Distal Radius Fractures in the Elderly: “Latest Solutions”

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Distal Radius Fractures
• One of the most common fractures
• Elderly not immune
• US population is aging; elderly are staying active longer

Problems Specific to the Elderly
• Poor bone quality
• Other coexisting health conditions
• Less predictable functional goals
• Less predictable post-op engagement

What About Osteoporosis?
• Being recognized more clearly as a major public health issue
• Surgeon General’s Report 2004: National Health Crisis
  - annual cost of fracture treatment > $18 billion
  - USA: 250,000 wrist fractures per year
  - baby boomers explosion: 1946-1964: 78 million

“Dilemma of the Elderly”
• Under-treatment:
  – Patient will not be happy with deformity and loss of function
  – I have underestimated this patient’s needs and expectations
• Overtreatment:
  – Complications will occur: treatment worse than disease!
  – Patient would have been happy with much less...

What Does the Literature Say?
• Searched JBJS and JHS
• Studied 15 articles: “Elderly Distal Radius”
• All articles published within past ten years
• 10 of 15 written in past five years
• All listed in References
The Top 15 Papers
• Eleven took a strong position
• Three addressed tangential “elderly” topics
• One was a commentary/editorial

The Three “Tangential” Papers
• Osteoporosis is highly prevalent in DRF patients
• Augmenting bone defects in elderly DRF patients with Ca PO4 bone cement is not beneficial (compared to plating alone)
• Survival rates after DRF is lower than “normal” (57% at 7 years compared to 71% in non-DRF controls)

The Big Eleven
• Don’t operate on the elderly: FIVE PAPERS
• Go ahead: operate on the elderly: SIX PAPERS

The “Don’t Operate “ Papers
• Egol, JBJS 2010: case control study; 46 closed, 44 surgery
  –minor limitations in ROM and grip did not limit function at one year
• Anzarut, JHS 2004: prospective study, 74 treated closed
  –acceptable radiographic reduction was not associated with better physical or mental health status, lesser degrees of UE disability, or greater satisfaction than was unacceptable reduction

The “Don’t Operate” Papers
• Young, JHS 2000: Retrospective review of 25 elderly patients treated closed
  –Functional outcome was satisfactory in most cases; a high level of personal satisfaction and return to previous activity level was observed, regardless of the radiographic result

“Don’t Operate” Paper #4
• Diaz-Garcia, JHS 2011: Meta-analysis; 2039 papers narrowed down to 21 to look at the 60+ population
  –Despite worse radiographic outcomes associated with cast treatment, functional outcomes were no different from those of surgically treated groups for patients over 60 years
The Last “Don’t Operate” Paper
• Grewal, JHS 2007: Prospective observation study of 216 DRF patients treated closed
  –All patients have a higher risk of poor outcome with mal-alignment when compared to those with
  acceptable alignment
  –Relationship between outcome and alignment is not an all-or-none phenomenon, but is a
  decreasing gradient of risk, with the most significant change seen after age 65 years

BUT WAIT...
• Foldhazy, JHS 2007: 87 patients, mean age 55, followed up to 13 year later after closed treatment
  –A significant number of patients suffered serious functional impairment; correlating factor was
  severity of fracture and NOT patient age...

More From the Operators
• Jupiter, JHS 2002: Retrospective review of 20 elderly patients who “re-displaced” their fractures after initial case or ext. fix.
  –Internal fixation salvaged the reduction with minimal complications and good functional results
  –Advanced age did not correlate with higher complications compared to younger patients

Surgery Can Be Good
• Orbay, JHS 2004: Retrospective review of 23 patients older than 75 treated with a plate
  –Excellent results, low morbidity, early functional return
• Oshige, JHS 2007: 62 patients over 60, treated with intra-focal pinning or plating
  –Plating enhanced earlier recovery for ROM and grip and maintained reduction much better

Surgery Rules
• Chung, JHS 2008: Prospective study of two cohorts based on age: >40 and >60;
  “Comparative Outcomes Study”
  –VLP is successful in managing DRFs in older patients without increased complications
  compared to younger patients
  –Well designed, high quality study
“Surgery is Good” Paper #6
• Gehrmann, JHS 2008: “DRF Management in Elderly Patients: A Literature Review”
  –Meta-analysis: 41 studies, minimum patient age of 65 years
  –Plates had far fewer complications
  –Low demand patients may be treated closed, but:
  –VLP is “particularly suitable” in the elderly who take longer to heal and are more susceptible to pin track complications

One Paper Left
• Cannada, JBJS 2010: Commentary on Egol
  –“One might conclude that operative care in older patients might not be warranted. However, it is important to remember that there are patients over 65 who may benefit from surgical fixation…”
  –“Read between the lines and draw your own conclusions: someday you may be that 65 year old who needs to make a decision as to what treatment you want…”

Well... What Do I Believe?
• Gerhmann, JHS 2008: “Although multiple studies have aimed to shed light on this subject, the orthopaedic surgeon still faces a dilemma when deciding between surgical and nonsurgical treatment. Although traditionally immobilized with a cast, this management is being revisited as patients are living longer and more active lives.”

KEY CONCEPT
• Grewal, JHS 2007:
  –Decreasing gradient of risk
  –Patients of all ages have a higher risk of poor outcome with mal-alignment of the distal radius, but this relationship is not an all-or-none phenomenon
  –Elderly patients demonstrate the correlation between alignment and outcome, but not as clearly as in younger patients..

What Do I Do?
• Judge the X-ray
• Judge the patient
Judge the X-Ray
• LaFontaine Criteria
  – Dorsal comminution > 50%
  – Dorsal angulation > 20 degrees
  – Shortening > 5 mm
  – Ulnar styloid base fracture
  – Age > 60 years
  – Significant soft tissue damage

Judge the Patient
• Age -- careful!
• Bone Quality
• Lifestyle
• Medical insight
• Treatment preferences
• Psychological factors

How to Assess The Patient
• In person consultation
• Assess significant others, family
• Spend time
• May need more than one visit
• Engage patient in decision making

You Will Know
• Do you have a 60 year old 80-year-old?
• Or do you have an 80 year old 60-year-old?
• Proceed accordingly
  – Recommend the treatment most consistent with
    the patient's lifestyle and preferences

Be A Mensch!
• Leo Rosten, author of “The Joys of Yiddish”
  – A "mensch" is "someone to admire and emulate,
    someone of noble character. The key to being 'a real
    mensch' is nothing less than character, rectitude, dignity,
    a sense of what is right, responsible, decorous."
Be A Mensch!

“Latest Solution” Is Not A Technical Detail!
• Talk to your patients.
• Rely upon science as much as possible.
• Exercise your best judgment.
• Listen to your conscience.

Thank You
References


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