ATAGI recommendation for purified Vero cell rabies vaccine (PVRV; Verorab) vaccination in people indicated to receive rabies pre-exposure prophylaxis (PrEP) vaccination

Recommendation

PVRV (Verorab) rabies vaccine is recommended as an alternative to currently approved human diploid cell vaccine (HDCV) and purified chick embryo cell vaccine (PCECV) rabies vaccines in people indicated to receive rabies pre-exposure prophylaxis (PrEP) vaccination.

Additional considerations

- There are four options for administering pre-exposure prophylaxis, varying by schedule length, number of doses and route of administration. There is no preferential recommendation for choosing a schedule and route of administration. Consideration should include a person's circumstances and personal preferences.
- The recommended 3-visit pre-exposure prophylaxis schedule comprises 3 vaccine doses, given at days 0, 7 and 21–28. These can be given by either the intramuscular or the intradermal route.
- The recommended 2-visit pre-exposure prophylaxis schedule given by the intramuscular route comprises 2 vaccine doses, given at days 0 and 7. The recommended 2-visit pre-exposure prophylaxis schedule given by the intradermal route comprises 4 vaccine doses, given as 2 × 0.1 mL injections given at different sites on day 0 and day 7.
- Do not use 2-visit schedules in people who are immunocompromised, as the immune response may not be adequate. Do not use the 2-visit intradermal schedule in adults >50 years of age, because studies show that seroconversion is less likely to occur in this age group than in younger people.
- These 2-visit schedules provide short-term protection, which is particularly beneficial for travel to rabies-enzootic areas. If further protection is required after 1 year, a single intramuscular booster dose should be given 1 year after the 1st dose of pre-exposure prophylaxis, regardless of the administration route for the original pre-exposure prophylaxis course.
- Recommendations and advice regarding booster doses of rabies vaccine remain unchanged.

Justification

There is evidence that 2 doses or 3 doses of PVRV (Verorab) PrEP for rabies are comparable to 3 doses of currently approved HDCV and PCECV rabies PrEP for both safety and immunogenicity outcomes.

There is likely little to no difference in rabies virus neutralising antibody (RVNA) seroconversion rates at either 14 or 180 days after the last rabies vaccine PrEP dose for either 2 doses or 3 doses of PVRV (Verorab) compared to 3 doses of HDCV or PCECV rabies PrEP. The evidence is very uncertain for RVNA seroconversion rates ≥365 days following rabies PrEP vaccination. Randomised controlled trials to measure the efficacy of rabies vaccines are not possible, and much of the evidence is therefore reliant on immunogenicity outcomes. There may be an extent to which immunologic 'correlates of protection' may not fully predict protection.

There is likely little to no difference in the frequency of vaccine-related serious adverse events for either 2 doses or 3 doses of PVRV (Verorab) PrEP compared to 3 doses of HDCV or PCECV rabies PrEP. 3 doses of PVRV (Verorab) likely results in little to no difference in total local and systemic adverse events compared to 3 doses of HDCV of PCECV rabies vaccines. However, 2 doses of PVRV (Verorab) likely slightly reduces or results in little to no difference in undesirable effects compared to 3 doses of currently approved HDCV or PCECV rabies vaccines.

The certainty of evidence that either 2 doses or 3 doses of PVRV (Verorab) are comparable to 3 doses of currently approved HDCV or PCECV rabies vaccines is moderate overall, mainly due to imprecision from small study numbers. The body of evidence suggests that the overall balance of desirable and undesirable effects of either 2 doses or 3 doses of PVRV (Verorab), are comparable to 3 doses of the currently approved HDCV or PCECV rabies vaccine PrEP schedules.

Incorporating either 2 doses or 3 doses of PVRV (Verorab) into the current rabies PrEP schedule is likely both acceptable and feasible to key stakeholders. The recommended populations remain the same; additionally, there is familiarity with PVRV (Verorab), as the vaccine was previously approved by the Therapeutic Goods Administration under Section 19A.