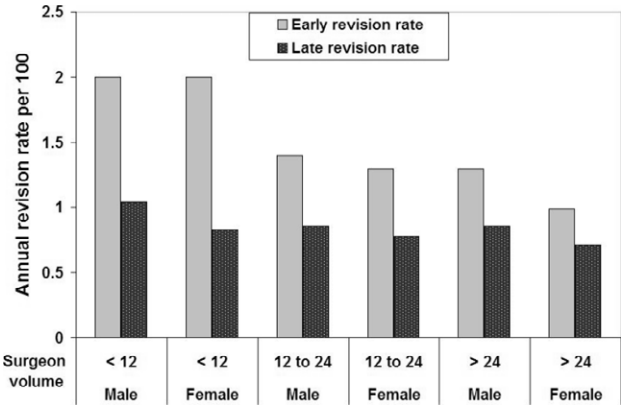
We used both linear regression analyses to look for associations with variations in the WOMAC scores. Significantly higher WOMAC scores (worse disease) were seen in older people, women, those with obesity, those with worse general health, and most strikingly, those with lower educational attainment. The radiographic severity showed no association with WOMAC scores.
Major differences between countries were not apparent.
Conclusions:
1. In advanced hip OA clinical severity shows no associationwith radiographic severity.
2. Disease severity varies widely at the time of THR for OA. However, the variation in clinical severity is much greater than that for radiographic severity, suggesting that while patients reporting mild symptoms may be operated on, surgery is unlikely in the absence of severe radiographic changes.
3. Simple scores of pain and disability, such as the WOMAC, do not reflect the complexity of decision making about who should have a THR. The decision needs to involve a large number of psychosocial and personal issues as well as disease severity.

555 RATES OF REVISION OF PRIMARY TOTAL HIP REPLACEMENT IN A POPULATION BASED COHORT: ROLE OF PATIENT GENDER AND SURGEON VOLUME

J.N. Katz, E.A. Wright, E. Losina. *Brigham and Women's Hospital, Boston, MA, USA*

Purpose: Over 250,000 primary total hip replacements are performed annually in the US. Failure of the implant, often leading to revision THR is a well recognized complication. However, rates of failure of primary THR, leading to revision, have not been ascertained in population based cohorts in the US. The objective of this research is to examine rates of revision in the eight years following a primary THR in a population based sample stratified by gender, surgeon volume and time since primary THR.
Methods: We used Medicare claims to follow a cohort of all 57,488 Medicare beneficiaries that had a primary, elective THR for non-fracture indications between July 1995 and June 1996. We identified revision THR on the basis of ICD-9 codes in Medicare claims data over the subsequent 8 years. Patients were censored at death and at the time of a second primary THR. We categorized surgeon annual THR volume as <12, 12−24 and >24 THR cases per year. Early revisions were defined as those occurring in the first 12 months postoperatively. We calculated the annual rate of THR in each surgeon volume stratum, stratified by early vs. later period of follow-up and by patient gender.
Results: 3,616 of the 57,488 THR recipients had a revision THR over the subsequent 8 years. Revision rates were much higher (up to 2%) in the early period (first 12 months) than over the subsequent years of follow-up, when they hovered around 1% per year (Figure). Volume had a strong association with early revision rates, with patients of low volume surgeons much more likely to have an early revision than patients of higher volume surgeons. Volume had little effect on later revision rates. Men had 10−20% higher revision rates compared to women.



Conclusions: These are the first population based data in the US on 8-year rates of revision following primary THR. Surgeon volume has a dramatic effect on early revisions and males have somewhat higher rates of early and later revision. Whether this gender effect is due to greater rates of failure of THR in men (due to weight and activity, for example) or differential rates of being offered and of accepting revision surgery requires further study.

