Evidenced Based Critically Appraised Topic

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Case Presentation

A 92 year old female came into the hospital from a nursing home with her 4 page list of medications. One of the ED doctors looked at the list, shook his head, looked me straight in the eye and said: "when you are done with school and out practicing, don't every make a 92 year old lady take cholesterol medication". He continued to explain that cholesterol is built up over a long period of time and by that age there is no point. He also said that there are a lot of concerns with adverse effects and drug interactions in this population that isn't worth the risk. This led me to my PICO question and wondering if there may be other benefits for an elderly patient to take cholesterol medication.

PICO Question

Are there any significant cardiovascular benefits in starting an elderly patient on statin therapy if they are over the age of 80, verse no lipid lowering therapy?

Articles

Nair, A. P. & Darrow, B. (2009). Lipid management in the geriatric patient. *The Endocrinology Metabolic Clinic of North America, 38,* 185-206. doi:10.1016/j.ecl

Thomas, J., Tershakovec, A., Jones-Burton, C., Sayeed, R., & Foody, J. (2010). Lipid lowering for secondary prevention of cardiovascular disease in older adults. *Drugs & Aging, 27*(12), 959-972. doi:10.2165/11539550-000000000-00000

Summary and Appraisal of Key Evidence

Article 1, The article by Nair & Darrow, (2009), review studies on lipid management in the geriatric patient. The literature review compared over ten clinical trials and is a Level 1 evidence. This article also compared the safety and efficacy of different lipid lowering agents available.

Data analysis of large, randomized trials support the use of statins for the prevention of cardiovascular events in the elderly. Multiple trials have also demonstrated secondary prevention of cardiac events in elderly that are equivalent or greater than the benefits in younger patients. It is important to note that he author did conclude slightly increased side effects with high-dose statin therapy and careful vigilance in monitoring drug interactions and limiting polypharmacy can reduce these effects.

Article 2, Thomas et al, (2010), performed a Level 1 evidence, literature review of the PubMed database using multiple randomized, controlled-trial, meta-analysis, and other clinical data regarding the effects of lipid-lowering therapies on cardiovascular outcomes in older adults. This included the only clinical trial specifically studied for older adults aged 70-82 years. The article focuses data on secondary prevention, and also discusses safety considerations in this population.

Conclusions from this review provide a strong justification for statin therapy in individuals over the age of 65 with a history of CHD. Statin therapy has been shown to provide benefits for this population to reduce occurrence of MI, stroke, and the need for revascularization. The use of statins are supported in the older population but one study cautions against patients who have a hemorrhagic stroke. Close attention should be given to potential drug interactions, potential age-related changes in drug pharmacokinetics, and adverse effects such as myopathy.

Limitations

Limitations of both articles include limited research found on risks and benefits of lipid-lowering therapies with individuals older than 80 years of age. Little data was found on the use of combinations of lipid-lowering agents in all ages. There was minimal data on the appropriate dosages of medications for this population. The literature review was limited to only articles written in English. Additional studies are needed to affirm guidelines for recommended treatment of patients over the age of 80.

Clinical Bottom Line

Both articles are reliable and of highest quality demonstrating level 1 research. The main factors contributing to the under-prescription of statins in older adults are a perceived lack of evidence for benefit and safety concerns. Both articles demonstrate that the use of statin therapy has provided significant benefits for this population. Older individuals, particularly >80 years, can increase the risk of statin-associated myopathy; in such cases, statin treatment is not contraindicated but should be given more cautiously and at the lowest dosage clinically appropriate. Polypharmacy can increase the risk of drug interactions and each prescription should be carefully considered by the provider. Studies to date have provided no evidence of causal relation between impaired memory or cognitive dysfunction and statin therapy.

References

Nair, A. P. & Darrow, B. (2009). Lipid management in the geriatric patient. *The Endocrinology Metabolic Clinic of North America, 38,* 185-206. doi:10.1016/j.ecl

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