRI was consistently superior in identifying occult fractures of the hip and pelvis. Another advantage of MRI is its ability to identify other causes of hip pain involving soft tissue injuries and nonfemoral pelvic fractures, thus allowing for appropriate, cost-effective treatment.[22] Disadvantages of MRI are the availability and cost.[22,23] Patients with ocular implants, cardiac devices, and aneurysm clips may not be able to undergo MRI.[21]

If MRI is not available or is contraindicated, an alternative is bone scan or scintigraphy. Before the use of MRI, bone scans were the imaging modality of choice in diagnosing occult hip fractures. Bone scans have a sensitivity of 93% and specificity of 95% in detecting occult hip fractures.[24] Disadvantages of bone scanning are lower specificity (95% vs 100%) compared to MRI with pathologies other than fracture. These pathologies include arthritis, synovitis, and tumors that cause false-positive scans.[23,24] Bone scans demonstrate increased radiotracer uptake in an area of injury and are nonspecific in delineating the line of fracture.[23] Bone scans also have a high rate of false-negative results if performed within the first 24 hours of a fracture,[24] and they are time consuming.

Another modality used to evaluate a suspected occult hip fracture is CT. Very few studies show the efficacy of CT scanning in diagnosing occult hip fractures.[26] In direct comparison, MRI has been proven far superior to CT scan and is the imaging modality of choice unless contraindicated.[27] CT may not detect trabecular bone injuries that may be present in femoral neck insufficiency fractures.

SURGICAL INTERVENTION

The optimal timing for surgical repair of a hip fracture remains controversial. Experts have traditionally advocated that surgical repair within 24 hours of hospital admission may reduce postoperative complications such as urinary tract infection,[28] decubitus ulcers,[29] deep venous thrombosis (DVT),[30] and death.[30] Early operative treatment is associated with an improved rate of return to independent living,[31] shorter hospital stays,[31] and higher 1-year survival rates.[32]

Many patients with hip fractures have comorbid chronic diseases such as heart failure, coronary atherosclerosis, chronic obstructive pulmonary disease, and diabetes mellitus that greatly increase the risk of perioperative complications. Some data suggest that delayed surgery in clinically complicated patients is acceptable to optimize the patient's active medical conditions.

In 2007, Orosz et al[33] concluded that early surgery alone did not have a beneficial effect on functional status or overall mortality for the average hip fracture patient. Additionally, Japanese research indicated that early surgery improved mobility but was associated with a higher mortality rate in patients with compromised conditions at the time of injury.[34]

A retrospective cohort study by Grimes et al[29] found that surgical intervention delayed beyond 24 hours did not adversely affect patients' outcomes after optimization of their active medical issues. Worse outcomes following hip fracture repair are more frequently an indication of comorbid disease rather than caused by a delay in surgical intervention. Patients who are medically stable and those without significant comorbid illness should undergo surgery within 24 hours.[34] However, medically decompensated patients should generally wait up to 72 hours so their active medical problems can be optimized.[35]

Preoperative Evaluation

Hip fracture surgery is a moderate risk procedure. Except in the specific situations described below, surgery is generally not delayed for diagnostic testing

because the benefits of early hip fracture repair often outweigh the risks.

Patients with active, high-risk cardiac conditions—such as unstable coronary syndromes, decompensated heart failure, significant arrhythmias, and severe valvular disease—warrant further investigation and treatment because medical optimization may significantly improve outcomes.[36] Otherwise, preoperative cardiac evaluation beyond history, physical examination, and electrocardiogram does not favorably alter outcomes.[37] The American College of Cardiology and American Heart Association Task Force has proposed extensive practice guidelines for perioperative cardiovascular evaluation for noncardiac surgery; they are beyond the scope of this paper.[36]

Preoperative pulmonary assessment should determine that the patient can adequately oxygenate, eliminate carbon dioxide, and cough vigorously enough to expel lung secretions.[38] Clinical assessment is the most important diagnostic test. Objective findings of room air saturation $<$ 90%, forced vital capacity $<$ 1.7 L, and peak expiratory flow rate $<$ 82 L/min are useful predictors of postoperative pulmonary complications.[38]

