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Title: Correlates of hyaluronic acid and corticosteroid injections among patients with radiographically confirmed osteoarthritis

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Abstract
Objective: Despite the rapid proliferation of hyaluronate (HA) and corticosteroid (CO) injections and clinical guidelines regarding their use in osteoarthritis (OA), information on the characteristics of people receiving them is scarce. We described use of injections among adults with radiographically confirmed knee OA and identified correlates of injection use.

Methods: We used publicly available data from Osteoarthritis Initiative and included participants with ≥ one radiographically confirmed knee OA (Kellgren-Lawrence grade (K-L) >2) at baseline. We matched 415 participants reporting HA and/or CO during the 6 month before one of the first 7 annual follow-up assessments to 1,841 non-injection users by randomly selecting a study visit to match the distribution observed in the injection users. Multinomial logistic regression models identified correlates of injection use including sociodemographics and clinical/functional factors.

Results: Injections were common (16.9% -year 1, 13.7% -year 2, 16.6 % -year 3, 13.5% - year 4, 15.9% -year 5, 13.5 % -year 6 and 9.9% -year 7) with corticosteroid injections most common (68.4%). HA and CO were more commonly reported by those with higher income (e.g. adjusted Odds Ratio (aOR) HA >$50k versus <$25k: 3.63; (95% CI: 1.20-10.99)) and less common among blacks (aOR HA: 0.19; 95% CI: 0.06-0.55). Greater K-L grade (grade 4 versus 2) was associated with increased odds of HA (aOR: 4.79; 95% CI: 2.47-9.30), CO (aOR: 1.56; 95% CI: 1.04-2.34), or both (aOR: 4.94; 95% CI: 1.99-12.27).

Conclusion: Hyaluronic acid or corticosteroid injections are associated with higher socioeconomic positioning and indicators of greater disease severity.

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