Assessment of Humoral and Cellular Responses to Vi Polysaccharide Vaccine as a Booster after Vi Conjugate Prime

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Medical student
Initial study

112 participants recruited

Vi-TT

Pre-vaccination

D7

D28

Cellular response

Booster study

10 participants recruited

Vi-PS

Pre-vaccination

D7

D28

Humoral response

18 months later

ELISA

Ex-vivo ELISpot
Booster Vi-PS vaccination induced a significant increase in Vi IgG and Vi IgA antibody titre by D28
Vi-PS booster vaccination initiates a Vi IgA ASC response but is not observed to prompt a response for Vi IgG or IgM ASCs.
Vi-PS booster vaccination is not observed to stimulate a memory response.

**Anti-Vi IgG spots/10^6 stimulated memory cells**

- PV
- D7
- D28

**Anti-Vi IgA spots/10^6 stimulated memory cells**

- PV
- D7
- D28
Summary

• We saw significant increases in Vi-IgG and IgA antibody titre one month post-boost and IgA ASCs one week post-boost
• After polysaccharide boost Vi-antibody titres returned to similar levels observed after prime vaccination
• The typhoid conjugate vaccine is a new vaccine in the early stages of field implementation
• This project helps characterise the effect of boosting with an existing vaccine in individuals that have been primed with the conjugate
Acknowledgements

Volunteers

OVG Typhoid Study Team