Question—is there an association between tight glycemic control and hip fracture.


Cases and controls chosen with primary dx of hip fx and secondary dx of diabetes mellitus. Cases chosen if HgbA1C measured within 3 months of fx and if using oral hypoglycemics or insulin. Matching for age, sex, race, duration DM, Charlson comorbidity index, macro and microvascular diabetic complications. Controls chosen from registry with DM at diabetic clinic 558 cases and 558 controls after exclusions for age and new dx DM and diet control and default on treatment and no HgbA1C available.

Measurements divided into 4 groups—HgbA1C < 6%, HgbA1C 6.1% to 7%, HgbA1C 7.1% to 8%, HgbA1C > 8%.

Results-Cases with significantly lower median HgbA1C than controls: 59% < 7% HgbA1C vs 38% < 7 % HgbA1C

Multivariate analysis showed that with HgbA1c < 6% compared to > 8%, there is a 3 fold likelihood of hip fx and a 2.38 times risk of hip fx with HgbA1C 6.1% to 7 % compared to >8%. Use metformin and acarbose protective for hip fx with 0.73 and 0.54 odds ration respectively.

Study shows association between tight glycemic control and hip fx.

Limitations—Retrospective design. Slightly higher use high risk medication in cases than controls but adjusted for in multivariate analysis. However integrated national database and complete data collection.

Lesley Carson 9/13/12