UROLOGYPRACTICE

urologypracticejournal.com

Surgical Considerations for the Geriatric Urology Patient

Abdo E. Kabarriti,* Eugene J. Pietzak, George W. Drach and Thomas J. Guzzo

From the Division of Urology, Department of Surgery, University of Pennsylvania, Philadelphia, Pennsylvania

Abstract

Introduction: As the number of geriatric patients continues to increase, urologists will encounter more elderly patients who require counseling about medical or surgical management of their conditions. In this review we provide a practical pathway for the elderly patient being considered for urological surgery.

Methods: Our review includes preoperative evaluation and assessment for cognition, frailty, functional status, falls, cardiovascular and pulmonary status, and nutritional state.

Results: Intraoperative concerns include operative procedure choice (with minimally invasive approaches emphasized), positioning, hypothermia, and antibiotic and venous thromboembolism prophylaxis. Postoperative attention requires assessment for delirium, early ambulation, fall prevention, lung expansion, avoidance of nasogastric tubes, early oral feeding and adequate but age adjusted pain control. Appropriate discharge from the hospital must follow, with planning started in the preoperative phase.

Conclusions: Special attention to these adjustments in the operative pathway lead to high operative success rates with a lower risk of complications.

Key Words: geriatrics; urology; societies, medical; perioperative period; geriatric assessment

Abbreviations and Acronyms

ACC = American College of Cardiology

ACS NSQIP® = American College of Surgeons National Surgical Quality Improvement Program

ADL = activities of daily living

AHA = American Heart Association

CAM = Confusion Assessment Method

CMS = Centers for Medicare and Medicaid Services

ERAS = enhanced recovery after surgery

MIS = minimally invasive surgery

Between 2010 and 2030 the number of Americans 65 years old or older will more than double. Moreover the number of Americans 85 years old or older is expected to triple and reach 19 million by 2050.[1] This geriatric population older than age 65 currently accounts for more than a third of all the inpatient operations performed in the United States. As this proportion grows, so too will its proportion of surgeries. Urological surgery accounts for large numbers of elderly patients treated, and to ensure high

Submitted for publication March 16, 2015.

No direct or indirect commercial incentive associated with publishing this article.

The corresponding author certifies that, when applicable, a statement(s) has been included in the manuscript documenting institutional review board, ethics committee or ethical review board study approval; principles of Helsinki Declaration were followed in lieu of formal ethics committee approval; institutional animal care and use committee approval; all human subjects provided written informed consent with guarantees of confidentiality; IRB approved protocol number; animal approved project number.

* Correspondence: Division of Urology, Department of Surgery, University of Pennsylvania, 3400 Spruce St., Philadelphia, Pennsylvania 19104 (telephone: 215-684-9664; *e-mail address:* Abdo.Kabarriti@uphs.upenn.edu).

2352-0779/16/32-153/0
UROLOGY PRACTICE

http://dx.doi.org/10.1016/j.urpr.2015.06.003
Vol. 3, 153-163, March 2016
Published by Elsevier

quality care it is imperative that a urologist be able to address the unique challenges that come with treating this population.

Recently the ACS NSQIP introduced some best practices guidelines regarding the preoperative assessment of geriatric surgical patients, including a comprehensive checklist (fig. 1). These guidelines are a good starting point but they require intraoperative and postoperative additions.

In this article we address practical considerations in evaluating the geriatric patient being considered for urological surgery from the preoperative evaluation to their post-discharge needs. Although the fields of geriatrics and geriatric urology are extensive, our aim in this review is to raise awareness of the many important considerations unique to the care of elderly patients undergoing urological surgery.

Preoperative Evaluation and Assessment

Preoperative evaluation is crucial for stratifying risks for a particular surgery, identifying patients' specific intraoperative and postoperative needs based on their comorbidities, and for maximally optimizing patients before surgery (fig. 2). In addition, a thorough preoperative assessment helps patients understand their realistic surgical risks when compared to the general population. Multiple assessment tools have been created to aid the physician in evaluating the elderly patient. Most of these tests are short, and can be completed while obtaining a history, during review of systems and through the performance of a thorough physical examination. In some cases a dedicated geriatrician serving as part of a multidisciplinary preoperative team can also complete the evaluation.

Preoperative Assessment

In addition to conducting a complete and thorough history and physical examination of the patient, the following assessments are strongly recommended:

- ☐ Assess the patient's **cognitive ability** and **capacity** to understand the anticipated surgery
- ☐ Screen the patient for **depression**
- ☐ Identify the patient's risk factors for developing postoperative **delirium**
- ☐ Screen for **alcohol** and other **substance abuse/dependence**
- ☐ Perform a preoperative **cardiac** evaluation according to the American College of Cardiology/American Heart Association (ACC/AHA) algorithm for patients undergoing noncardiac surgery
- ☐ Identify the patient's risk factors for postoperative **pulmonary** complications and implement appropriate strategies for prevention
- ☐ Document **functional status** and history of **falls**
- ☐ Determine baseline **frailty** score
- ☐ Assess patient's **nutritional status** and consider preoperative interventions if the patient is at severe nutritional risk
- ☐ Take an accurate and detailed **medication history** and consider appropriate perioperative adjustments. Monitor for **polypharmacy**
- ☐ Determine the patient's **treatment goals** and **expectations** in the context of the possible treatment outcomes
- ☐ Determine patient's **family** and **social support system**
- ☐ Order appropriate preoperative **diagnostic tests** focused on elderly patients

Figure 1. ACS NSQIP best practices guidelines

Ellis et al evaluated the impact of preoperative comprehensive geriatric assessment and the use of referrals.[2] The control group consisted of 141 patients who underwent routine evaluation by a preoperative assessment clinic nurse. They were then seen by a geriatric nurse who recorded baseline data on medical issues, cognition, falls, nutrition, functional ability, continence and care roles. The need for onward referrals was recorded by the geriatric nurse but no referral was actually made. In the intervention arm 172 patients were recruited in the intervention phase, in which a geriatric nurse and an occupational therapist made necessary referrals to physiotherapy, occupational therapy, dietetics, social work, the falls team, general practice, a district nurse and other support agencies. In terms of benefits, the intervention group had fewer operation cancellations (5.2% vs 17.7%). In addition, mean inpatient stay decreased from 8.9 to 4.9 days while postoperative complications were reduced from 8.5% to 2.3%. Although the usefulness of certain parts of the comprehensive geriatric assessment have been called into question, there are definite benefits to the evaluation.[3]

Additions to Routine Preoperative Assessment

Cognitive/Neuropsychiatric Assessment

Additional evaluation of a geriatric patient should begin with an assessment of baseline cognitive status, and should include an assessment of cognitive impairment, dementia and depression. Signs and symptoms of cognitive impairment may be missed by family members or only appreciated in the late stages, as impairment tends to worsen slowly and over many years rather than in an acute manner. In fact, among patients 71 years or older 22.2% have cognitive impairment.[4] The Mini-Cog test, which is easily performed and has been repeatedly validated as a tool for the evaluation of cognitive impairment, consists of the 3-item recall and clock drawing, and can be done quickly (Appendix 1).[5,6] In fact, in geriatric patients undergoing elective surgery, baseline cognitive impairment based on the Mini-Cog test (score of 3 or less) was related to adverse postoperative outcomes, including increased complications, length of stay and long-term mortality.[7] Assessment for depression can be done easily by asking the 2 questions in the PHQ-2 (Patient Health Questionnaire-2), which has been validated as a screening tool for depression in the elderly population (Appendix 1).[8]