SUMMARY OF PRIMARY ARTICLE. GENETICS 294. BRITTANY SCHRADER

In the primary article “Phase I/II study of COVID-19 RNA vaccine BNT162b1 in adults” by Mulligan, M. D. et al, the covid vaccine BNT162B1 is discussed in this clinical trial.

In the wake of the 2019 Covid-Pandemic there was a need for a vaccine to treat the infection/disease. A clinical trial took place to test the BNT162b1 vaccine. This vaccine is a type RNA vaccine where the “nucleoside-modified mRNA encodes the RBD of the spike protein of SARS-CoV-2”(Mulligan. M 2020). These types of vaccines have been proven safe in other clinical trials. In this trial there were 45 participants, 3 different volumes of the vaccine were administered to the selected participants, with 9 participants given a placebo vaccine to use as the control group. Their symptoms were charted from a range of days following the administration of the vaccines. The participants' pain tolerance from the vaccine showed prevalence in the first 7 days. Other effects of the vaccine were charted for fever, fatigue, headaches, chills, vomiting, diarrhea, vomiting, and joint pain. In all 3 different volumes of vaccines there were adverse reactions to the vaccine. The vaccine caused there to be a reduction in lymphocyte count, this reduction normalized after a week of receiving the 2nd dose of the vaccine. Through the findings of the geometric data that is where the 21 day wait between vaccines was determined. Reaction with immunogenicity to the vaccine in the participants was more severe after the 2nd dose.The article spoke in depth on the topic “immunogenicity” of vaccines, There will need to be a 3rd trial to further evaluate if the vaccine actually causes immunity to the SARS-CoV-2. This trial can take findings from 2 years after receiving the vaccine. The article lists several limitations that it had, with this being real life, not just a science experiment and the it being a worldwide pandemic there is bound to be very vast reactions between ages, and there isn't enough data to deem it safe for individuals with other underlying conditions.From this though the trial shows “The resulting comparative data will allow us to address whether a full-length spike immunogen, which presents additional epitopes, is better able to elicit high virus-neutralizing titres that are robust to potential antigenic drift of SARS-CoV-2 than the relatively small RBD immunogen that is encoded by BNT162b1” (Mulligan. M 2020).

References

Mulligan, M. D. et al. Phase I/II study of COVID-19 RNA vaccine BNT162b1 in adults
Nature 586, 589-593(2020).