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ECONOMIC AND CLINICAL OUTCOMES OF EARLY AND LATE USE OF CELECOXIB IN PATIENTS WITH OSTEOARTHRITIS

Osteoarthritis (OA) is the most common joint disorder in the US and the prevalence of the disease increases with age. First-line therapy options include non-pharmacologic therapy followed by pharmacologic interventions, including, acetaminophen. Other options include nonsteroidal anti-inflammatory drugs (NSAIDs), including cyclooxygenase-2 (COX-2) inhibitors. This article reviews a study that assesses the use of celecoxib in relation to the time of initiation and outcomes associated with early vs. late initiators of celecoxib in patients with OA. If you need further information, please contact the Center for Healthcare Innovation and Patient Outcomes Research (CHIPOR) at chipor@samford.edu.

Shelbaya A, Solem CT, Walker C, Wan Y, Johnson C, Cappelleri JC. The economic and clinical burden of early versus late initation of celeoxib among patients with osteoarthritis. *Clin Outcomes Res*. 2018;10:213-222.

Introduction

- Approximately $38 million adults in the United States have osteoarthritis.
- Osteoarthritis symptoms include swelling, pain, stiffness, and reduced range of motion, typically in the knee, hip, and hand.
- Nonpharmacologic options can include physicial therapy, exercise or weight loss.
- Pharmacologic interventions include acetaminophen, followed by NSAIDs.
- Although celecoxib appears to be as effective as other NSAIDs (e.g., naproxen and diclofenac); it is associated with fewer gastrointestinal adverse effects.

Methods

- This a retrospective cohort study using data from 2009 – 2013 Truven MarketScan Commercial and Medicare Supplemental Database.
- This database allows for patients to be tracked from diagnois to the end of treatment.
- Patients in the study were adults with an initial OA diagnoisis who were enrolled for at least 12 months before and after the index date.
- Early celecoxib initiators were defined as patients who filled their first prescription for celecoxib within the first 6 months of their index date.
- Late celecoxib initiators were patients who filled their first prescriptions for celecoxib 6 months or more after their index date.
- Proton pump inhibitors (PPI) and pain medications were also identified during the time frame.
- The primary outcomes of the study were: healthcare resource utilization (HCRU) and costs, 12 months before the index date and during the follow-up period.
- HCRU included hospital adminissions, length of stay, emergency room visits, and outpatient visits.
- Costs were inflated to 2014 US dollars.
- Gastrointestinal (GI) adverse events were also recorded.

Results

- A total of 62,434 patients (27,402 early initators; 35,032 late initiators) were eligible for inclusion. Most of the patients included were females with a mean age of 60 yeas.
- Early iinitiators had fewer pre-index GI, cardiovascular (CV), or renal events and lower PPI and pain medication use.

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Results (continued)

- On average, patients initited celecoxib at 1.8 months (SD, 1.8) in the early initiators group and 18.3 months (SD 9.3 months) in the late cohort.
- Older and female patients from the west and north central US were more likely to initate celecoxib late (P<0.001, for both groups).
- Among both groups, hospital admissions (0.99; 95% CI, 0.95, 1.04), length of stay (0.97; 95% CI, 0.90, 1.51) and ER visits (0.89; 95% CI, 0.84, 0.95) increased post index as compared to pre-index.
- Most all-cause and OA-related HCRU was associated with outpatient utilization.
- Early (versus late) celecoxib initiators had significantly fewer outpatient (IRR: 0.96; 95% CI: 0.95, 0.97) and ER visits (IRR: 0.89; 95% CI: 0.84, 0.95) per person-year in the post-index period after controlling for pre-index resource use and covariates.
- Late initiators experienced a significantly higher all-cause (P<0.001) and OA-related costs than early initiators (P=0.015).
- Adjusted all-cause costs per person-year were US$13,781 (95% CI: US$13,559, US$14,003) in late initiators and US$12,909 (95% CI: US$12,673, US$13,144) in early initiators.
- Adjusted OA-related costs per person-year were US$5,178 (95% CI: US$5,073, US$5,283) in late initiators and US$4,988 (95% CI: US$4,873, US$5,102) in early initiators.
- Patients who were late initators had lower pre-and post-celecoxib adverse events than early initiators.
- Although early vs. late initiators had a greater reduction in CV, GI, and renal events, no significant differences were observed between the groups.

Summary

- Early initiation with celecoxib was associated with a reduction in economic costs compared to late initiation.
- No significant differences were identified between post-celecoxib adverse events between early and late initiators.

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