GERIATRICS TWITTER JOURNAL CLUB

#GeriJC

Evaluation of Time to Benefit of Statins for the Primary Prevention of Cardiovascular Events in Adults 50 to 75 Years

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Dr. Rachel Denny, Geriatrics Fellow from University of Michigan leads discussion on this study (see video)

T1. What are the most interesting aspects of the paper?

@GeriEducator: 1) 1 out of 8 randomized trials found statins decreased all-cause mortality when used for primary prevention, and 2) Again, like the previous session, this article also suggests the importance of individualizing static treatment #GeriJC

@ElizCha06134239: The benefits of statins in older adults without pre-existing CAD is often an abstract concept. Using the number needed to treat and absolute risk reduction helps put that benefit in more concrete terms.

@BERosensteinMD: 1) The use of a monte-carlo simulation to "back-out" ARR and TTB for statins 2) Despite ongoing discussion about this topic, there were no updated trials for the authors to use beyond what USPSTF and Cochrane already had reviewed #GeriJC

@CoveyWongy: The clarity of how applicable statin use is in prevention of cardiovascular events for adults over the age of 75 is still up in the air when taking into account the TTB #GeriJC

@dakotasnustad: Quantitatively determining the TTB (time to benefit) for statin use in this age group helps clarify the findings of these trials and makes it easy to remember for future decision-making

@Torrin78821753: T1) The findings of an estimated time to benefit (TTB) for statin therapy in adults aged 50-70, fill a gap in knowledge there. While data in older adults still remains elusive, there is hope with upcoming studies #GeriJC

@gunderson_grant: T1) The simplified ratio of patients required to treat at the given TTB is easier to recall and helpful for considering risk/benefit analysis with patients considering preventive statins #GeriJC

@CarterSchimke: T1) I thought the most interesting aspects of this paper were a) that it was the first quantitative determination of the TTB of statins in older adults and b) the emphasis placed on individualized care (a hallmark of primary care and preventative medicine) #GeriJC

T2. Were the analytical approaches used in the study appropriate?

@GeriEducator: Mostly yes. But I wish some of the smaller studies were not excluded. Meta Analyses require a large sample size and a lot more than 8 trials to compare. It is unclear why studies with n<1000 were excluded #GeriJC

@ElizCha06134239: It was great to see the volumes of patients studied – these stating studies with huge sample sizes are definitely powered to detect differences we can't see in smaller studies. They often exclude the typical geriatric patient, however, who is usually older and sicker #GeriJC

@BERosensteinMD: Some limitations r/t the nature of this literature. MACE was defined differently across studies, so combining may overestimate outcomes from some trials vs others. RCTs are a good foundation for stochastic modeling w/their greater overall precision. #GeriJC

@CoveyWongy: The meta analysis of the 8 randomized clinical trials allowed for a large population sample size, albeit some included many more participants than the others #GeriJC

@dakotasnustad: I appreciated Figure 1 detailing the search strategy and the list of search terms that were used for the meta-analysis. The calculation of the TTB seemed appropriate as they used similar methods for cancer screenings in previous publications #GeriJC

@Torrin78821753: T2) The challenge of obtaining their own statistic of interest (time to benefit), as it was not reported in the 8 randomized control trials, was appropriately approached through use of previously published cancer screening methods #GeriJC

@gunderson_grant: T2) I appreciated that they noted in the Individualizing Decisions section that the TTB calculated for each study was perhaps more clinically beneficial than the generalized TTB of the meta-analysis depending on the individual #GeriJC

@CarterSchimke: T2) The approaches seemed generally appropriate. While only 8 studies were included for analysis, each study had a large sample size, which helps in providing an accurate conclusion #GeriJC

T3. Does the study add new knowledge to established foundations?

@ElizCha06134239: It is helpful to see aggregate data about statins as a whole, rather than one particular drug/dose from a single study to help frame conversations with individual older adults. (If only we had a better way to reliably estimate survival!) #GeriJC

@BERosensteinMD: A3) Even with greater awareness of TTB considerations for multiple medications, estimating that time is often difficult. Sort of a prognosis of a prognosis: #GeriJC

@BERosensteinMD: A3 cont'd) "This med might provide you benefit in about X many years, and you might live about Y many years, so mayne this medication is beneficial. Or maybe not"

@CoveyWongy: New generalized information about the efficacy of statins and their potential benefits of lack thereof, forms a sturdy foundation that can be built upon. Expanding this research to perhaps older age groups who don't clearly have as long life expectancies could be the next step

