Zoster Vaccine – is newer better than the old new?

Clinical Question: Is there a difference in efficacy between the new, recombinant (Shingrix®) and the live (Zostavax®) zoster vaccines?

Bottom Line: Recombinant zoster vaccine appears more efficacious than the live vaccine. Over three years, recombinant zoster vaccine prevents one additional case of herpes zoster (shingles) for about every 40 patients treated compared to one for every 60-70 with live vaccine. Both vaccines decrease the risk of post-herpetic neuralgia. The recombinant vaccine is more expensive and requires two injections whereas the live vaccine only requires one.

Evidence:

- Two industry-supported randomized, placebo-controlled trials (RCTs) of recombinant zoster vaccine in immunocompetent patients without previous zoster infection or vaccine. Authors calculated Numbers Needed to Treat (NNTs) (assuming linear rates of disease) at 3 years to indirectly compare to live zoster vaccine.
  - Herpes Zoster (shingles):
    - Adults >50 years old: 15,411 patients; mean age 62.
      - Recombinant: 0.08% versus 2.7% placebo, NNT~40.
      - Comparable live vaccine RCT: NNT~70.
    - Adults > 70 years old: 13,900 patients; mean age 76.
      - Recombinant: 0.4% versus 3.5% placebo, NNT~40.
      - Comparable live vaccine RCT (patients ≥ 60 years): NNT~60.
  - Post-herpetic neuralgia:
    - All ages:
      - Recombinant: NNT=333 at 3.8 years or 422 at 3 years.
      - Live vaccine: NNT~360.
    - >70 years old:
      - Recombinant: NNT=335.
      - Live vaccine: NNT=260.
  - Serious Adverse Events:
    - Recombinant 1.1%, Live 1.9%, Placebo 1.3%.
  - Limitations with recombinant studies: blinding questionable.
• No head-to-head RCTs comparing live and recombinant vaccines with clinical outcomes exist.
• No RCTs with clinical outcomes exist in patients who previously:
  o Received zoster vaccine, or
  o Had shingles.

Context:
• Recombinant zoster vaccine differs from live:
  o Two doses, 2-6 months apart versus 1 for live.\textsuperscript{6,7}
  o Costs \textasciitilde40% more: \textasciitilde$250 versus $180 for live.\textsuperscript{8}
• Current recommendations:
  o Canada:\textsuperscript{9} offer recombinant vaccine to patients:
    ▪ \geq50 years
    ▪ who previously received live vaccine or had a previous episode of shingles.
  o United States:\textsuperscript{7}
    ▪ 50-59 years: recombinant vaccine regardless of zoster infection or vaccine history.
    ▪ >60 years: either vaccine.
• Neither vaccine recommended in pregnant patients.\textsuperscript{6,7,9}
  o Recombinant may be considered in immunocompromised patients.\textsuperscript{9}

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Authors do not have any conflicts of interest to declare.

References:

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