week after ZV. Independent positive effects on peak memory Th1 VZV CMI included the baseline CMI and negative effects included blood CD4+FOXP3+ T regulatory (Treg) and CD8+PD1+ T exhausted cells. Independent positive effects on peak effector Th1 VZV CMI included baseline CMI and negative effects included blood CD8+CD25+FOXP3+ Treg. Age did not have an independent effect on peak CMID. Independent positive effect on persistent (L) VZV Th1 immunity Th1 included baseline CMI and negative effects included age, blood CD4+FOXP3+ Treg and CD8+PD1+ T exhausted cells. Persistent effector Th1 CMI was negatively affected by age only.

Conclusion. ZV generated VZV-specific Th1 and CTL responses. The early increase of CD8+ effector Th1 T cells supported that CTL responses to the vaccine virus may be compromised by immune senescence. The negative of age on VZV Th1 CMI was fully mediated by immune senescence at peak response, but age had a negative effect on CMI persistency that was independent from the markers of immune senescence included in this study.

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1341. Humoral and Cellular Immunogenicity of Zoster Vaccine within One Year after Herpes Zoster

Eunyoung Lee, MD; June Young Chun, MD; Kyong-Ho Song, MD; Pyeong Gyun Choe, MD; Ji Whan Bang, MD; Eun Suk Kim, MD; Hong Bin Kim, MD; PhD; Sang Won Park, MD; PhD; Nam Joong Kim, MD, PhD; Won Bae Park, MD and Myoung-Don Oh, MD, PhD; Department of Internal Medicine, Seoul National University College of Medicine, Seoul, Korea, Republic of (South)

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Background. Herpes zoster vaccination is recommended to patients with a prior history of herpes zoster to prevent reactivation. However, the appropriate timing of vaccination is controversial. We compared immunogenicity of vaccine according to timing of vaccination after zoster illness.

Methods. In this prospective observational study, subjects were stratified into two groups by the vaccination timing since their zoster illness: 6–12 months (within-1 year group) vs. 1–5 years (after-1 year group). Blood samples were collected before and 6 weeks after vaccination. VZV-specific IgG concentrations were measured by enzyme-linked immunosorbent assay. Interferon-gamma enzyme-linked immunosorbent spot (ELISPOT) assays were performed to assess VZV specific T-cell responses.

Results. A total of 59 patients (18 in the within-1 year group and 41 in the after-1 year group) were enrolled. Ages were not significantly different between groups. The baseline geometric mean titer (GMT) of VZV IgG was higher in the within-1 year group than in the after-1 year group (245.8 IU/mL vs. 124.9 IU/mL; P = 0.040). The geometric mean fold-rise (GMFR) of VZV IgG was lower in the within-1 year group than in the after-1 year group (1.42 vs. 2.46, P = 0.002). The GMT of spot forming cell (SFC) counts by ELISPOT at baseline and 6 weeks after vaccination were not significantly different between groups. The GMFRs of SFCs were also comparable.

Conclusion. Zoster vaccination within 1 year after zoster illness may have disadvantage in the aspect of humoral immune response (ClinicalTrials.gov number, NCT04572).

Disclosures. All authors: No reported disclosures.

1342. Immunogenicity and Safety of an Adjuvanted Herpes Zoster Subunit Vaccine in Older Adults Previously Vaccinated with a Live-Attenuated Herpes Zoster Vaccine: A Phase III, Group-Matched, Clinical Trial

Karin Grupping, PhD; Laura Campora, MD; Martine Douha, MSc; Thomas C. Heineman, MD, PhD; Nicola P. Klein, MD, PhD; Hilmid Lil, MD; James Peterst, MD; James Meyer, MD; and Lidia Ostovogels, MD, PhD; Genocea Biosciences, Cambridge, MA; Kaiser Permanente Vaccine Study Center, Oakland, California, #Phizer Inc., Collegeville, Pennsylvania, #Toflel Family Clinic, Salt Lake City; Utah

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Background. Herpes zoster (HZ), caused by reactivation of varicella-zoster virus (VZV), typically manifests as a dermatomal rash and can lead to postherpetic neuralgia (PHN). HZ and PHN risk increase with age. Efficacy against HZ induced by a live-attenuated zoster vaccine (ZVL; Merck) declines following vaccination (21% in years 5–12 post-vaccination). HZ and PHN risk increase with age. Efficacy against HZ induced by a live-attenuated zoster vaccine (ZVL; Merck) declines following vaccination (21% in years 5–12 post-vaccination).

Methods. In this phase III, group-matched, open, multicenter study (NCT02581410), 2 parallel groups of adults ≥65 years of age (YOAA) received 2 HZ/su doses 2 months apart. A co-primary objective was to compare humoral immune response 1 month post-dose 2 (M3) in the 2 groups (non-inferiority criterion: upper limit [UL] of the 95% confidence interval [CI] for HZ-NonVac/HZ-PreVac adjusted anti-δ1 antibody geometric mean concentration [GMC] ratio <1.5). Humoral and cellular immune responses were evaluated at various time points. Solicited and unsolicited adverse events (AEs) were recorded for 7 and 30 days post each dose, respectively. Serious AEs (SAEs) and potential immune-mediated diseases (pIMDs) will be recorded until study end. Here, we present data up to M3, as the study is still ongoing.

Results. 430 participants were vaccinated. M3 humoral immune responses in HZ-PreVac were non-inferior to those in HZ-NonVac and the co-primary objective was met as the UL of the 95% CI of the adjusted GMC ratio was 1.17 (Table 1). In addition, there were no apparent differences in CD4+ T-cell frequencies between groups (Figure 1). No clinically meaningful differences between frequencies of solicited AEs, unsolicited AEs or SAEs in the 2 groups were observed (Table 2). No SAEs considered vaccine-related by investigators, no suspected HZ cases and no pIMDs were reported up to M3.

Conclusion. HZ/su vaccination in adults ≥65 YOAA who previously received ZVL stimulates strong immune responses and does not raise safety concerns.

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Table 1. Anti-δ1 antibody geometric mean concentrations (GMCs) and adjusted GMC ratio (HZ-NonVac over HZ PreVac) (ATP cohort for immunogenicity)

| Timepoint | HZ-PreVac | HZ-NonVac | Adjusted GMC ratio (HZ-NonVac/HZ-PreVac) |
|-----------|-----------|-----------|-----------------------------------------|
| M0        | 123.8      | 133.5      | 0.94                                    |
| M3        | 140.5      | 164.5      | 1.17                                    |

Table 2. Frequencies of solicited and unsolicited AEs, SAEs and pIMDs (TVC)

| AE                      | Reporting Period | HZ-PreVac | HZ-NonVac |
|-------------------------|------------------|-----------|-----------|
| Pain                    |                  | 215       | 214       |
| Headache                |                  | 215       | 214       |
| Fatigue                 |                  | 215       | 214       |
| Diarrhea                |                  | 215       | 214       |
| Swelling                |                  | 215       | 214       |
| Fever                   |                  | 215       | 214       |

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