Evidence-based guidelines, new implants may help determine best proximal hip fracture fixation method

Techniques orthopaedic trauma surgeons use to treat proximal femoral fractures vary by country, which leads to the inconsistent use of internal fixation, hemiarthroplasty and total hip arthroplasty (THA), said Cecilia Rogmark, MD, PhD, who moderated a symposium 1 June at the 18th EFORT Annual Congress.

Surgeons worldwide particularly need better guidance regarding how to best treat subgroups of these patients, such as patients who are younger than 60-years-old or who have comorbidities, she said.

More evidence-based medicine (EBM) will also help surgeons make good treatment decisions for their patients regarding displaced and non-displaced femoral neck fractures. But, in terms of implementing EBM, “there are a lot of barriers,” Bjarke Viberg, PhD, said.

Viberg noted international EBM guidelines for these fractures differ in Holland, Denmark, Scotland, England, Australia, the United States and Germany/Austria. In addition, there are obstacles to not implementing EBM for proximal femoral fractures, which include inadequate access to implants, a lack of resources or financing to acquire equipment, for example used to perform cemented arthroplasty, and a lack of training.

Furthermore, surgeons who have performed these treatments for a long time may not be willing to change or feel limited by the guidelines, he said. These obstacles must be overcome, Viberg said.

The Hansson Pinloc System (Swemac), compared with rigid casts, investigators found semi-rigid casts were acceptable to children with minimally displaced forearm fractures, as well as their parents, based on results presented 1 June at the 18th EFORT Annual Congress in Vienna.

Mihir Bakshi, MD, and colleagues randomised 249 children with minimally displaced forearm fractures (mean age 9 years) to treatment with 123 rigid casts and 126 soft casts (BSN Medical). Patients were treated at a fracture clinic at a major paediatric hospital.

Investigators sent a questionnaire to the patients’ families 6 weeks after injury at the typical time of cast removal to determine cast comfort, ease of removal, any time patients and/or their caregivers lost in attending a final clinic visit for cast removal and overall satisfaction.

“From this, semi-rigid casts for minimally displaced forearm fractures are safe and effective. They save time and money and are more comfortable for patients than traditional rigid casts,” Bakshi said.

Overall, a soft cast “looks very similar to a traditional rigid cast, however a rigid cast has to be removed by a plaster saw,” he said. The plaster staff at the clinic gave the plaster casts a better rating than the semi-rigid casts for ease of application and moldability.

The parents gave the soft casts a median comfort score of 5 vs. a score of 4 for rigid casts, Bakshi said. “The two groups performed similarly in all other areas, including overall satisfaction,” he said.

Reference:

Disclosure:
Bakshi reports no relevant financial disclosures.
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Researchers from Medical University of Graz receive EFORT/Medtronic Award

A team of researchers led by Srvineena Srinivasaiah, MSc, of the Department of Orthopaedic Surgery, Medical University of Graz, Graz, Austria, has been awarded the EFORT/Medtronic Award for Excellence in Bone Repair Research.

"Winning the Medtronic Award has encouraged me, both on scientific and personal levels, to seek meaningful answers that could be of substantial use to the scientific community," Srinivasaiah told Orthopaedics Today Europe. "It has also uplifted my motivation to design a new study where our model could be used for preclinical investigations of bone fracture and repair in vitro."

The study, "In Vitro Stimulation of Endochondral Ossification of the Growth Plate Using an Ex Vivo 3 Dimensional Organotypic Culture Model," was focused on the development of an in vitro functional bone organotypic culture model capable of mimicking the processes involved in endochondral ossification. In addition to achieving its primary endpoint of stimulating endochondral bone development with significant physiological relevance, the study represents an advancement in humane testing methods.

"From an ethical standpoint, we also wanted to promote alternative testing methods that could reduce the number of animals used for in vivo experiments," Srinivasaiah said.

The EFORT/Medtronic Award for Excellence in Bone Repair Research is awarded based on the quality of the submitted abstract/poster in the field of bone repair, and is part of both EFORT’s and Medtronic’s commitment to encouraging and promoting research in this area. The recognition and financial prize is awarded to Srinivasaiah’s department at the Medical University of Graz.

“Contributing to this particular study has enhanced my scientific acumen in terms of creativity, rationality, planning and execution of experiments with greater confidence," Srinivasaiah said.

“Our current findings can be of potential value in the distinct mechanisms involved in bone development, fracture healing, drug/toxicity testing, therapeutic and biomaterials applications.”

Disclosure: Srinivasaiah reports no relevant financial disclosures.