Major clinical abnormalities such as blood glucose $>$ 600 mg/dL, hemoglobin $\leq$ 7.5 g/dL, creatinine $\geq$ 2.6 mg/dL, or systolic blood pressure $\leq$ 90 mmHg should be addressed and treated prior to surgery.[39]

Prophylactic Antibiotics

Antibiotics are typically administered during the perioperative period to decrease the incidence of postoperative wound infections. Administration of antibiotics less than 2 hours before surgical incision is associated with the lowest risk of surgical wound infection.[40] *Staphylococcus aureus* is the most common pathogen in wound infections, and cephalosporins are the antibiotic class most extensively studied.[37] Cefazolin is an effective prophylactic drug, and intravenous administration within 2 hours before surgery and then at 8 and 16 hours postoperatively is currently the recommended antibiotic regimen.[40] Vancomycin should be used in patients with a penicillin allergy or in areas with a high incidence of methicillin-resistant *S aureus* wound infections.[41]

Thromboprophylaxis

Orthopedic surgery patients undergoing acute hip fracture surgery have the greatest risk of death from pulmonary embolism (PE). Half of these patients develop DVT in the absence of appropriate thromboembolism prophylaxis. Numerous randomized clinical trials over the past 30 years have provided convincing evidence that primary thromboprophylaxis reduces both DVT and PE.[42]

Fondaparinux is a selective inhibitor of coagulation factor Xa. Compared to low molecular weight heparin (LMWH) in a double-blind, randomized, and controlled study by Eriksson et al,[43] the rate of venous thromboembolism (VTE) was 8.3% with fondaparinux and 19.1% with enoxaparin ($P < .001$), an LMWH. Fondaparinux reduced risk by 56.4% (95% CI 39.0%-70.3%). This study found no significant differences between the 2 groups in the incidence of death or clinically relevant bleeding.[43] Fondaparinux is considered a more efficacious agent for prophylaxis of VTE, and the American College of Chest Physicians (ACCP) advocates its routine use (Grade 1A).[44] However, a long half-life of 18 hours makes it more difficult to use preoperatively than enoxaparin.

Two LMWHs are currently available in the United States: dalteparin and enoxaparin. Compared to low-dose unfractionated heparin (LDUH), these agents have prolonged elimination half-lives (4.4 hours for LMWH vs 1 hour for LDUH) and improved bioavailability. A 2008 Cochrane review found both LDUH and LMWH to be protective against DVT without significant differences in efficacy.[45] The choice of agent should be based on individual patient characteristics. LMWH is favored because of its ease of use and decreased side effects. However, the use of LMWH is limited by compromised renal function, and LDUH is a better option in individuals with creatinine clearance rates $<$ 30 mL/min. The ACCP recommends the use of both LDUH and LWMH as Grade 1B evidence.[44]

Warfarin at either a fixed or adjusted dose is an effective DVT prophylactic if the international normalized ratio is between 2 and 3, with a target of 2.5. Direct comparison of warfarin with other antithrombotic agents has yielded mixed results. However, warfarin is certainly more effective than aspirin or pneumatic compression, as Powers et al[46] demonstrated in their 1989 randomized trial comparison of postoperative warfarin versus aspirin. The use of adjusted-dose warfarin is a Grade 1B ACCP recommendation.[44]

Mechanical methods of prophylaxis, including graduated compression stockings and intermittent pneumatic compression devices, decrease the risk of DVT but their effects on PE and death are less clear. A Cochrane metaanalysis of 5 trials showed that mechanical pumping devices compared to placebo protected against DVT (7% vs 22%, respectively).[45] Although mechanical modalities reduce the occurrence of DVT in hip fracture surgery, they are generally considered less efficacious than pharmacologic DVT prophylaxis, particularly in the prevention of proximal DVTs. In addition, poor patient compliance renders these methods less desirable than pharmacologic prophylaxis. The ACCP recommends the use

of mechanical prophylaxis only in patients at high risk of bleeding (Grade 1A).[44]

The Pulmonary Embolism Prevention trial investigated aspirin as a prophylactic measure. Low-dose aspirin reduced the risk of DVT by 29%, PE by 43%, and fatal PE by 58% when compared to placebo in 13,356 patients undergoing hip fracture surgery.[47] However, multiple clinical trials have shown aspirin to be inferior to other methods of prophylaxis. Therefore, the ACCP does not recommend the use of aspirin alone as prophylaxis for VTE in any patient group (Grade 1A).[44]

