CBC Splines

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17 January, 2023, 19:36

```
suppressPackageStartupMessages({
  library(tidyverse)
  library(sjPlot)
  library(lmerTest)
  library(readxl)
  library(xlsx)
  library(kableExtra)
  library(splines)
  library(redres)
})
```

H1N1 Control vs. Antibiotic

White Blood cells/ul Z-scores

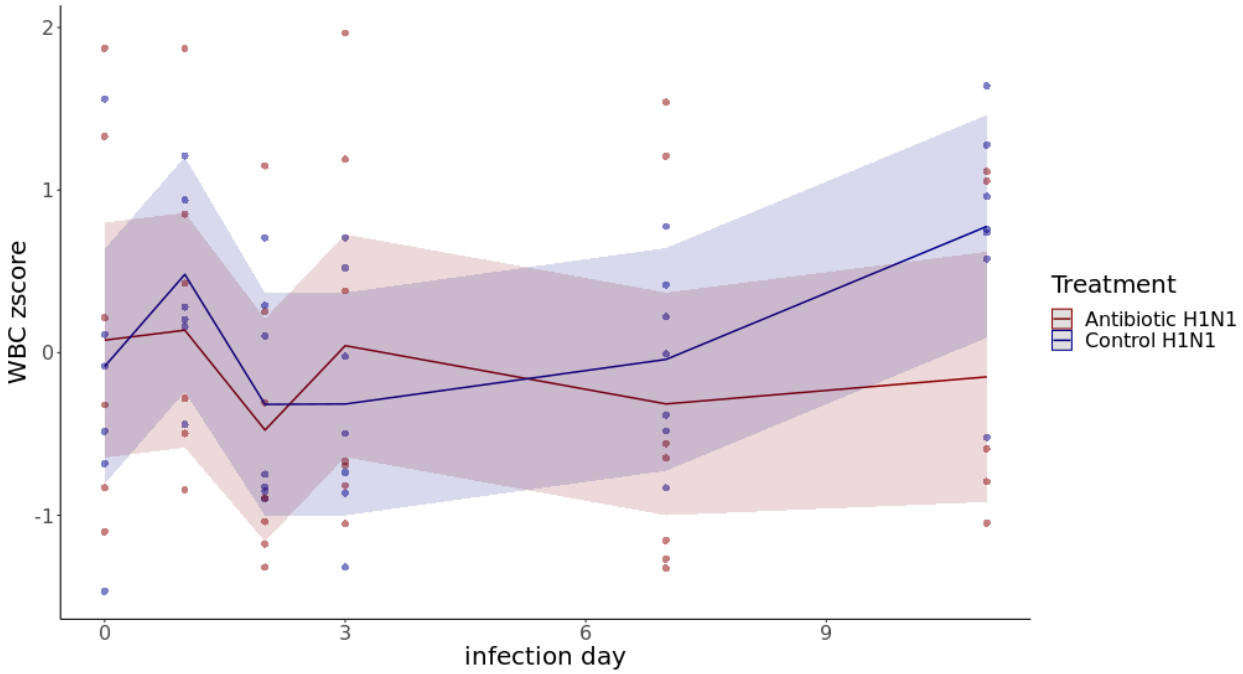

Table 1: Total WBC Z score

	Sum Sq	Mean Sq	NumDF	DenDF	F value	Pr(>F)
ns(infection_day, df = 5)	5.060	1.012	5	54.226	2.099	0.079
Treatment	0.047	0.047	1	39.926	0.097	0.757
ns(infection_day, df = 5):Treatment	3.048	0.610	5	54.226	1.265	0.292

