Evaluating the Effectiveness of Miraculon-B in Cancer Treatment

Presenter: Damilola Ogungbemi

Project overview

Study Goal

To compare the new drug Miraculon-B with standard of care for solid tumours.

Key Questions

- Do patients respond better to Miraculon-B than control?
- Do subgroups (age, BMI, protein concentration) show different treatment responses?

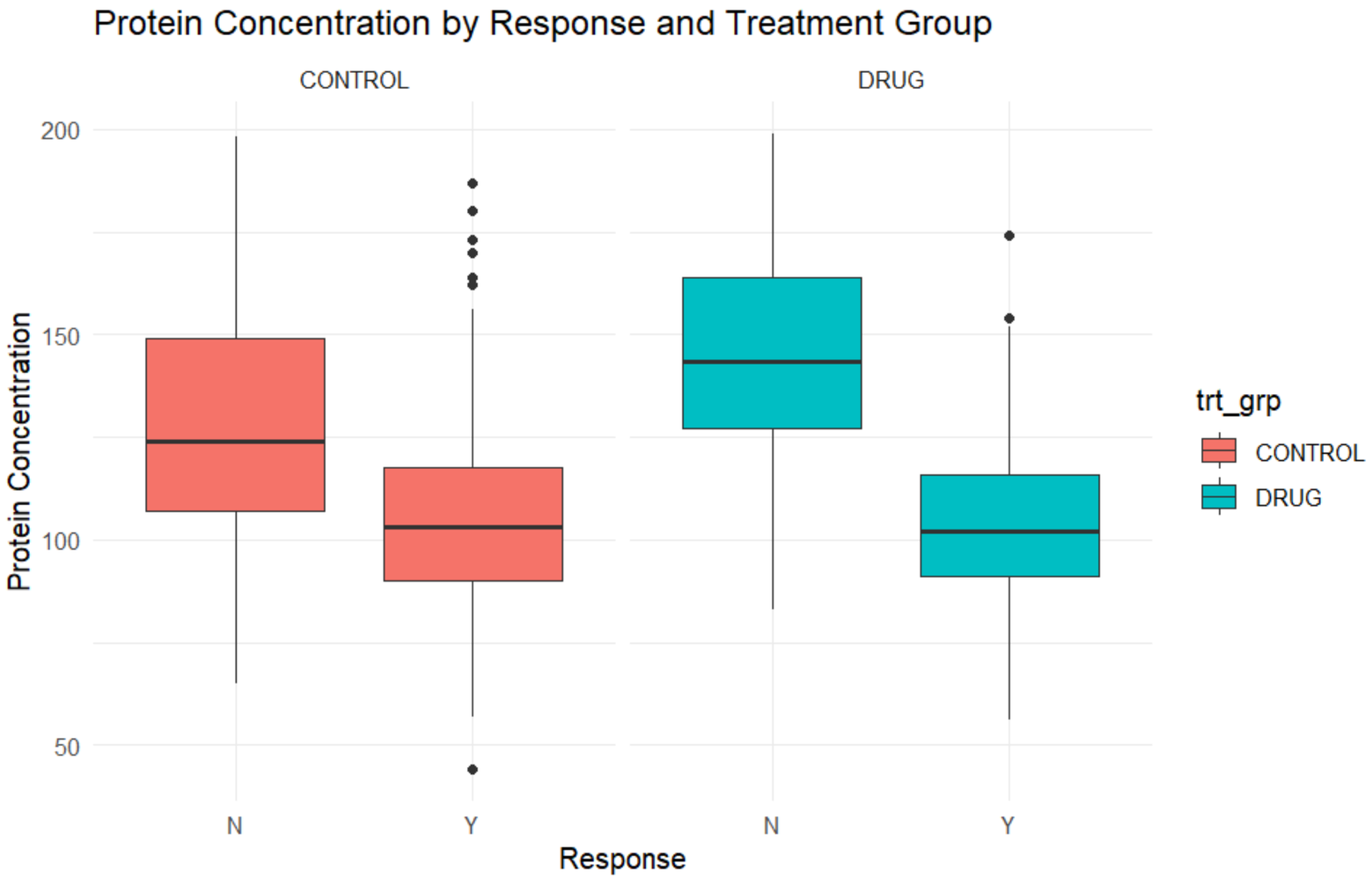
Tools Used

R (ggplot2, dplyr, tiddyverse)

