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**Text: Encouraging results from phase 1/2 COVID-19 vaccine trials**

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Please read the text and answer the questions below:

**1. What is the main scientific question discussed in the text? (2.0 pts.)**

The main scientific question discussed in the text is the active development of vaccine candidates in the COVID-19 pandemic.

**2. According to the text, what is required for the success of COVID-19 vaccines? (2.0 pts.)**

The success of COVID-19 vaccines hinges on community trust in vaccine sciences, which requires comprehensive and transparent evaluation of risk and honest communication of potential harms.

**3. From the nearly 200 vaccine candidates, where the two early phase COVID-19 vaccine trials have been researched? Overall, summarize the results from both groups of investigators. (2.0 pts.)**

The results of two early phase COVID-19 vaccine trials are reported, one from investigators at the Jenner Institute at Oxford University (Oxford, UK), with support from AstraZeneca, and the second from investigators supported by CanSino Biologics in Wuhan, China.

**The results of both trials are broadly similar and promising. Both groups report the vaccine achieving humoral responses to the SARS-CoV-2 spike glycoprotein receptor binding domain by day 28 as well as T-cell responses. Both report local and systemic mild adverse events such as fever, fatigue, and injection site pain. In neither trial was a severe adverse event reported.**

**4. Describe the reported phase 1/2 randomized trial of COVID-19 vaccine from both groups of investigators. What do they have in common? (2.0 pts.)**



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**Both trials used adenovirus vectors to deliver and study the COVID-19 vaccine.**

- Andrew Pollard and colleagues report their phase 1/2 randomised trial of one injection of chimpanzee **adenovirus-vectored** COVID-19 vaccine. Vaccine formulation at one concentration was tested against a comparator quadrivalent conjugate meningococcal vaccine among 1077 **healthy adults** (50% male, 90.9% white) aged 18–55 years (median 35 years, IQR 28–44), recruited from five centres in the UK and followed up for **28 days**.

- Wei Chen and colleagues report results from a phase 2 randomised trial of one injection of nonreplicating **adenovirus-vectored** COVID-19 vaccine. Vaccine formulation at two concentrations (ie,  $1 \times 10^{11}$  or  $5 \times 10^{10}$  viral particles per mL) were tested against placebo among 508 **healthy COVID-19 unexposed adults** (50% male) aged 18–83 years (mean 39.7 years) recruited from one centre in Wuhan, China, and followed up for **28 days**.

5. Explain what is necessary for an equitable global distribution of future COVID-19 vaccines? (2.0 pts.)

Equitable distribution of future COVID-19 vaccines requires detailed evaluation of local country needs and priorities, community engagement, and trust. Global planning should be underpinned and informed by specific local realities.