My top journal articles in outpatient medicine

David Tanaka

Rocky Mountain SGIM meeting
Ms S is 70 yo with hypertension, diabetes and osteoarthritis. She asks which flu vaccine should she get this year?

In my clinic, we have the standard dose inactivated flu vaccine.

Should I go to my pharmacy and get the high dose vaccine?
Influenza

• Last year my answer was “We do not have the high dose vaccine because there are no studies that demonstrate that it is better than the standard dose vaccine.”
Efficacy of High-Dose versus Standard-Dose Influenza Vaccine in Older Adults

• **Background**

• As compared with a standard-dose vaccine, a high-dose, trivalent, inactivated influenza vaccine (IIV3-HD) improves antibody responses to influenza among adults 65 years of age or older. This study evaluated whether IIV3-HD also improves protection against laboratory-confirmed influenza illness.

Efficacy of High-Dose versus Standard-Dose Influenza Vaccine in Older Adults

• Methods

We conducted a phase IIIb–IV, multicenter, randomized, double-blind, active-controlled trial to compare IIV3-HD (60 μg of hemagglutinin per strain) with standard-dose trivalent, inactivated influenza vaccine (IIV3-SD [15 μg of hemagglutinin per strain]) in adults 65 years of age or older.

Assessments of relative efficacy, effectiveness, safety (serious adverse events), and immunogenicity (hemagglutination-inhibition [HAI] titers) were performed during the 2011–2012 (year 1) and the 2012–2013 (year 2) northern-hemisphere influenza seasons.
Efficacy of High-Dose versus Standard-Dose Influenza Vaccine in Older Adults

• **Results**

• A total of 31,989 participants were enrolled from 126 research centers in the United States and Canada (15,991 were randomly assigned to receive IIV3-HD, and 15,998 to receive IIV3-SD).

• In the intention-to-treat analysis, 228 participants in the IIV3-HD group (1.4%) and 301 participants in the IIV3-SD group (1.9%) had laboratory-confirmed influenza caused by any viral type or subtype associated with a protocol-defined influenza-like illness (relative efficacy, 24.2%; 95% confidence interval [CI], 9.7 to 36.5)
Efficacy of High-Dose versus Standard-Dose Influenza Vaccine in Older Adults

At least one serious adverse event during the safety surveillance period was reported by 1323 (8.3%) of the participants in the IIV3-HD group, as compared with 1442 (9.0%) of the participants in the IIV3-SD group (relative risk, 0.92; 95% CI, 0.85 to 0.99).

After vaccination, HAI titers and seroprotection rates (the percentage of participants with HAI titers \( \geq 1:40 \)) were significantly higher in the IIV3-HD group.
Efficacy of High-Dose versus Standard-Dose Influenza Vaccine in Older Adults

• **Conclusions**

• Among persons 65 years of age or older, IIV3-HD induced significantly higher antibody responses and provided better protection against laboratory-confirmed influenza illness than did IIV3-SD.

• Funded by Sanofi Pasteur; ClinicalTrials.gov number, [NCT01427309](https://clinicaltrials.gov/ct2/show/NCT01427309).
Efficacy of High-Dose versus Standard-Dose Influenza Vaccine in Older Adults

- Absolute difference of 0.5% or decrease of 2 confirmed influenza cases per 1,000 vaccinated with high dose vs standard
d- There were no more serious side effects in the high dose vs standard dose
Local and systemic symptoms reported by recipients of high-dose influenza vaccine (A) and standard-dose influenza vaccine (B) during the 7 days after vaccination.

Efficacy of High-Dose versus Standard-Dose Influenza Vaccine in Older Adults

• My response now is:
• If you are not concerned about slight increase in mild adverse reactions, then get the high dose flu vaccine. It provides better immune response and has been shown to slightly decrease your risk of getting influenza