556 POLY-D,L-LACTIDE-CO-GLYCOLIDE RESORBABLE SCAFFOLDS IN THE TREATMENT OF OSTEOCHONDRAL TALUS DOME DEFECTS

F. Sciarretta, P. Versari, A. Basile, A. Ruo, E. Di Cave. *Jewish Hospital of Rome, Rome, ITALY*

Purpose: The purpose of the present study is to evaluate the efficacy of synthetic resorbable scaffolds transplantation of the talar dome with MRI and clinical short-term follow-up. We therefore present surgical technique steps and early results at one year obtained with preformed in shape and size bone graft substitutes in repair of III and IV degree full thickness osteochondral defects of the talus.
Methods: The utilized implant is a cylinder composed of poly(D,L-lactide-co-glycolide) to which calcium sulphate and surfactant are added to enhance bone in-growth and make implant's surface more hydrophilic. The three-dimensional porous cylindrical implant with interconnected pores is press fit into the site for close apposition and encourage migration of repair tissue as blood and marrow into the scaffold. The two layer construct of the implantmimics the mechanics of the surrounding tissues, bone and cartilage, in order to facilitate from the beginning the nature of the repair tissue that will be formed. The plugs are available in different sizes (5, 7, 9 mm) are preformed in order to match the talus dome surfaces. The first 15 patients were included in the study (7 women, 8 men). Every patient has underwent arthroscopic ankle asse ssment to evaluate size, location and degree of defects and has underwent implantation of TrufitTM cylindrical resorbable scaffold. Majority of synthetic bone substitutes implanted were 7 mm in diameter.
Results: All surgical procedures have been completed uneventfully. Patient have been controlled clinically and by serial ankle MRI's and showed statistically significant improvement of AOFAS scores associated to healing of defect and integration of bone plugs in absence of adverse reactions.
Conclusions: Today several methods are available for surgical treatment of hyaline cartilage defects frequently incidentally encountered during arthroscopies, especially in the knee, as reported by various authors. At our institution, among other treatments, we recently have decided to use TrufitTM synthetic implants, retaining interesting to use a scaffold that enables bone and hyaline like cartilage in-growth before of its resorption. Preliminary results enable us to conclude that porous, resorbable scaffolds can be used in treatment of cartilage defects offering a secure support to secondary bone in-growth with the advantage of being applied in one single step procedure, enabling patients to quickly move back to previous daily and sport activities.

557 DEVELOPMENT OF SPINE OSTEOARTHRITIS AFTER POSTERIOR LUMBAR SPINE INTERBODY FUSION

L. Mécs, **G. Sohár**, K. Tóth. *University of Szeged, Szeged, HUNGARY*

Purpose: The purpose of this study was to evaluate the development of osteoarthritis in the neighboring segment after posterior lumbar spine interbody fusion (PLIF) procedures.
The disc acts as a shock absorber in between the vertebrae, whereas the paired facet joints restrain motion. As the facet joints age, they can become incompetent and allow too much flexion, allowing one vertebral body to slip forward on the other. This slippage is known as a degenerative spondylolisthesis. PLIF is a procedure used to treat problems of spine instability. The goal of the procedure is to stimulate the vertebrae to fuse together. The fusion creates a rigid and immovable column of bone in the problem section of the spine.
Methods: Between 1994 and 1999, we treated 128 consecutive patients (54 women) with PLIF performed by excision of the facet joints and pedicle screw fixation. Their mean age at the time of surgery was 40 years. The mean follow-up period was 10.9 years. Disorders treated by this procedure included degenerative and isthmic spondylolisthesis.
The follow-up examination included the Oswestry outcome measure, physical assessment, and radiological evaluation.
Results: Evaluation based on the Oswestry disability index before and after the operation showed a marked improvement from average 358 to 224 point. Unfortunately, the average outcome index rose to 238 after five years and 286 at ten years time due to degenerative pathology in the neighboring segments. On the x-ray examination progressively increasing facet joint osteoarthritis was seen over the years.
Conclusions: Until very recently, there was no data on the long-term outcome of interbody fusion. At postoperative follow-up, patients who underwent surgery had significantly better scores for both pain and daily function. The benefits were reduced after ten years. Spinal fusion for