Introduction

We have a dataset comprising information on clinical trials of various chemotherapy drugs. The dataset includes the trial information and outcomes of the specific drugs, as well as a separate file linking which trial subjects were given which drugs. There were eight drugs monitored in the dataset, but we were only asked to report on four of them: Capomulin, Infubinol, Ketapril, and the Placebo.

Conclusions

It is clear from all of the results that Capomulin is the more effective treatment methodology. The only other treatment in the dataset that had similar results was Ramicane, but we were not asked to include Ramicane in our analysis.

Mean Tumor Volume Response

Over the course of the 45 day trial, Capomulin recipients experienced a 19% reduction in mean tumor volume, which was the only treatment in our specific analysis that saw any reduction in mean tumor volume at all.   
*Baseline: The mean tumor volume at the start of the trial for all treatments was 45mm3.*

1. At the end of the trial, mean tumor volume for Capomulin patients was reduced to 36.23mm3, for a decrease of 19%. This is in marked contract to the other two drugs, and the placebo treatment.
2. At the end of the trial, mean tumor volume for Infubinol patients was 65.75mm3, an increase of 46%.
3. At the end of the trial, mean tumor volume for Ketapril patients was 70.66mm3, an increase of 57%.
4. At the end of the trial, mean tumor volume for patients treated with a Placebo was 68.08, an increase of 51%.

Mean Metastatic sites

Capomulin was more effective at limiting metastasis than the other treatments.   
*Baseline: The mean number of metastatic sites at the start of the trial for all treatments was* 0*.*

1. At the end of the trial, mean number of metastatic sites for Capomulin patients was 1.47, indicating that Capomulin-treated patients were still expericing some metastatic spread, but when compared to the other treatments, that it was more effective at limiting metastatis than the others.
2. At the end of the trial, mean metastatic sites for Infubinol patients was 2.11.
3. At the end of the trial, mean metastatic sites for Ketapril patients was 3.36.
4. At the end of the trial, mean tumor volume for patients treated with a Placebo was 3.27.

Survival During Treatment

Capomulin-treated subjects has a much higher survival rate during trial than the other treatments. *Baseline: Each trial began with 25 subjects.*

1. At the end of the trial, 21 Capomulin patients were still alive, for a 84% survival rate.
2. At the end of the trial, 9 Infubinol patients were still alive, for a 36% survival rate.
3. At the end of the trial, 11 Ketapril patients and 11 Placebo patients were still alive, for a 44% survival rate.