Targeted exercises increase abductor strength in older patients after hemiarthroplasty for proximal femoral fractures

In elderly patients who have recently undergone hemiarthroplasty for proximal femoral fractures, targeted progressive strengthening exercises appear to increase isometric muscle strength of abductors and decrease the strength deficit of the fractured hip relative to the contralateral hip, according to a study to be presented as part of the Free Papers award session for trauma at the 18th EFORT Annual Congress in Vienna.

In the double-blind, stratified, randomised clinical study, researchers evaluated 96 patients, aged 70 years to 84 years, after hemiarthroplasty performed for Garden type 3 and 4 femoral neck fractures. Patients were placed into two equally numbered subgroups. For 12 weeks, the control group used the standard physiotherapy regimen, while the research group followed the standard program as well as an active abductors exercise program. This program entailed gradual encumbrance in different body positions and increasing ranges of motion as well as sets of repetitions. At the end of the third postoperative month and again at the end of the sixth month, the researchers measured isometric strength of abductors using a reliable electronic dynamometer. They also calculated the ratio of abductors of fractured hip to contralateral hip. A P value of less than .05 was considered to be statistically significant.

The researchers found that at the end of 3 months, the isometric strength of hip abductor muscles in the fractured limbs of the research group was 19.0 lbs ± 2.9 lbs vs. 13.99 ± 1.8 lbs in the control group. The abductors’ ratios at the end of 3 months were 79.9% ± 2.3% in the research group vs. 77.0% ± 0.5%. At the end of 6 months, the research group had abductors isometric strength of 80.7% ± 3.1% vs. 73.6% ± 3.0%.

“Prevention of future falls is essential for the elderly with a previous hip fracture, as the odds of a new fracture are six to 20 times higher than the initial fracture within the first year,” study presenter Efstatios Chronopoulos, MD, PhD, associate professor in the Department of Orthopaedics at National and Kapodistrian University of Athens, Greece, told Orthopaedics Today Europe. “The goal of a targeted progressive strengthening program postoperatively is to increase the isometric muscle strength and reduce the strength deficit of the fractured side compared to the contralateral hip. That helps the patient to walk easily and safely, minimising the risk for a future fall and fracture.”

Reference:
Chronopoulos E, et al. Paper #2272. Scheduled to be presented: 2 June 2017 at 10:39 to 10:47 in the Helsinki Room at the 18th EFORT Annual Congress; 31 May - 2 June 2017; Vienna.

Source Info:
Efstatios Chronopoulos, MD, PhD, can be reached at Technological Educational Institution, Agiou Spiridonos 28, Egaleo 122 43, Athens, Greece; email: stathi24@yahoo.gr.

Disclosure:
Chronopoulos reports no relevant financial disclosures.
Opportunities to advance education available from EFORT

New European Orthopaedics & Traumatology Education Platform

EFORT has developed a comprehensive new tool, the European Orthopaedics & Traumatology Education Platform (EOTEP), to provide an educational overview in orthopaedics and traumatology for those wishing to advance their professional development. EOTEP guides users toward successful completion of the EBOT exam, a prestigious qualification.

"The EFORT Education Committee wanted to offer a platform whereby different programs from Europe would be compiled into one place, in a structured view, especially for those interested in looking for an overview of educational programs," Prof. Dr. Klaus-Peter Günther, chairman of the EFORT Education Committee said. "It is aiming to become the best available overview of offers of education in musculoskeletal training in Europe."

EFORT Fora sessions

The outreach of EFORT has been substantially complemented by a series of EFORT Fora that are organised and held during the national orthopaedics and traumatology congresses throughout the year. These European Fora sessions feature specific topics that are unrelated but are dedicated to the topics highlighted at each national congress.

To organize a Fora session, a national society selects a topic and proposes a session that involves four to six speakers. It is held during its yearly congress. In recent years, the scientific level of the EFORT Fora has been high, which has provided an excellent exchange between the national societies and EFORT.

EFORT Open Reviews special issue

The EFORT Open Reviews (EOR) journal is a publication with state-of-the-art information and outstanding data with detailed explanations of an array of relevant topics. This year, EFORT has compiled the most popular sessions of the annual congresses and instructional lectures into a special print publication, included in delegate bags, that contains the full peer-reviewed manuscripts being presented.

The main role of EOR is to disseminate cutting-edge information on key topics to all orthopaedists and associated musculoskeletal health care professionals to advance the scientific quality of orthopaedics and traumatology practice and research.