@dakotasnustad: While the authors mentioned their results were consistent with previous findings on the topic, the quantitative determination of the time to benefit of statin therapy in this age group makes those results more clinically relevant and trustworthy #GeriJC

@Torrin78821753: T3) This study contributes to a global estimate of time to benefit of statin therapy in primary prevention for this age group #GeriJC

@gunderson_grant: T3) Although the TTB statistic was technically new knowledge that was reported to not have been analyzed on the individual studies, I am curious about how many clinical decisions might actually have different outcomes. #GeriJC

@CarterSchimke: T3) Yes; it is stated that the "TTB for stain therapy is unknown." Thus the importance of a meta-analysis that contributes an answer (2.5 years) is inherent. These quantitative findings are consistent with previous work and current expert opinion #GeriJC

T4. What are the weaknesses of the study (design)?

@GeriEducator: As Dr. Denny mentioned, the biggest weakness is the low age-range studies in this meta-analysis. Through no fault of the authors, the age-range included in the trials ranged from 55-69. Wish there was better data available for higher ages #GeriJC

@ElizCha06134239: Agreed! Our traditional geriatric population is not well-captured here. Also the data for harms, especially in our usual complicated, frail population, is absent #GeriJC

@BERosensteinMD: Yep – the main limitation. Does not necessarily add to if/when one should start a statin for primary prevention for those over 75. #GeriJC

@BERosensteinMD: A4) As the authors point out: Due to small number of studies, with varying populations, there are limits to applicability of a unified, calculated measure. #GeriJC

@CoveyWongy: The limited age range has already been mentioned so to be nitpicky, the slight variability between MACE definitions across trials could be something that blurs lines when analyzing data

@dakotasnustad: I am curious how the variation in follow-up duration time between the studies may have impacted the results as these ranged from 2-6 years between the different studies #GeriJC

@Torrin78821753: T4) I agree with the previous stated discussion on limitations to the age range. Another parameter out of control of the authors would be the smaller percentage of women represented #GeriJC

@gunderson_grant: T4) As mentioned there is limited analysis of the Statin AE's in the study which may mitigate the overall benefit. The lower average age of participants likely resulted in less polypharmacy or drug-drug interactions compared to the typical older patient #GeriJC

@CarterSchimke: T4a) Each trial included different CV events as end points. This can lead to discrepancies in TTB for MACE prevention. Additionally, the studies varied in their use of low-, moderate-, and high-intensity statins. This forms an answer for statins as a whole, without much nuance on

@CarterSchimke: T4b) regimen. These issues, however, are largely due to a lack of available published trials. #GeriJC

T5. How would you introduce the findings in your practice?

@GeriatricsJC: @EWidera @curcumin @NDgeriDocDahl thoughts? #GeriJC

@NDgeriDocDahl: Agree helps with discussion to give a time frame to benefit. Also agree the group involved still not helpful most my patients are greater than 75. Proves again AI cannot take over my job and that medicine is an art!

@ElizCha06134239: It could help when deprescribing if we can assume that sicker, frailer adults have less benefit from statins, but may not be true. So many of our patients are already on these drugs, it is rare to start them for primary prevention #GeriJC

@BERosensteinMD: A5) This study may assist in framing discussions about deprescribing by providing the expected time to benefit for statin treatment #GeriJC

@CoveyWongy: Using these results may help in confirming prescriptions within the lower age ranges mentioned in the study while also helping in stopping prescriptions or hesitating with new prescriptions for adults at the latter or above the age range. *Perspective of not a physician/PhD

@dakotasnustad: I think having this time to benefit data for statin use and primary prevention will help guide discussions on starting or discontinuing statins. Having the TTB number makes the results of this study easy to remember and to explain. #GeriJC

@Torrin78821753: T5) As highlighted in this study, in practice the individual patient's preferences/goals play an important role in this decision making while individual studies that are characteristically similar to the patient may provide additional assistance #GeriJC

@gunderson_grant: T5) I think that ultimately this TTB will be most helpful for discussions with patients who appreciate more concrete timelines, as they are the ones who ultimately will be living with the cost and side effects #GeriJC

@CarterSchimke: T5) In practice, the 2.5 year TTB finding gives prescribers a "quick and dirty" mark to keep in the back of their mind while balancing the nuances of patient preference, polypharmacy, side effect risk, etc. in the starting/stopping of a statin prescription #GeriJC