AVOIDING THE SNAP, CRACKLE, POP OF THE HIP

One third of the adults that live in community housing that are 50 years and older fall each year. Falls are the leading cause of accidental death and one of the major causes of death in people older than 65 years. In addition, 20-30% of the falls tend to cause severe injuries like hip fractures and/or head trauma. The most recent data (2008) notes that more than 19,000 adults aged 65 and older died from an unintentional fall. This equates to an economic burden of more than 28.2 billion annually. The two most common risk factors associated with falls were psychotropic drugs and poly-pharmacy. Patients that are receiving a first or second generation psychotropic medication are at risk for falls that may cause hip fractures. The hip fractures have high significance when dealing with morbidity and mortality. After a hip fracture occurs, the 1 year mortality increases at a rate of 20%. This issue of CLIPs briefly summarizes a meta-analysis that examines psychotropic-related hip fractures with the use of first or second generation psychotropic medications. If you need further information, please contact the Samford University Drug Information Service at (205) 726-2659.


Purpose: To determine if the use of first or second generation antidepressants or antipsychotics increase the risk of hip fractures in older adults.

Methods
- A search of databases was conducted utilizing PubMed/MEDLINE between January 1966 and January 2011. MeSH terms and key words such as hip fractures, bone; bone/etiology; antidepressant, antipsychotics, and aged and middle aged. The searches were limited to human and English studies.
- Studies that were unpublished, missing data (the ability to not receive the information from the author) or hip fractures that were not specific were not considered for inclusion.
- Additional inclusion criteria for this analysis: subjects with a mean age of 65 years or older with data that was adjusted statistically or by matching for age, sex, hip fractures-specific results.
- Summary odds ratios (OR) were calculated for drug classes. I² and Q statistics were used to evaluate the similarities and differences between the studies.

Results
- Initially 166 studies were identified and a total of 19 studies remained after the inclusion/exclusion criteria were applied which included case-control and cohort studies.
- Of the 19 studies included, 10 provided information with antipsychotic specific results and 14 provided antidepressant specific results; 5 provided data on both drug classes.
- Overall, this study represented 70,990 hip fracture cases and approximately 272,000 patients from 4 continents across the world (North America, Europe, Asia, and Australia)

Antipsychotic Drugs
- Use of all antipsychotic drugs increased the risk of hip fracture by 44% (OR 1.44 [95% CI 1.28 to 1.63]; p=0.014)
- Use of atypical antipsychotic drugs increased the risk of hip fracture by 29% (OR 1.29 [95% CI 1.14 to 1.48]; p=0.055)
- Use of conventional antipsychotic drugs increased the risk of hip fracture by 68% (OR 1.68 [95% CI 1.43 to 1.98]; p=0.185)

CONTINUED NEXT PAGE
Antidepressant Drugs

- Use of all first and second generation antidepressants drugs increased the risk of hip fracture by 78% (OR 1.78 [95% CI 1.53 to 2.06]; p<0.001)
- Use of first generation antidepressants drugs increased the risk of hip fracture by 71% (OR 1.71 [95% CI 1.43 to 2.04]; p<0.001)
- Use of second generation antidepressants drugs increased the risk of hip fracture by 94% (OR 1.94 [95% CI 1.36 to 2.76]; p<0.001)

Discussion

- Older populations tend to be at a higher risk of hip fractures due to polypharmacy and the combination of the medications that they are taking (i.e. antidepressants, hypnotics, antipsychotics, anti-anxiety) and/or medical conditions (i.e. balance problems, osteoporosis and depression)
- The risks associated with second generation agents cannot be clearly quantified since most of the studies primarily evaluated older medications. The study did not have enough power to evaluate the association of hip fractures with individual drugs.
- Knowing this information makes it imperative to weigh the risk:benefit ratio when prescribing medication to the more vulnerable populations.
- In an attempt to decrease risk of falls, current guidelines suggest that patient drug regimens be reviewed to reduce the number of psychotropic drugs.
- If the disease is contributing to falls and injuries, optimal disease or symptom control should be used first, rather than simply restricting the use of psychotropic medication. This could represent the most successful prevention approach in this population.

Conclusion

- Use of the first and second generation antidepressants and antipsychotic medications are associated with the increase risk of hip fractures in the older population.
- This study confirms that there is an association with the most debilitating common hip fracture type with psychotropic drugs in the population of 65 years and older. On the other hand, it’s really doubtful that in the end, medications are a causal factor in falls and injuries.
- Since most data that was collected leaned heavily on the older drugs, additional studies in this population that include more second generation antidepressants and antipsychotics are needed.