Polymononuclear Cells/ul z-scores

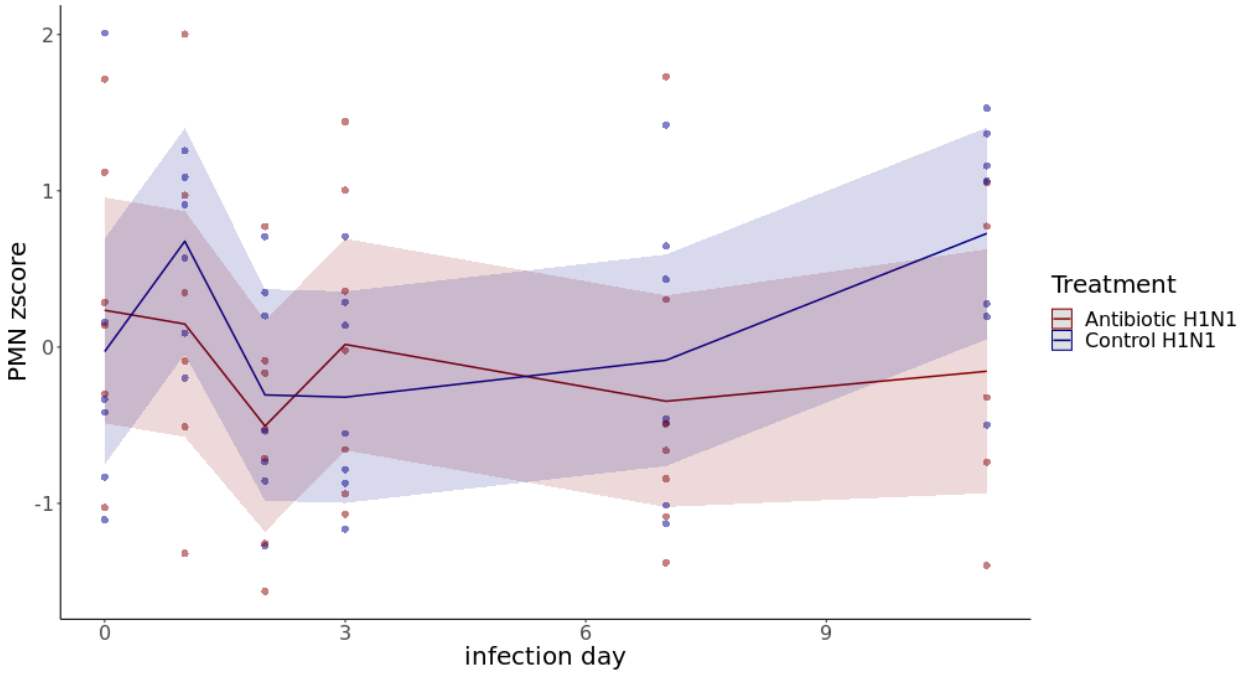

Table 2: PMN Concentration Z score

	Sum Sq	Mean Sq	NumDF	DenDF	F value	Pr(>F)
ns(infection_day, df = 5)	6.299	1.260	5	54.148	2.073	0.083
Treatment	0.157	0.157	1	53.226	0.258	0.614
ns(infection_day, df = 5):Treatment	3.321	0.664	5	54.148	1.093	0.375

Lymphoyctes/ul z-scores

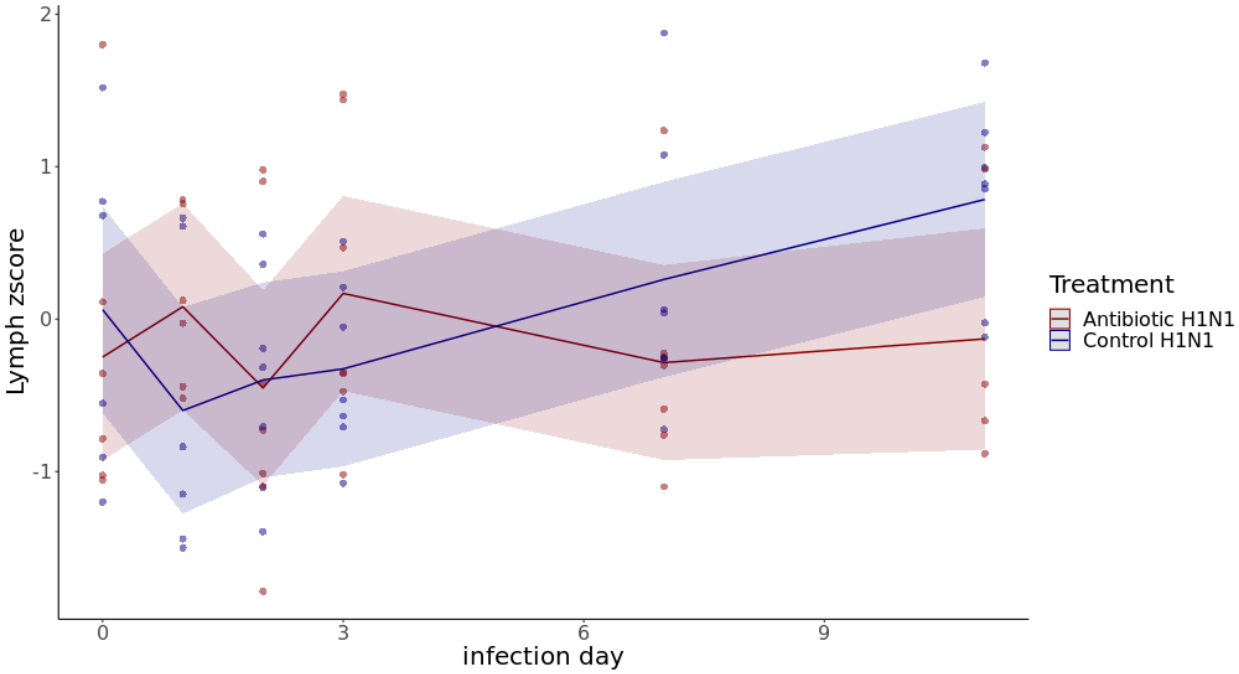

Table 3: Lymphocyte Concentration Z score

	Sum Sq	Mean Sq	NumDF	DenDF	F value	Pr(>F)
ns(infection_day, df = 5)	3.967	0.793	5	54.783	1.721	0.145
Treatment	0.186	0.186	1	45.138	0.404	0.528
ns(infection_day, df = 5):Treatment	5.754	1.151	5	54.783	2.496	0.042

