Lumbar radiofrequency ablation

Lumbar radiofrequency ablation (RFA) is an intervention used to treat facet-mediated chronic low back pain. In some studies with methods consistent with clinical practice guidelines, RFA results in improvements in pain and functional limitations. However, in other studies, RFA demonstrates limited benefit. Despite unanswered questions regarding efficacy of RFA, its use is widespread.

PURPOSE: To describe trends in the utilization and cost of lumbar RFA and lumbar facet injections.

STUDY DESIGN/SETTING: Retrospective cohort study.

PATIENT SAMPLE: The sample was derived from the IBM/Watson MarketScan Commercial Claims and Encounters Databases from 2007 to 2016.

OUTCOME MEASURES: Longitudinal trends in the distribution and quantity of lumbar facet injections before lumbar RFA, corticosteroid administration during lumbar facet injections, progression to lumbar RFA after lumbar facet injections, lumbar RFA utilization, and costs of these interventions.

METHODS: Two primary cohorts were identified from patients who received lumbar RFA or lumbar facet injection procedures. Utilization rates per 100,000 enrollees were determined for both cohorts. The mean, median, and interquartile ranges of the number of facets targeted and costs per procedure were calculated by year and laterality, as well as overall. Costs in 2018 dollars were estimated by summing gross payment totals from patients and insurance plans. This study was supported by funds from the NIH, and has no conflict of interest associated biases.

RESULTS: From 2007 to 2016, lumbar RFA sessions performed per 100,000 enrollees per year increased from 49 to 113, a 130.6% overall increase (9.7% annually). Lumbar facet injection use increased from 201 to 251 sessions per 100,000 enrollees, a 24.9% overall increase (2.5% annually). In the year after a lumbar facet injection, 26.7% of patients received lumbar RFA; 28.6% received another injection but not RFA; and 44.7% received neither. The number of patients receiving two lumbar facet injection procedures prior to lumbar RFA grew from 51.1% in 2010 to 58.8% in 2016. For lumbar RFA, the cost per 100,000 enrollees went from $94,570 in 2007 to $266,680 in 2016, a 12.2% annual increase. For lumbar facet injections, the cost per 100,000 enrollees went from $257,280 in 2007 to $396,580 in 2016, a 4.9% annual increase.

CONCLUSIONS: This analysis showed consistent growth in both the frequency and procedure cost of lumbar RFA and facet injections among a large, national, commercially insured population from 2007 to 2016.