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News-Screen Orthopädie

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News-Screen Orthopädie

L. Holzer

Effects of Teriparatide Compared with Risedronate on Recovery After Pertrochanteric Hip Fracture: Results of a Randomized, Active-Controlled, Double-Blind Clinical Trial at 26 Weeks

Aspenberg P, et al. J Bone Joint Surg Am 2016; 98: 1868–78.

Abstract

Background: Osteoporosis drugs might affect fracture-healing. We therefore studied the effects of teriparatide in comparison with risedronate on recovery after pertrochanteric hip fractures. ***Methods:*** The study was a randomized, multicenter, active-controlled, 78-week trial comparing teriparatide (20 µg/day) with risedronate (35 mg/week) initiated within 2 weeks after fixation of a low-trauma pertrochanteric hip fracture (AO/OTA 31-A1 or 31-A2). The main inclusion criteria were a bone mineral density T-score of ≤ –2.0 and 25-OH-vitamin D of ≥ 9.2 ng/mL. During the first 26 weeks, patients received study medication with oral or injectable placebo plus calcium and vitamin D in a double-blinded fashion. Secondary (Timed Up-and-Go [TUG] test, hip pain, Short Form [SF]-36 health status, and safety) and exploratory (radiographic outcomes and ability to walk) 26-week end points are reported. ***Results:*** Of the 224 patients who were randomized, 171 (86 teriparatide, 85 risedronate) were included in the analysis. The mean age was 77 ± 8 years, 77% were female, and 26% had a prior history of low-trauma fracture. The teriparatide group completed the TUG test in a shorter time at 6, 12, 18, and 26 weeks (differences of –5.7, –4.4, –3.1, and –3.1 seconds, respectively; $p = 0.021$ for the overall difference). They also reported less pain on a visual analog scale immediately after the TUG test at 12 and 18 weeks (adjusted absolute differences of 10.6 and 11.9 mm, respectively; $p < 0.05$). There were no significant between-group differences in the SF-36 score, Charnley hip pain score, ability to walk, or use of walking aids during follow-up. Radiographic healing at 6, 12, and 26 weeks, mechanical failure of the implant (teriparatide, 7; risedronate, 8), loss of reduction (teriparatide, 2; risedronate, 4), and nonunion (0 cases) were not significantly different. Mild hypercalcemia and hyperuricemia were more frequent with teriparatide. ***Conclusions:*** Teriparatide was associated with less pain and a shorter time to complete the TUG test between 6 and 26 weeks compared with risedronate. Other fracture-recovery outcomes were similar. The results should be interpreted with caution as these were secondary end points.

Kommentar

Diese randomisierte, doppelt verblindete, placebokontrollierte, multizentrische Studie untersuchte den Effekt von Teriparatid versus Risedronat nach pertrochantären Oberschenkelfrakturen, die mittels Osteosynthese versorgt wurden, hinsichtlich des postoperativen funktionellen Verlaufs. Teriparatid zeigte verglichen zu Risedronat geringere Schmerzen und eine kürzere Zeit beim „Timed Up-and-Go Test". Dies waren jedoch sekundäre Studienendpunkte.

Relevanz für die Praxis

Die Anzahl der potenziellen Anwendungsgebiete von Teriparatid im orthopädischen Bereich nimmt stetig zu. Einige dieser Daten, wie auch diese der vorliegenden Studie, sind vielversprechend. Es sind jedoch weitere Studien erforderlich, um die Rolle von Teriparatid für Orthopädie und Unfallchirurgie zu definieren.

Total Knee Arthroplasty After Anterior Cruciate Ligament Reconstruction: Not Just a Routine Primary Arthroplasty

Watters TS, et al. J Bone Joint Surg Am 2017; 99: 185–9.

Abstract

Background: Despite the success of restoring joint stability and improving early functional outcomes after anterior cruciate ligament (ACL) reconstruction, the long-term risk of developing symptomatic osteoarthritis requiring total knee arthroplasty is higher than that in the uninjured population. The purpose of this study was to compare operative characteristics and early outcomes of patients undergoing total knee arthroplasty after ACL reconstruction with those of a matched cohort of control subjects with primary osteoarthritis and no history of ligament reconstruction. ***Methods:*** All patients who had undergone total knee arthroplasty from 2005 to 2013 at our institution with a history of ACL reconstruction and a minimum 2-year follow-up were identified from a prospective research database. These patients were matched by demographic and surgeon variables to patients who had not undergone prior ACL reconstruction. Outcomes included Knee Society Scores (KSS), range of motion, operative variables, complications, and reoperations. ***Results:*** A cohort of 122 patients was identified as the ACL study group and was compared with the matched control cohort. The mean age at the time of the surgical procedure was 58 years, and 55% of the patients were male. The mean follow-up was 3.3 years in the ACL group and 3.0 years in the control group. There was no significant difference in the latest KSS outcomes between groups postoperatively ($p > 0.05$). Although preoperative flexion was significantly lower ($p = 0.01$) in the ACL group (119°) than in the control group (123°), there was no difference between groups postoperatively. Fifty percent (61 of 122) of patients in the ACL group required implant removal at the time of total knee arthroplasty. The operative time was significantly longer ($p < 0.001$) in the ACL group (88 minutes) compared with the control group (73 minutes). There were a total of 11 reoperations in the ACL group, including 4 for periprosthetic infection, whereas there were only 2 reoperations in the control group. The risk of reoperation in the ACL group was more than 5 times higher than in the control group (relative risk, 5.5 [95% confidence interval, 1.2 to 24.3]; $p = 0.01$). ***Conclusions:*** The results of this retrospective matched cohort study suggest that prior ACL reconstruction results in longer operative time and increased risk of early reoperation after total knee arthroplasty.