Monocytes/ul z-scores

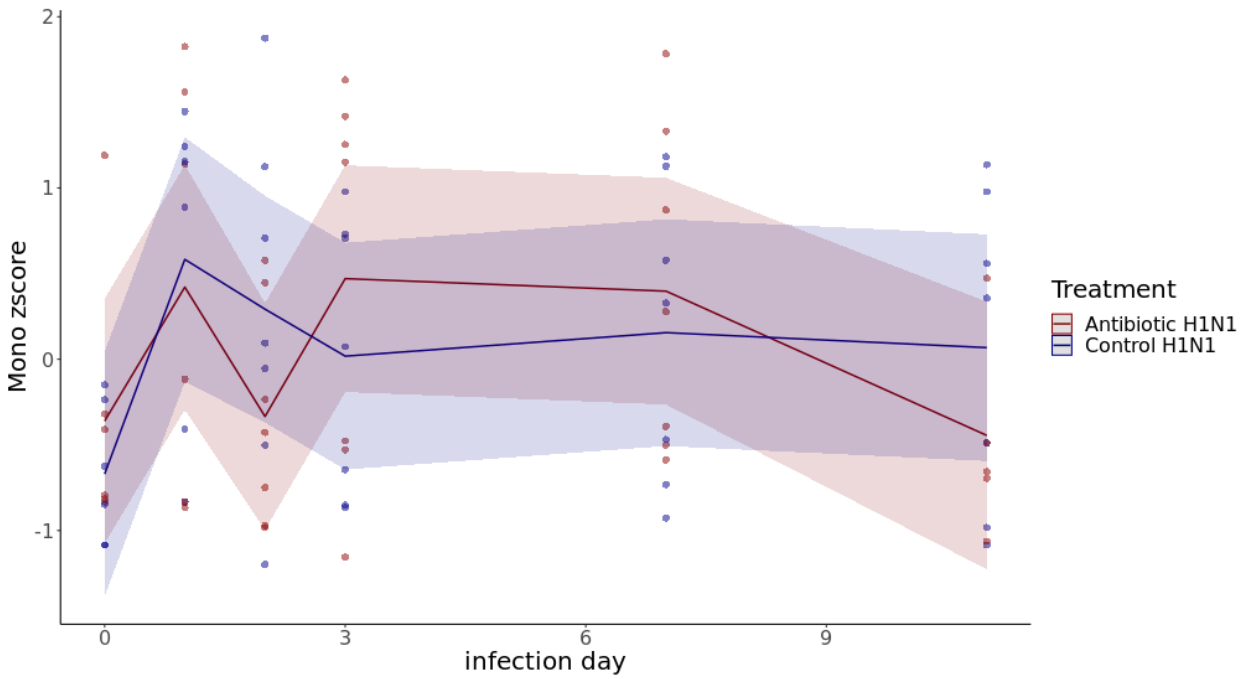

Table 4: Monocyte Concentration Z score

	Sum Sq	Mean Sq	NumDF	DenDF	F value	Pr(>F)
ns(infection_day, df = 5)	8.259	1.652	5	54.924	2.234	0.064
Treatment	0.267	0.267	1	64.988	0.361	0.550
ns(infection_day, df = 5):Treatment	3.387	0.677	5	54.924	0.916	0.477

Eosinophils/ul z scores

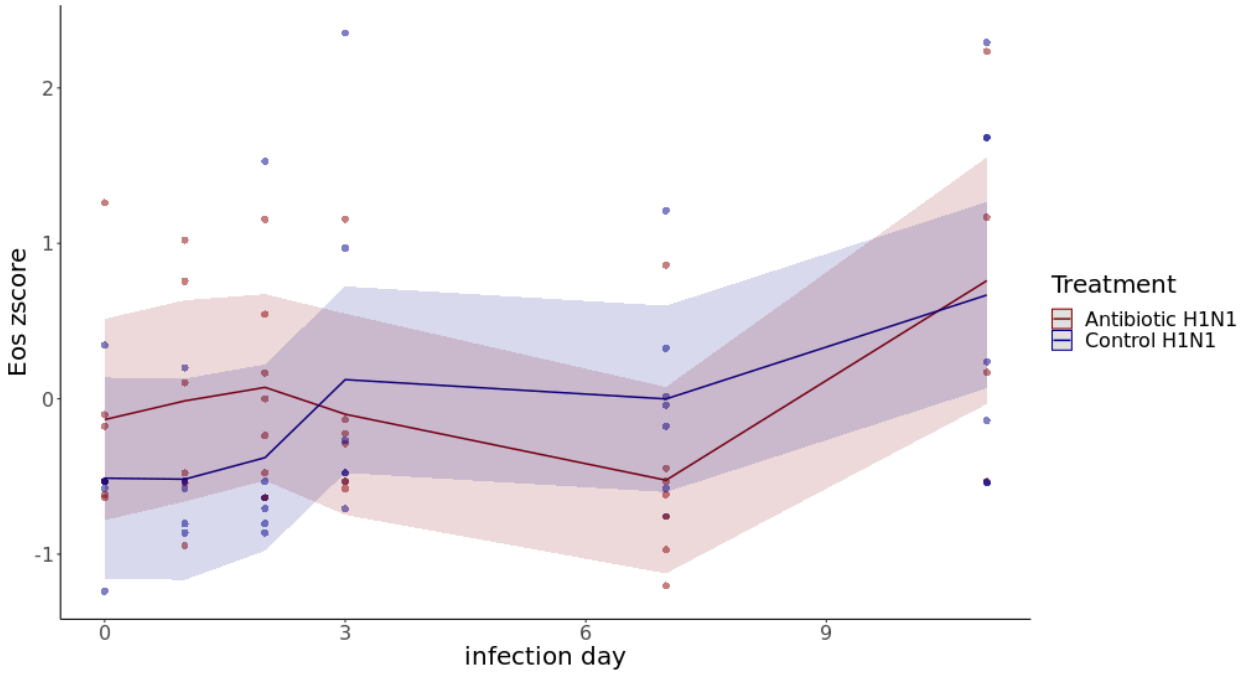

Table 5: Eosinophil Concentration Z score

	Sum Sq	Mean Sq	NumDF	DenDF	F value	Pr(>F)
ns(infection_day, df = 5)	8.178	1.636	5	64	2.497	0.040
Treatment	0.427	0.427	1	64	0.651	0.423
ns(infection_day, df = 5):Treatment	2.850	0.570	5	64	0.870	0.506