Delay between the hip fracture incident and hospital admission is common. Additional delays between admission and surgery while the patient is being medically evaluated and cleared may also occur. Surgical delay greatly heightens the risk of VTE; if surgery is delayed, preoperative prophylaxis should be strongly considered. The short-acting anticoagulants LDUH or LMWH are considered the best option in such cases (Grade 1C).[44]

POSTOPERATIVE COMPLICATIONS

Anemia

Anemia, defined as hemoglobin $<$ 12 mg/dL in women and $<$ 13 mg/dL in men,[48] is a common finding in patients with acute hip fracture. Anemia is a strong negative prognostic marker in hip fracture patients and is considered an indicator of underlying comorbid conditions and decreased physiologic reserve.[49,50] Severe anemia, defined as hemoglobin $<$ 8 mg/dL, is associated with increased postoperative mortality, poor physical performance, and poor functional recovery.[51] Perioperative anemia has been consistently linked to adverse outcomes in patients undergoing hip fracture surgery and is associated with increased length of hospitalization, readmission rates, and death.[51] Up to one-fourth of patients undergoing total hip arthroplasty are anemic.[50] The prevalence of perioperative anemia ranges from 24% to 44%, and the prevalence of postoperative anemia is even higher at 51% to 87%.[48]

Risk factors associated with increased complications from anemia include increased age, poor prefracture functional level, presence of cardiovascular and/or pulmonary disease, low hemoglobin on admission, type of fracture, length of surgery, and degree of intraoperative bleeding.[48,51]

Fluctuation of hemoglobin during a patient's hospital stay can be attributed to a multitude of etiologies. Intraoperative causes include shifting of fluid and significant blood loss. Postoperative iatrogenic anemia can occur from repeated phlebotomy.[49] Aggressive fluid resuscitation in a dehydrated patient can cause hemodilutional anemia.

Allogenic transfusion has been the mainstay treatment of anemia in this patient population. The Transfusion Trigger Trial for Functional Outcomes in Cardiovascular Patients Undergoing Surgical Hip Fracture Repair was a randomized, unblinded multicenter trial that assessed whether an aggressive transfusion strategy in patients with cardiovascular risk factors who underwent hip fracture surgery improved functional outcomes and reduced postoperative adverse events.[52] The researchers randomized patients into 2 groups, a 10 mg/dL hemoglobin transfusion threshold group and a group transfused for symptoms alone. The primary outcome measured was the ability to walk 10 feet without human assistance 60 days postoperatively. Secondary endpoints included unstable angina, myocardial infarction, and death. Patients with cardiovascular risk factors benefitted from lower transfusion thresholds.[52] Higher hemoglobin levels in general have been associated with shorter lengths of stay.[48]

Alternative treatment modalities have been sought because of several drawbacks to allogenic blood transfusions, including donor shortage, the cost of collection and processing, adverse immunologic reactions, and infectious complications.[52] Perioperative parenteral and oral iron therapy and erythropoietin produce a statistically significant decrease in the need for perioperative transfusions.[52] Other techniques, such as autologous donations and intraoperative/postoperative cell salvage, have also been described as helpful but these modalities need more study before being utilized routinely.

Delirium

Delirium is by far the most common postoperative complication following hip fracture surgery and is associated with significant mortality and morbidity. Delirium is characterized by impairments in the level of thinking, memory, and consciousness and by changes in behavior, perception, and emotion. These impairments are usually worse in the evening and during times of decreased environmental stimuli.[53,54] A prolonged course of delirium has been associated with the development or worsening of underlying dementia.[54,55]

The prevalence of preoperative delirium ranges from 35% to 65%. The numerous risk factors for delirium include advanced age, infection, endocrinopathies, electrolyte disturbances, medications, poor nutritional status, and underlying cognitive impairment.[54] Greater awareness and early intervention of delirium can reduce prevalence by up to 50%.[53]

No single intervention has been shown to cure delirium, but the most accepted means of treatment is the use of antipsychotic medications, particularly

haloperidol. A starting dose of 1-2 mg haloperidol intravenously twice daily and as needed every 4 hours has proven effective. Benzodiazepines can be used to augment the effect of antipsychotic medications when higher doses are needed but must be used cautiously in the elderly population.[56]