Result Summary

TREATMENT	N	Y	TOTAL	RESPONSE RATE (%)
CONTROL	261	124	385	**32.2**
DRUG (MIRACULON-B)	173	210	383	**54.8**

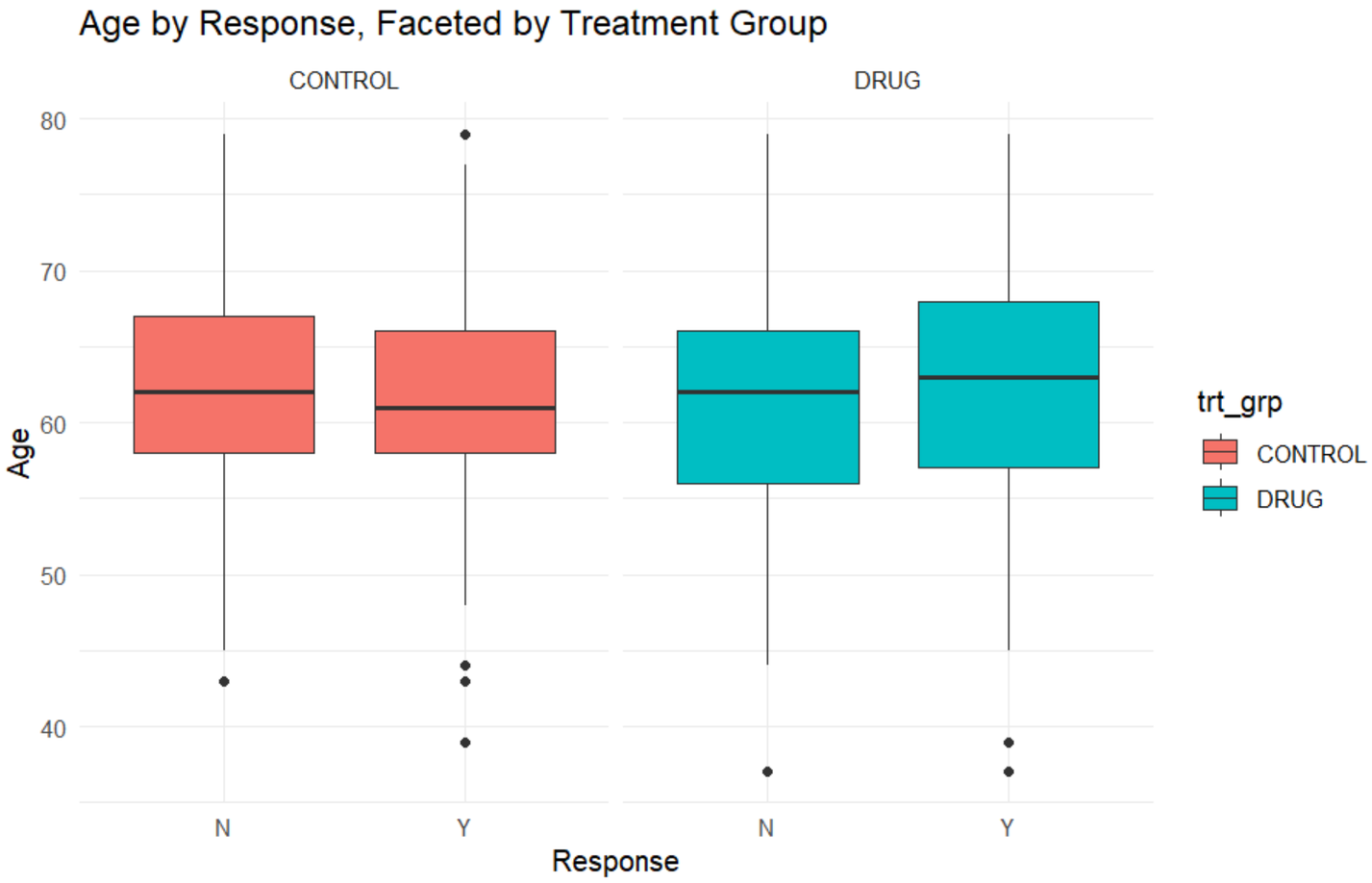
Protein Concentration across Treatment Group



Across both CONTROL and DRUG groups, responders consistently show lower protein concentration levels than non-responders.

This suggests that lower protein levels could serve as a biomarker for treatment effectiveness.