Neutrophil to Lymphocte ratio z scores

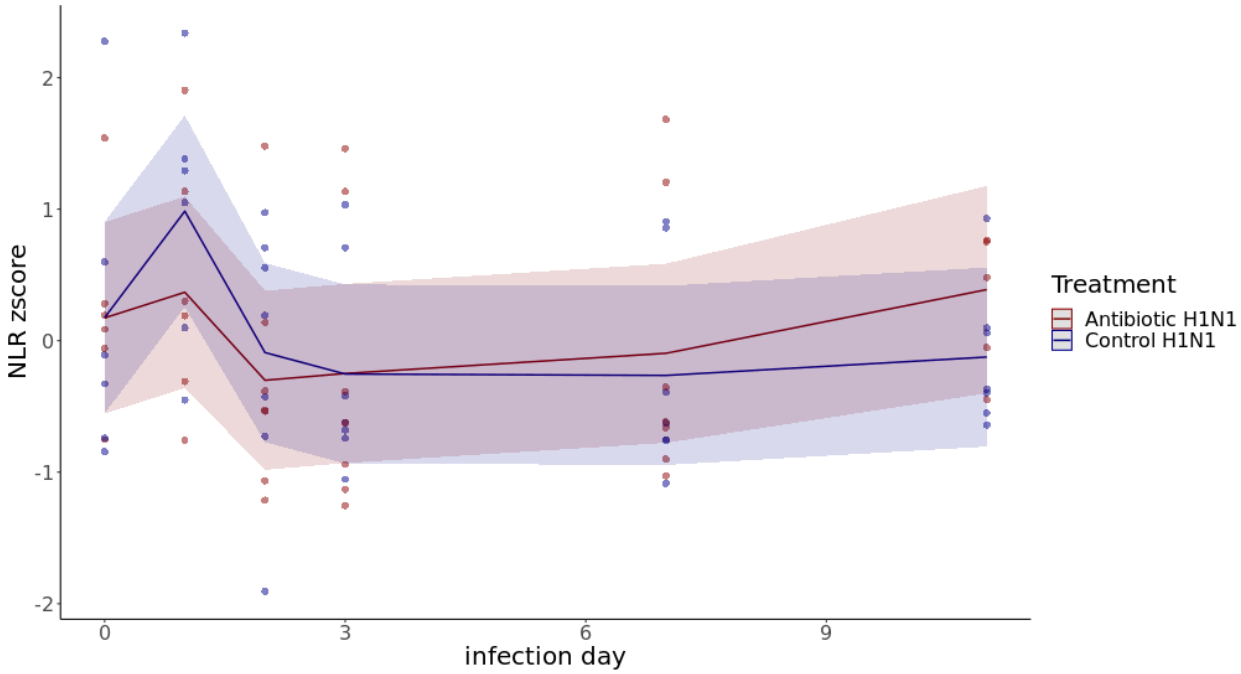

Table 6: Neutrophil to Lymphocyte Ratio Z score

	Sum Sq	Mean Sq	NumDF	DenDF	F value	Pr(>F)
ns(infection_day, df = 5)	7.687	1.537	5	54.118	2.417	0.048
Treatment	0.000	0.000	1	55.136	0.000	0.997
ns(infection_day, df = 5):Treatment	2.105	0.421	5	54.118	0.662	0.654