Kommentar
Diese retrospektive gematchte Kohortenstudie untersuchte den Einfluss eines Zustandes nach vorderer Kreuzbandplastik auf die postoperativen Ergebnisse nach Implantation einer Knietotalendoprothese. Beide Gruppen zeigten funktionell vergleichbare Resultate. Bei der Gruppe mit Zustand nach vorderer Kreuzbandplastik war die durchschnittliche OP-Dauer signifikant erhöht. Darüber hinaus war das Revisionsrisiko um ein 5-Faches erhöht.

Relevanz für die Praxis

Die Implantation einer Knietotalendoprothese nach zuvor erfolgter vorderer Kreuzbandplastik ist technisch aufwendiger. Dies spiegelt sich in der längeren OP-Dauer wider. Zu betonen ist außerdem das deutlich erhöhte Revisionsrisiko. Bei der präoperativen Aufklärung der Patienten muss darauf hingewiesen werden.

Otto Aufranc Award: A Multicenter, Randomized Study of Outpatient versus Inpatient Total Hip Arthroplasty

Goyal N, et al. Clin Orthop Relat Res 2017; 475: 364–72.

Abstract

Background: Length of stay after total hip arthroplasty (THA) has decreased over the last two decades. However, published studies that have examined same-day and early discharge protocols after THA have been done in highly selected patient groups operated on by senior surgeons in a nonrandomized fashion without control subjects. ***Questions/Purposes:*** The purpose of this study was to evaluate and compare patients undergoing THA who are discharged on the same day as the surgery ("outpatient", less than 12-hour stay) with those who are discharged after an overnight hospital stay ("inpatient") with regard to the following outcomes: (1) postoperative pain; (2) perioperative complications and healthcare provider visits (readmission, emergency department or physician office); and (3) relative work effort for the surgeon's office staff. ***Methods:*** A prospective, randomized study was conducted at two high-volume adult reconstruction centers between July 2014 and September 2015. Patients who were younger than 75 years of age at surgery, who could ambulate without a walker, who were not on chronic opioids, and whose body mass index was less than 40 kg/m^2 were invited to participate. All patients had a primary THA performed by the direct anterior approach with spinal anesthesia at a hospital facility. Study data were evaluated using an intention-to-treat analysis. A total of 220 patients participated, of whom 112 were randomized to the outpatient group and 108 were randomized to the inpatient group. Of the 112 patients randomized to outpatient surgery, 85 (76%) were discharged as planned. Of the remaining 27 patients, 26 were discharged after one night in the hospital and one was discharged after two nights. Of the 108 patients randomized to inpatient surgery with an overnight hospital stay, 81 (75%) were discharged as planned. Of the remaining 27 patients, 18 met the discharge criteria on the day of their surgery and elected to leave the same day, whereas nine patients stayed two or more nights. ***Results:*** On the day of surgery, there was no difference in visual analog scale (VAS) pain among patients who were randomized to discharge on the same day and those who were randomized to remain in the hospital overnight

(outpatient 2.8 ± 2.5, inpatient 3.3 ± 2.3, mean difference –0.5, 95% confidence interval [CI], –1.1 to 0.1, p = 0.12). On the first day after surgery, outpatients had higher VAS pain (at home) than inpatients (3.7 ± 2.3 versus 2.8 ± 2.1, mean difference 0.9, 95% CI, 0.3–1.5, p = 0.005). With the numbers available, there was no difference in the number of reoperations, hospital readmissions without reoperation, emergency department visits without hospital readmission, or acute office visits. At 4-week followup, there was no difference in the number of phone calls and emails with the surgeon's office (outpatient: 2.4 ± 1.9, inpatient: 2.4 ± 2.2, mean difference 0, 95% CI, –0.5 to 0.6, p = 0.94). ***Conclusions:*** Outpatient THA can be implemented in a defined patient population without requiring additional work for the surgeon's office. Because 24% (27 of 112) of patients planning to have outpatient surgery were not able to be discharged the same day, facilities to accommodate an overnight stay should be available.

Kommentar

Diese prospektive, randomisierte Studie, die an zwei Zentren durchgeführt wurde, untersuchte die kurzfristigen Auswirkungen eines tagesklinischen Settings versus eines stationären Aufenthaltes bei Patienten zur Implantation einer Hüfttotalendoprothese. Die Ergebnisse zeigen, dass ein Viertel der Patienten nicht, wie geplant, tagesklinisch geführt werden konnte und dass 24 Stunden postoperativ tagesklinische Patienten über ein signifikant höheres Schmerzempfinden berichteten. Insgesamt zeigte sich jedoch die Rate der Komplikationen bzw. Wiederaufnahmen in beiden Gruppen ausgeglichen.

Relevanz für die Praxis

Mit dieser Studie konnte gezeigt werden, dass mit einer konkreten Strategie bei einem entsprechend geeigneten Patientenkollektiv die Umsetzung einer tagesklinischen Versorgung mit Hüfttotalendoprothesen bei einem Großteil der Patienten möglich ist. Durch die verstärkte Implementierung der Fast-Track-Chirurgie wird der politische Druck im Bereich der Endoprothetik sicherlich auch im deutschsprachigen Raum wachsen.

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