Adjuvanted recombinant zoster vaccine decreases herpes zoster-associated pain and the use of pain medication across three randomized, placebo-controlled trials

Supplementary materials S1 (Table S1). Number of participants (total vaccinated cohort[a]) and baseline characteristics of participants in the ZOE-50, ZOE-70 and ZOE-HSCT studies [1,5,25]

	ZOE-50 N=15411		ZOE-70 N=13900		ZOE-HSCT N=1846	
	N	%	n	%	n	%
mTVC[a]	14759	95.8	13163	94.7	1721	93.2
RZV recipients						
TVC[a]	7698	49.9	6950	50.0	922	49.9
mTVC[a]	7344	49.8	6541	47.1	870	50.5
Placebo recipients						
TVC[a]	7713	50.1	6950	50.0	924	50.1
mTVC[a]	7415	50.2	6622	47.6	851	49.5
Baseline characteristics						
Age group						
18–49					459	24.9
≥50	15411	100	13900	100	1387	75.1
50–59	7289	47.3				
60–69	4490	29.1				
≥70	3632	23.6	13900	100		
70–79			10834	77.9		
≥80			3066	22.1		
Sex- female	9424	61.2	7625	54.9	688	37.3
Race						
White	11067	71.8	10695	76.9		
Black	270	1.8	146	1.1		
Asian	2936	19.1	2434	17.5		
Other	1138	7.4	625	4.5		

[a]The TVC included all vaccinated participants for whom data related to efficacy endpoints were available. The mTVC excluded participants who did not receive the second dose of vaccine or who received a confirmed diagnosis of herpes zoster within 1 month after the second dose; Abbreviations: HSCT, hematopoietic stem cell transplantation; mTVC, modified total vaccinated cohort; NR, not reported; RZV, recombinant zoster virus vaccine; TVC, total vaccinated cohort.

Supplementary materials S2. Participant inclusion and exclusion criteria in ZOE-50, ZOE-70 and ZOE-HSCT [1] trials [1,5,25]

ZOE-50

Inclusion criteria (all must be met at study entry):

- Aged ≥50 years at the time of the first RZV vaccination;
- Provided written informed consent;
- Able to comply with the protocol requirements (e.g., completion of the diary cards/questionnaires, return for follow-up visits, have regular contact to allow evaluation during the study);
- Additional for female participants: were of non-childbearing potential (current tubal ligation, hysterectomy, ovariectomy or post-menopause) or excluded possibility of pregnancy (practiced adequate contraception for 30 days before vaccination; provided a negative urine pregnancy test on the day of vaccination; and agreed to continue adequate contraception during the entire treatment period and for 2 months after completion of the vaccination series).

Exclusion criteria:

- A history of HZ;
- A previous vaccination against varicella or HZ, including previous vaccination with childhood varicella vaccine;
- Any confirmed or suspected immunosuppressive or immunodeficient condition resulting from disease or immunosuppressive/cytotoxic therapy;
- A history of allergic disease or reactions likely to be exacerbated by any component of the vaccine, which may include allergic reactions to other material or equipment related to study participation;

- Significant underlying illness that, in the opinion of the investigator, would be expected to prevent completion of the study;
- Concurrent participation in another clinical study, at any time during the study period, in which the participants had been or would be exposed to an investigational or a non-investigational product (pharmaceutical product or device);
- Use of any investigational or non-registered product (drug or vaccine) other than the study vaccine within 30 days preceding the first dose of study vaccine, or planned to use such a product during the study period;
- Received immunoglobulins or any blood products within the 90 days preceding the first dose of study vaccine or planned to receive such products during the study period;
- Administration or planned administration of any other immunizations within 30 days before the first or second study vaccination or scheduled within 30 days after study vaccination. However, licensed non-replicating vaccines could be administered up to 8 days before each dose or at least 14 days after any dose of study vaccine;
- Any other condition (e.g., extensive psoriasis, chronic pain syndrome, cognitive impairment, severe hearing loss) that, in the opinion of the investigator, might interfere with the evaluations required by the study;
- Acute disease or fever (oral, axillary, or tympanic temperature ≥37.5°C or a rectal temperature 38.0°C) at the time of enrollment. Participants with a minor illness (such as mild diarrhea, mild upper respiratory infection) without fever could be enrolled at the discretion of the investigator;
- Chronic (>15 consecutive days) administration of immunosuppressants or other immune-modifying drugs within 6 months prior to the first vaccine dose. For corticosteroids, prednisone <20 mg/day, or equivalent, was allowed. Inhaled and topical steroids were allowed;

- For female participants of childbearing potential: pregnancy or lactation; planning to become pregnant or to discontinue reliable contraceptive precautions.

ZOE-70

Criteria were the same as for ZOE-50, except the required age at the time of first vaccination was ≥70 years or older. Childbearing potential or possibility of pregnancy in female participants was not of concern in this study.

ZOE-HSCT

Inclusion criteria (all must be met for study participation):

- Ability to comply with the protocol requirements
- Provided written informed consent
- Age ≥18 years
- Had undergone or were planning to undergo autologous hematopoietic stem cell transplantation (HSCT) 50–70 days before first vaccination with the study vaccine/placebo, but did not plan additional HSCTs
- For female participants: were of non-childbearing potential or ensured pregnancy prevention (practice adequate contraception for 30 days before vaccination; provided a negative pregnancy test on the day of vaccination; and agreed to continue adequate contraception until 12 months after completion of the vaccination series)

Exclusion criteria:

- Used or planned use of any investigational or non-registered product within 30 days of the first dose of study vaccine/placebo, or during the study period. Investigational use of a registered or non-registered product to treat a participant's underlying disease, or complication, was allowed
- Previous vaccination against HZ or varicella within the previous 12 months
- Planned administration of a HZ vaccine other than the study vaccine during the study

- An episode of varicella or HZ within the previous 12 months
- History of allergic disease or reactions likely to be exacerbated by any vaccine component
- Prophylactic antiviral therapy with activity against varicella-zoster-virus (VZV) expected to last >6 months post-transplantation. Antiviral therapy administration expected to last ≤6 months was allowed, according to local standard of care
- Administration and/or planned administration of a non-study vaccine between HSCT and 30 days after the last dose of study vaccine/placebo. The licensed non-replicating vaccines could be administered up to 8 days before, and/or ≥14 days after each dose
- History of human immunodeficiency virus infection
- For female participants: pregnancy, lactation, planning to become pregnant or discontinue contraceptive precautions before one year after the last dose of study vaccine/placebo