FMT vs. Antibiotic

White Blood cells/ul Z-scores

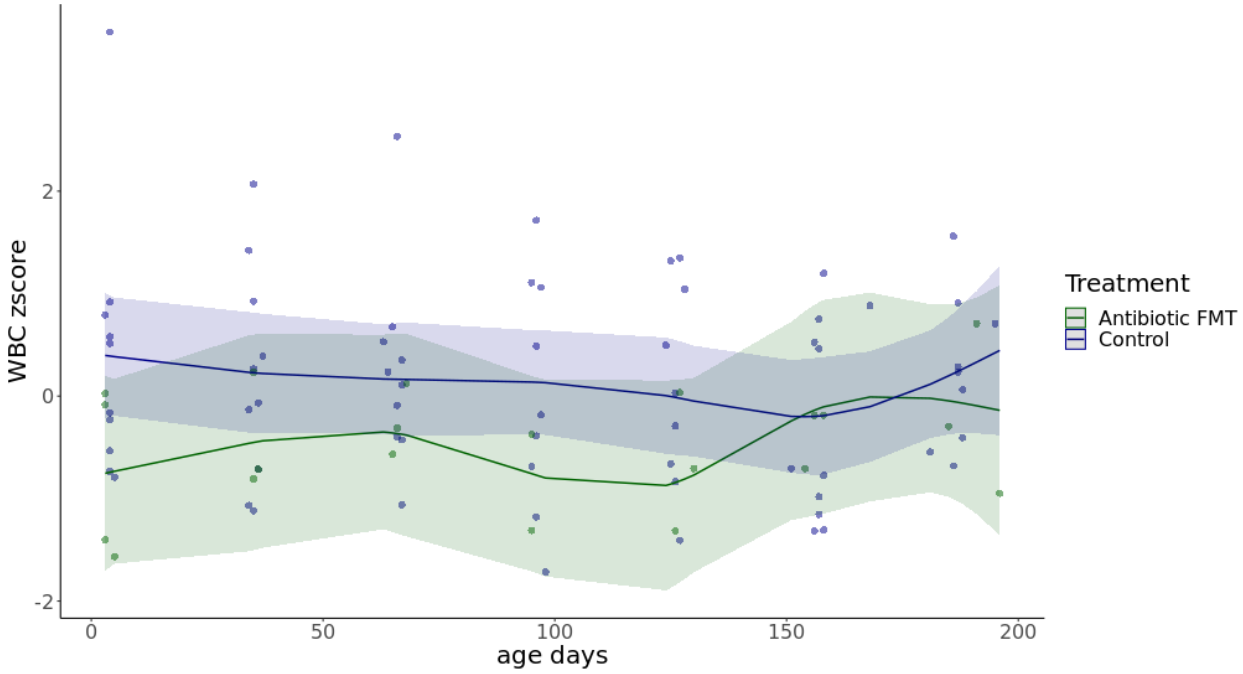

Table 7: Total WBC Z score

	Sum Sq	Mean Sq	NumDF	DenDF	F value	Pr(>F)
ns(age_days, df = 5)	1.404	0.281	5	67.766	0.437	0.821
Treatment	2.553	2.553	1	53.714	3.975	0.051
ns(age_days, df = 5):Treatment	2.137	0.427	5	67.766	0.665	0.651

Polymononuclear Cells/ul z-scores

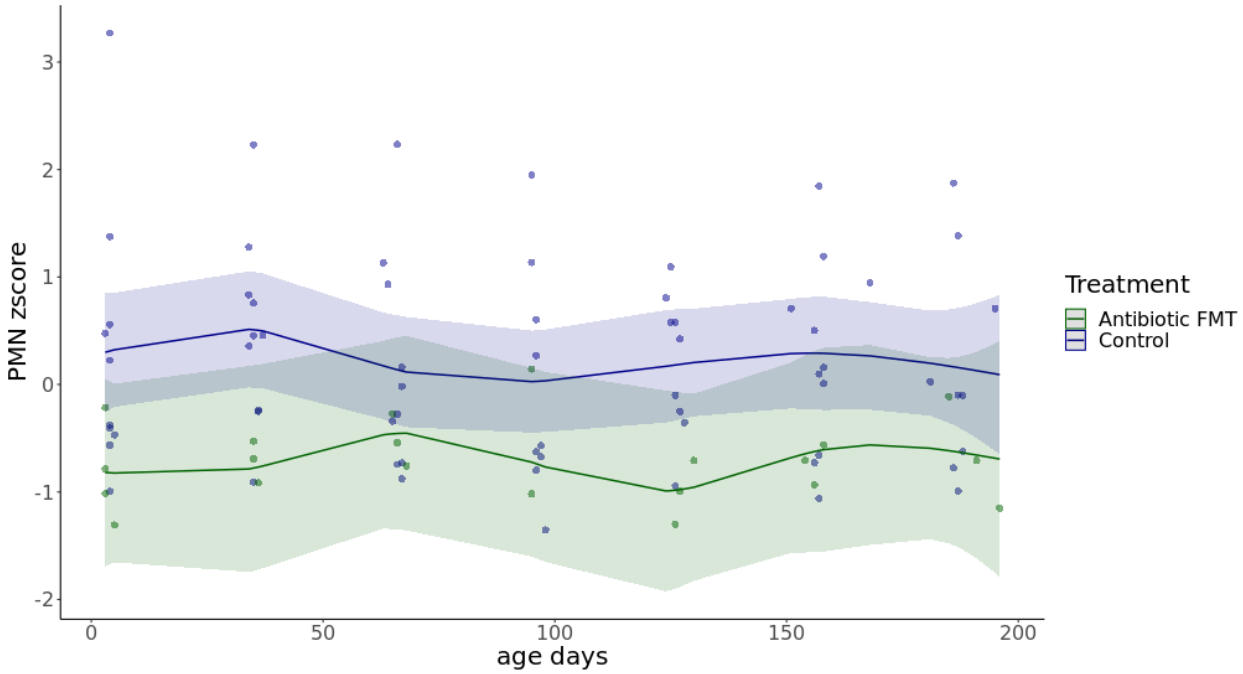

Table 8: PMN Concentration Z score

	Sum Sq	Mean Sq	NumDF	DenDF	F value	Pr(>F)
ns(age_days, df = 5)	0.513	0.103	5	67.468	0.212	0.956
Treatment	2.169	2.169	1	45.971	4.483	0.040
ns(age_days, df = 5):Treatment	0.868	0.174	5	67.468	0.359	0.875