Are you interested in becoming a reviewer or publishing a paper? Meet EOR’s Editor-in-Chief Pierre Hoffmeyer, MD, at EFORT’s booth A-21 on either Wednesday 31 May 15.45 - 16.15 or Thursday 1 June 09.45 - 10.15. Find out the benefits of becoming a reviewer for EOR, and if you are working on a paper, find out more about the submission process.

eLibrary

Attendees are encouraged to explore the EFORTnet eLibrary, Europe’s largest orthopaedic conference library, currently housing more than 16,500 scientific resources. This comprehensive digital library offers sessions covering all of the main orthopaedic and traumatology topics, including the spine, hip, polytrauma/ pelvis, pain control, rehabilitation, upper limb trauma, osteoporosis, basic science, technology, general education and many others. EFORTnet is easily accessible from the top right corner of www.efort.org.

Upcoming EFORT Fora

27 September 2017 - SECOT Congress 2017 in Barcelona, Spain - Knee Osteoarthritis in Young Adult: Surgical Options

13 October 2017 - HAOST Congress 2017 in Athens, Greece - Femoropatellar Joint: From the Adolescence to the Arthritis

19 October 2017 - SOROT Congress 2017 in Timisoara, Romania - Diagnosis and Management of Infected Total Knee Arthroplasty

21 October 2017 - SIOT Congress 2017 in Palermo, Italy - Challenges in Paediatric Trauma

24 to 27 October 2017 – DKOU Congress 2017 in Berlin, Germany - Fast Track Surgery Opportunity or Threats?

25 October 2017 - TOTBID Congress 2017 in Antalya, Turkey - Trauma/Lower Extremity Reconstruction

27 October 2017 - SPOT Congress 2017 in Coimbra, Portugal - The Multi-Ligament Injured Knee

7 November 2017 - SOFCOT Congress 2017 in Paris, France - Short Stems in Primary THA: Are They Safe and Effective?
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Trainee–performed THA yields outcomes comparable to experienced surgeons

In patients who undergo primary total hip arthroplasty, surgeries performed by trainees provided similar outcomes and patient satisfaction as surgeries performed by experienced surgeons, according to a study to be presented today in the Free Papers award session for orthopaedics at the 18th EFORT Annual Congress in Vienna.

In this register-based observational study, researchers identified 8,116 patients with primary total hip arthroplasties (THA) in the surgery and anesthesia management system in the Western Region in Sweden for which the experience level of the surgeon could be determined. Significant differences were observed in demographic data, particularly in terms of mean age and BMI, between less experienced and more experienced surgeons. For trainees, patient mean age at operation was 71.2 years; for surgeons with less than 8 years of experience, the mean age was 68.8 years, compared to the reference 67.1 years. Trainees had patients with a mean BMI at surgery of 26.9 kg/m², which differed significantly from patients treated by surgeons with more than 15 years of experience (27.4 kg/m²). The ASA class, diagnostic indication for implantation and fixation technique also demonstrated significant disparities between surgeon groups. No significant differences were observed in terms of pain, EQ-5D index or EQ-VAS for any subgroups.

“After analysing the effect of surgeons’ experience on patient-reported outcomes (PROs), we found that 1 year after THA, patients operated on by consultants reported slightly higher satisfaction,” Per Jolbäck, RN, told Orthopaedics Today Europe.

No other differences in PROs were observed between the different surgeon subgroups.

(Rogmark, continued from page 1) an angled internal implant with a plate that connects three pins, may prove to be effective for these fractures based on initial results of a multicentre randomised, controlled trial Torsten Johansson, MD, presented.

Results of the timed-up-and-go test were similar between the new device and standard pins at the 3-month and 12-month follow-up in patients at least 50-years-old who were treated between May 2014 and January 2017.

Among patients with displaced fractures, 15% who received the Pinloc device and 33% of patients who received standard pins required a reoperation with THA or hemi-arthroplasty, Johansson said.

“This Pinloc device is technically more demanding,” Johansson said, adding it can be more complicated to work with compared with two screws and two pins. There is also the possibility the three drill holes made to implant the device can weaken the femoral bone cortex vs. two standard drill holes with pinning, he said.

“So far, no major differences. No recommendation, so far. Pinloc may not be the saviour,” Johansson said.

However, he said, “This is probably the first prospective study including undisplaced femoral neck fractures, as far as I know.”

Johansson added, “I also feel it is ethical to give some sort of guidelines, what we should do today.”

Reference:

Disclosures:
Johansson, Rogmark and Viberg report no relevant financial disclosures.
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