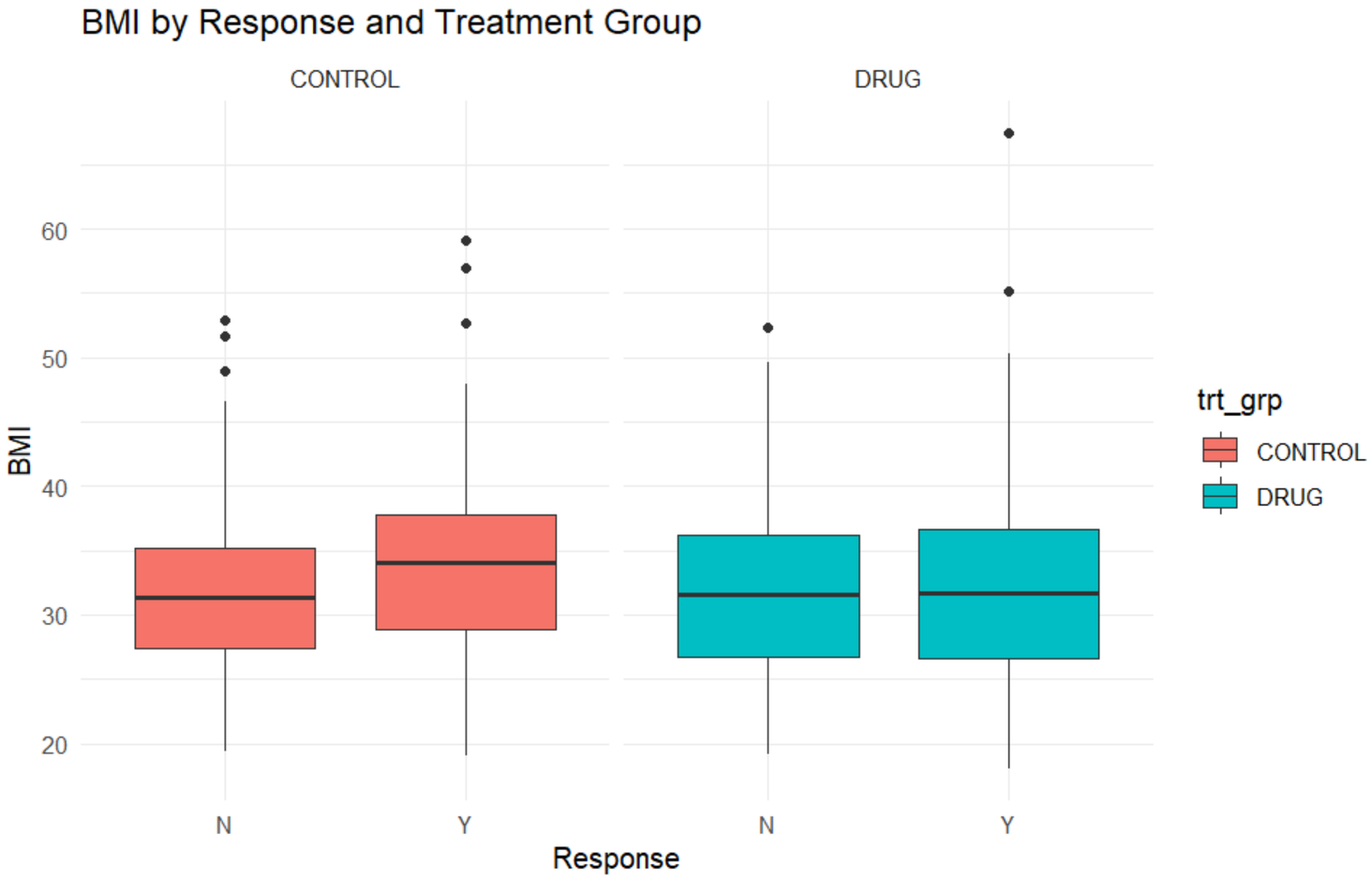
Age across Treatment Group



There is no substantial difference in age distribution between responders and non-responders across both the CONTROL and DRUG groups.

This suggests that age does not significantly influence treatment response in this clinical trial.

BMI across Treatment Group



BMI levels are comparable between responders and non-responders in both CONTROL and DRUG groups.

This indicates that BMI does not appear to influence treatment response, and there is no evidence that it modifies the effect of the drug.

Conclusion and Recommendation

- **Miraculon-B shows superior efficacy**, with a 54.8% response rate compared to 32.2% in the control group.
- **Age and BMI have minimal impact on response**, suggesting these are not key stratifiers.
- **Responders in both groups consistently exhibited lower protein concentration**, pointing to a potential biomarker of treatment sensitivity.

Recommendation: Integrate protein concentration screening into early patient assessment to identify likely responders, optimise treatment allocation, and improve clinical outcomes while minimising resource waste.