Lymphoyctes/ul z-scores

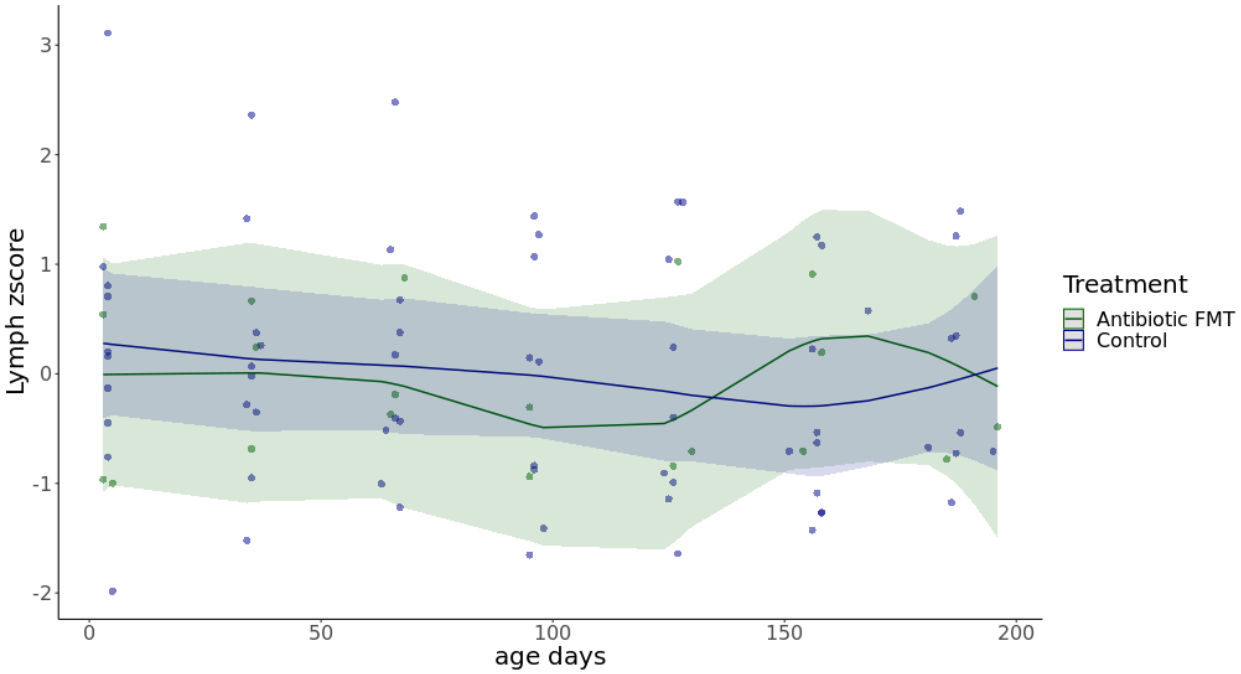

Table 9: Lymphocyte Concentration Z score

	Sum Sq	Mean Sq	NumDF	DenDF	F value	Pr(>F)
ns(age_days, df = 5)	1.257	0.251	5	67.721	0.300	0.911
Treatment	0.162	0.162	1	56.257	0.193	0.662
ns(age_days, df = 5):Treatment	1.437	0.287	5	67.721	0.343	0.885

Monocytes/ul z-scores

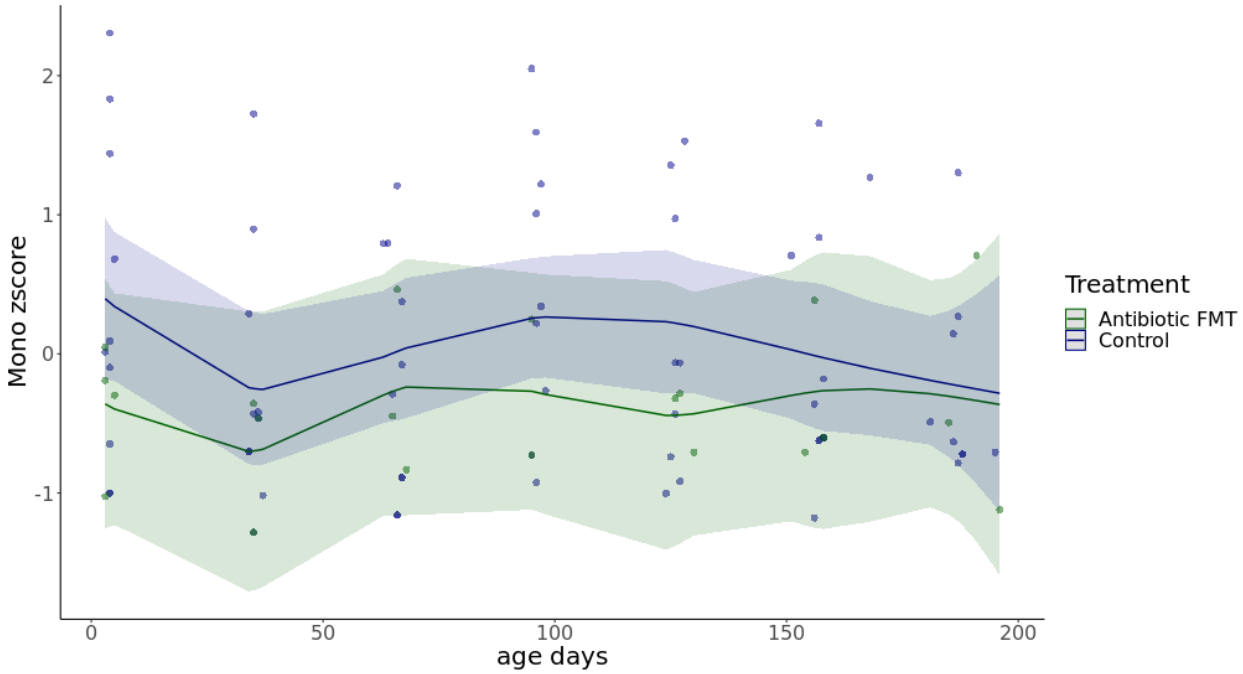

Table 10: Monocyte Concentration Z score

	Sum Sq	Mean Sq	NumDF	DenDF	F value	Pr(>F)
ns(age_days, df = 5)	1.557	0.311	5	77	0.385	0.858
Treatment	1.554	1.554	1	77	1.921	0.170
ns(age_days, df = 5):Treatment	0.806	0.161	5	77	0.199	0.962