Postoperative Infections

The most common infectious postoperative complication is urinary tract infection.[57] The risk of a urinary tract infection increases an estimated 5%-10% for every 48 hours of indwelling urinary catheter placement.[58] Increased length of stay, bacteremia, prosthetic joint infection, and death have been associated with prolonged catheter use. Patients who were discharged to a skilled nursing facility with an indwelling urinary catheter had a greater chance of readmission for urinary tract infections.[58] Other risks include female gender, intertrochanteric fracture type, dementia, and pressure ulcer. Whenever possible, catheter use limited to 24 to 48 hours postoperatively is essential to reduce the incidence of infection although no standardized guidelines for postoperative urinary catheter use exist.[58]

Decubitus ulcers are also detrimental postoperative complications. Decubitus ulcers result from extrinsic mechanical forces on the skin and soft tissue plus the intrinsic susceptibility of tissue to break down. Acute hip fractures are among the most frequent causes of these lesions. Other risks include increased age, history of tobacco use, and the presence of systemic illnesses. About 35% of ulcers occur by the end of the first week of hospitalization.[59] The use of pressure-relieving beds and equipment, prevention-focused nursing, caregiver education, aggressive skin care, and proper nutrition help prevent the progression to ulceration.[60]

The prevalence of wound infections ranges from 2% to 17% in patients with acute hip fracture. Deep wound infections impair functional ability and increase mortality in elderly patients.[59] *S aureus* was the most common pathogen associated with deep wound infections.[61] One-year mortality increases by 57% when *S aureus* is involved compared to infections involving other bacteria. Oral steroid use and surgeries lasting more than 4 hours showed the highest statistically significant risk for postoperative wound infection. Diabetes and renal disease showed a slightly increased risk.[61,62]

Osteoporosis

For all men and postmenopausal women over 50 years old with a hip fracture, the National Osteoporosis Foundation (NOF) recommends a bone mineral density (BMD) test and osteoporosis therapy.[63] Evidence suggests that despite the higher mortality of hip fracture patients compared to age-matched controls, treatment of osteoporosis may reduce mortality.[64,65] Unfortunately, few doctors evaluate or treat osteoporosis after a hip fracture.[66-68] A retrospective review of 124 women with fragility fractures showed that fewer than 50% were receiving any treatment for osteoporosis.[69] Additional effort is needed to ensure that pharmacologic treatment for osteoporosis is instituted in a timely manner, whether during the inpatient period or on follow-up.

A systems-based approach may help facilitate the treatment of osteoporosis after a hip fracture and improve transitions of care. Automatic referrals to case managers, specialty consults, and osteoporosis therapy orders can improve compliance with treatment and BMD scheduling.[70-72] Even empowering patients with a list of questions about osteoporosis to give to their primary care physicians improves outcomes.[73] At our facility, all acute hip fracture patients are seen by the rheumatology service to initiate an osteoporosis work-up, begin appropriate treatment, and ensure follow-up. Analysis of whether this approach reduces repeat fragility fractures is ongoing.

The NOF also advises adequate calcium (1,200 mg/d), vitamin D (800-1,000 IU/d), and exercise. The physical or occupational therapist, in addition to the nursing staff, should educate the patient and family about fall precautions and exercise. Medications should be reviewed for side effects that may contribute to gait or balance instability.

Bisphosphonates are a mainstay of osteoporosis treatment but should not be prescribed for patients with vitamin D deficiency ($<$ 10 ng/mL), hypocalcemia, renal disease, or esophageal strictures or for patients who cannot sit upright. Other Food and Drug Administration–approved medications for osteoporosis include calcitonin, estrogens, parathyroid hormone, and estrogen receptor modulators for patients who cannot tolerate bisphosphonates.[74-76]

CONCLUSION

Hip fractures are a significant cause of morbidity and mortality in the elderly, with more than 250,000 hip fractures occurring annually in the United States. As the country's population continues to age, this number will rise dramatically. Because many of these patients suffer from multiple medical comorbidities, internists are playing an increasingly critical role in both preoperative risk assessment and perioperative medical management of acute hip fracture patients. Internists must understand the complexities inherent in this population to optimize patient care.

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