How do we treat wrist fractures in the elderly?

ASSH 2010 Annual Meeting

Distal radius fracture (DRF) predominantly affects the elderly population, with some 80,000 fractures sustained per year, costing the U.S. healthcare system an estimated $632 million. These fractures have traditionally been treated with casting, a conservative and relatively inexpensive treatment. But the use of internal fixation in elderly patients is growing, according to the results of a study presented at the 2010 annual meeting of the American Society for Surgery of the Hand.

The study, presented by Kevin C. Chung, MD, MS, identified 85,924 patients aged 65 years or older who had received treatment within 2 weeks of DRF diagnosis. Although 74 percent of patients were treated with casting, 17 percent underwent internal fixation, 7.6 percent received percutaneous pinning, and 1.3 percent received external fixation. Internal fixation had the highest rate of 90-day major complications—nearly 6 percent of cases.

In comparing patient demographics, the researchers found the following significant differences:
- Men were less likely than women to receive internal fixation versus closed treatment.
- Men were more likely than women to receive internal fixation versus pinning or external fixation.
- African American patients were less likely than Caucasian patients to receive internal fixation versus closed treatment.

The authors attribute these differences to the reduced risk of osteoporosis in men and African Americans.

Compared to younger patients, older patients were less likely to receive internal fixation versus other treatments. Patients with higher socioeconomic status (SES) were more likely to receive internal fixation versus pinning or external fixation than those in the lowest SES group. Patients with comorbid conditions were less likely than patients without comorbidities to receive internal fixation versus pinning or external fixation.

Hand surgeons performed internal fixation one third of the time, compared to orthopaedic surgeons, who generally used closed treatment (71.8 percent). The difference could be explained by severity of fracture and likelihood of referral to a specialist, as well as by a higher awareness among specialists of newer techniques and implants—specifically, the volar locking plating system for DRF.

The use of internal fixation for DRF in the Medicare population has been growing, from 3 percent of cases in 1996 to 16 percent in 2005, and is likely to continue, note the authors. They concluded by calling for a randomized multicenter clinical trial to determine whether or not the money is well spent.

Coauthors include Melissa J. Shawer, MPH; Huyting Yin, MA; and John D. Birkmeyer, MD. The authors report no conflicts.

More complications with single-incision repair

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Patients treated with double-incision repair using transosseous drill holes for acute distal biceps rupture may see fewer complications than those treated with single-incision repair using suture anchors, according to the results of a prospective, randomized clinical trial presented by Ruby Grewal, MD, MSc, FRCS(C), at the 2010 ASSH annual meeting.

The researchers randomized 90 male patients to receive either single-incision repair (n = 48) or double-incision repair (n = 42). The two groups had no significant differences in patient age, dominant hand, or number of workers compensation cases. Overall mean American Shoulder and Elbow Society pain scores were similar in both groups at all follow-up points (3, 6, 12, and 24 months).

At 24 months, no significant differences were found between the treatment groups in final extension, pronation, or supination. The research team noted a marginal advantage in mean isometric flexion strength regained among participants in the double-incision group (double: 104 percent; single: 94 percent; p = 0.01).

Overall, 19 of 48 patients in the single-incision group had complications, compared to 3 of 42 in the double-incision group (p < 0.01)—primarily due to a high number of early transient neuropraxias in the single-incision group. Three neuropraxias in the single-incision group remained symptomatic after 6 months. The researchers noted four tendon ruptures, all of which were due to noncompliance or re-injury in the early postoperative period. None of the ruptures was related to fixation technique.

Dr. Grewal’s coauthors include George S. Athwal MD, FRCS(C); Joy C. McDermid, BSc(PT), MSc, PhD; Kenneth J. Faber, MD, FRCS(C); Darren S. Drosdowech, MD, FRCS(C); Graham J.W. King, MD, MS, FRCS(C).

Bottom line

No overall differences in functional outcomes were found between distal biceps ruptures treated with either a single or double incision repair technique; however, flexion strength was slightly greater with a two-incision technique. • The single-incision group had a greater incidence of complications.

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