Eosinophils/ul z scores

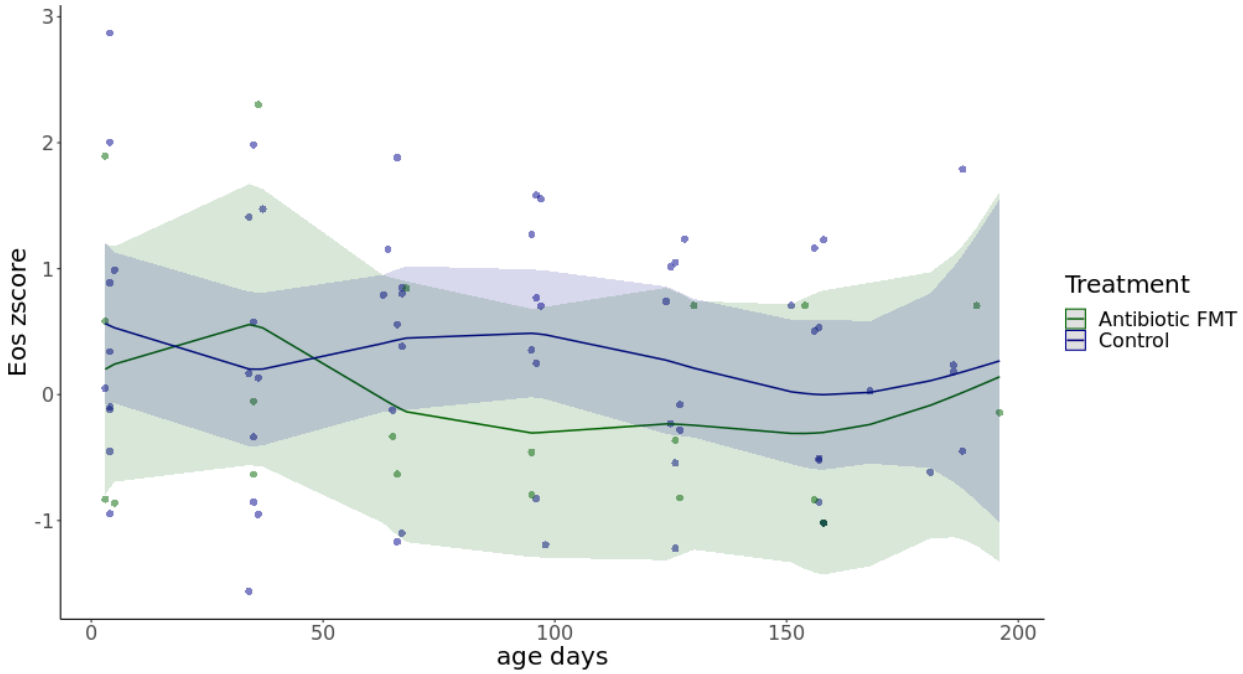

Table 11: Eosinophil Concentration Z score

	Sum Sq	Mean Sq	NumDF	DenDF	F value	Pr(>F)
ns(age_days, df = 5)	2.142	0.428	5	64.344	0.502	0.774
Treatment	0.306	0.306	1	66.124	0.359	0.551
ns(age_days, df = 5):Treatment	1.569	0.314	5	64.344	0.368	0.869

Neutrophil to Lymphocte ratio z scores

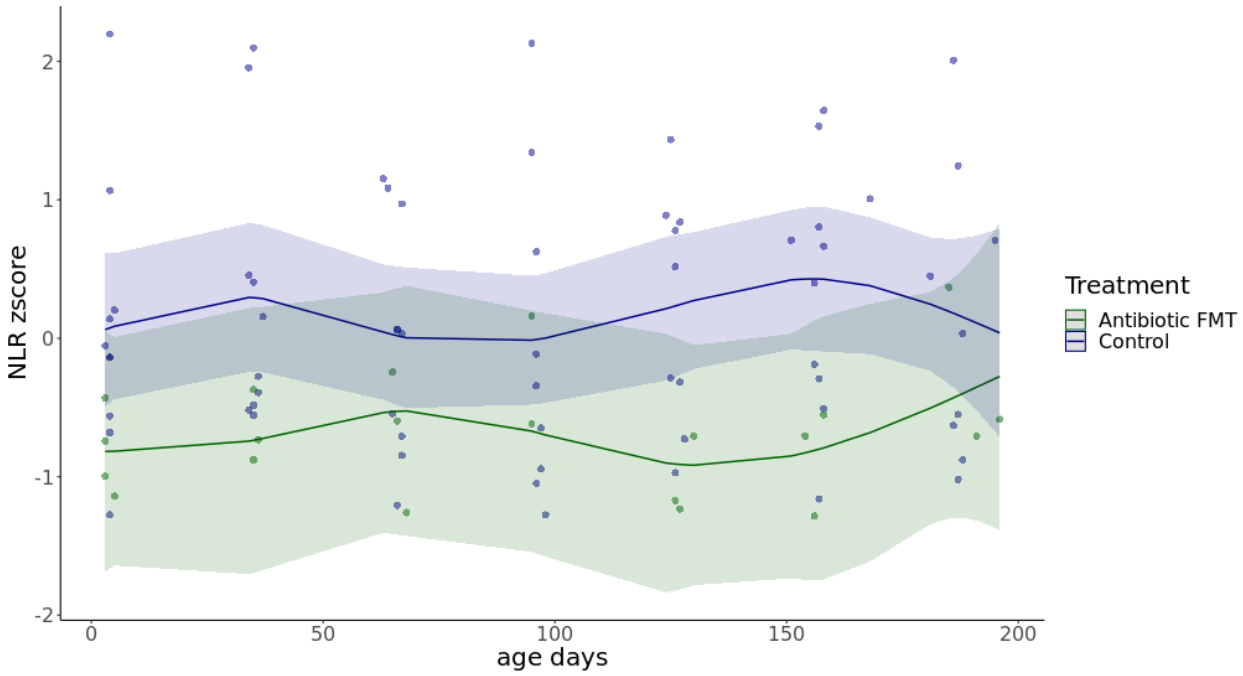

Table 12: Neutrophil to Lymphocyte Ratio Z score

	Sum Sq	Mean Sq	NumDF	DenDF	F value	Pr(>F)
ns(age_days, df = 5)	0.443	0.089	5	67.795	0.169	0.973
Treatment	1.461	1.461	1	52.117	2.793	0.101
ns(age_days, df = 5):Treatment	1.207	0.241	5	67.795	0.461	0.804

Session Information

```
## R version 3.6.3 (2020-02-29)
## Platform: x86_64-conda-linux-gnu (64-bit)
## Running under: Ubuntu 18.04.6 LTS
##
## Matrix products: default
## BLAS/LAPACK: /srv/conda/envs/notebook/lib/libopenblasp-r0.3.21.so
##
## locale:
##  [1] LC_CTYPE=en_US.UTF-8          LC_NUMERIC=C
##  [3] LC_TIME=en_US.UTF-8           LC_COLLATE=en_US.UTF-8
##  [5] LC_MONETARY=en_US.UTF-8       LC_MESSAGES=en_US.UTF-8
##  [7] LC_PAPER=en_US.UTF-8          LC_NAME=en_US.UTF-8
##  [9] LC_ADDRESS=en_US.UTF-8        LC_TELEPHONE=en_US.UTF-8
## [11] LC_MEASUREMENT=en_US.UTF-8    LC_IDENTIFICATION=en_US.UTF-8
##
```

```
## attached base packages:
## [1] splines   stats     graphics  grDevices utils     datasets  methods
## [8] base
##
## other attached packages:
##  [1] redres_0.0.0.9   kableExtra_1.3.4 xlsx_0.6.5       readxl_1.3.1
##  [5] lmerTest_3.1-3   lme4_1.1-27      Matrix_1.3-3     sjPlot_2.8.8
##  [9] forcats_0.5.1    stringr_1.4.0    dplyr_1.0.6      purrr_0.3.4
## [13] readr_1.4.0      tidyr_1.1.3      tibble_3.1.2     ggplot2_3.3.3
## [17] tidyverse_1.3.1
##
## loaded via a namespace (and not attached):
##  [1] nlme_3.1-152        fs_1.5.0            lubridate_1.7.10
##  [4] insight_0.14.0      webshot_0.5.2       httr_1.4.2
##  [7] numDeriv_2016.8-1.1 tools_3.6.3         backports_1.2.1
## [10] DT_0.18             utf8_1.2.1          R6_2.5.0
## [13] sjlabelled_1.1.8    DBI_1.1.1           colorspace_2.0-1
## [16] withr_2.5.0         tidyselect_1.1.1    emmeans_1.6.0
## [19] compiler_3.6.3      performance_0.7.2   cli_3.6.0
## [22] rvest_1.0.0         xml2_1.3.2          labeling_0.4.2
## [25] bayestestR_0.9.0    checkmate_2.1.0     scales_1.1.1
## [28] DEoptimR_1.0-11     robustbase_0.95-0   mvtnorm_1.1-1
## [31] systemfonts_1.0.2   digest_0.6.27       minqa_1.2.4
## [34] rmarkdown_2.19      svglite_2.0.0       qqplotr_0.0.5
## [37] pkgconfig_2.0.3     htmltools_0.5.4     dbplyr_2.1.1
## [40] fastmap_1.1.0       htmlwidgets_1.5.3   rlang_1.0.6
## [43] rstudioapi_0.13     shiny_1.7.4         farver_2.1.0
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## [49] parameters_0.13.0   Rcpp_1.0.9          munsell_0.5.0
## [52] fansi_0.4.2         lifecycle_1.0.0     stringi_1.6.2
## [55] yaml_2.2.1          snakecase_0.11.0    brio_1.1.2
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## [88] xtable_1.8-4        broom_0.7.6         later_1.2.0
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## [94] ellipsis_0.3.2
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