By: Aruna Amaresan
Date: Dec 10th 2017

Pymaceuticals - Pharma Drug Analysis – Reports and Observable Trends

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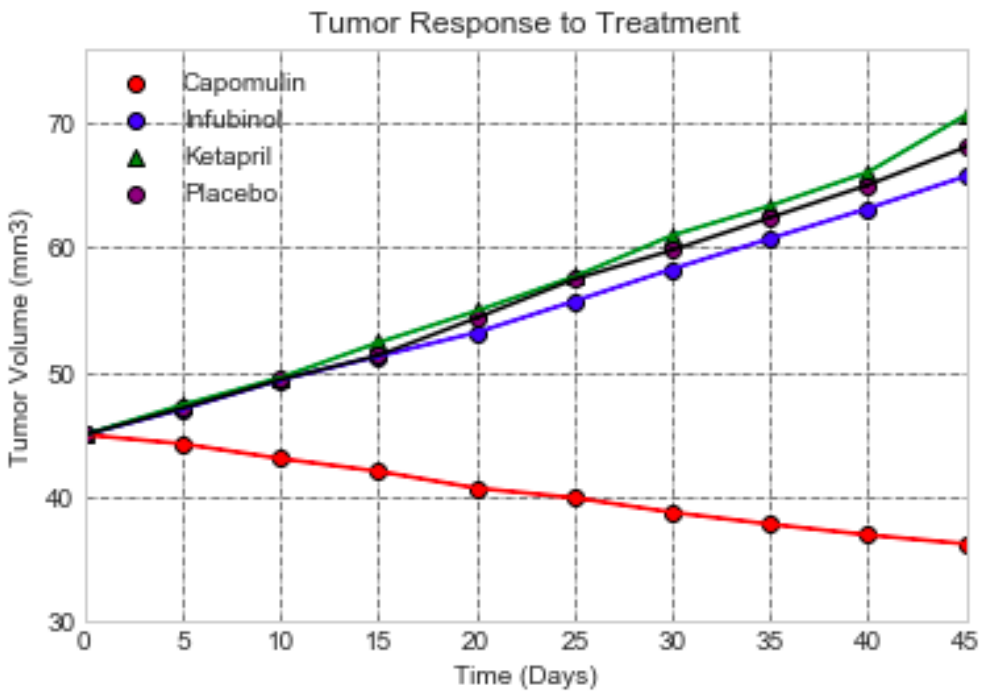
Reports

Tumor Volume Change over Time by Drug



Please observable trends section for details on findings.

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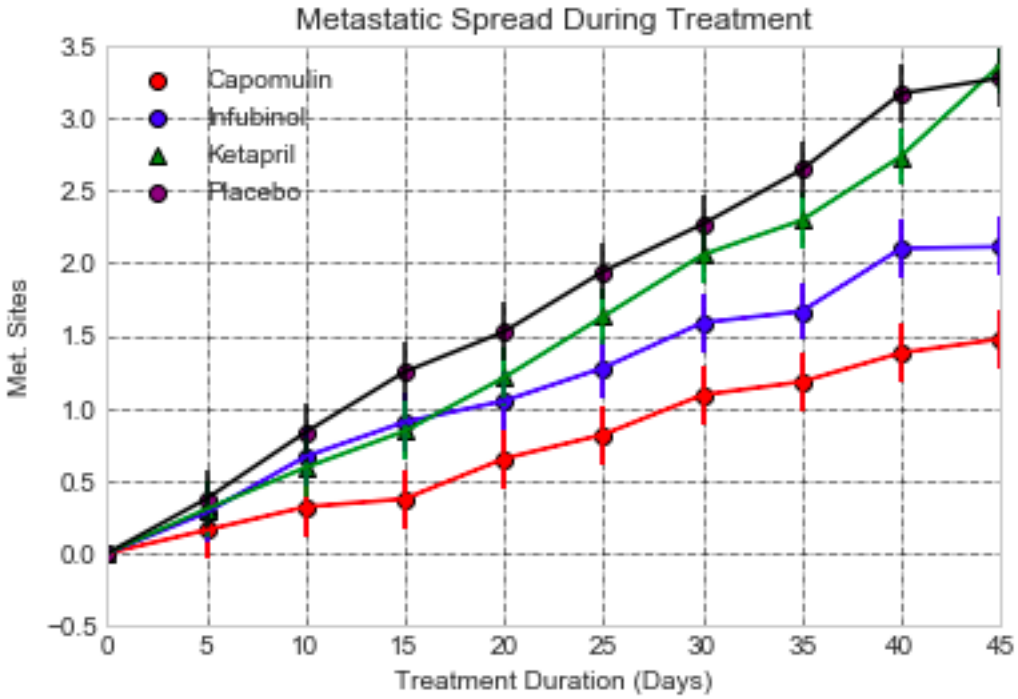
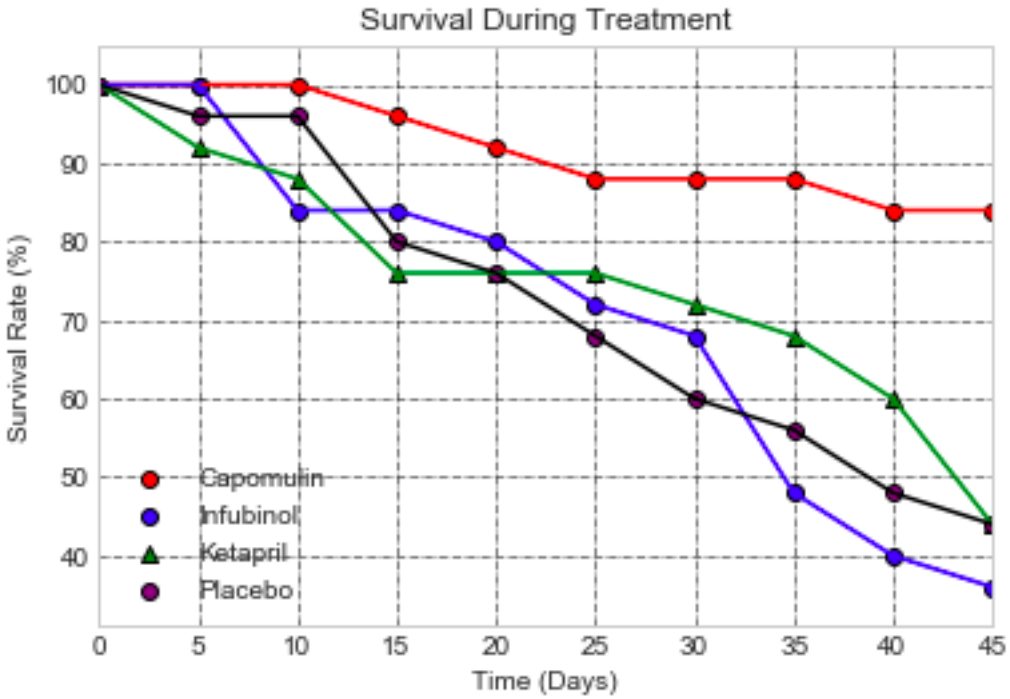
Metastatic Spread During Treatment



Please see observable trend section for the findings.

Survival Rate Over Time by Drug



Please see observable trends section for findings.'

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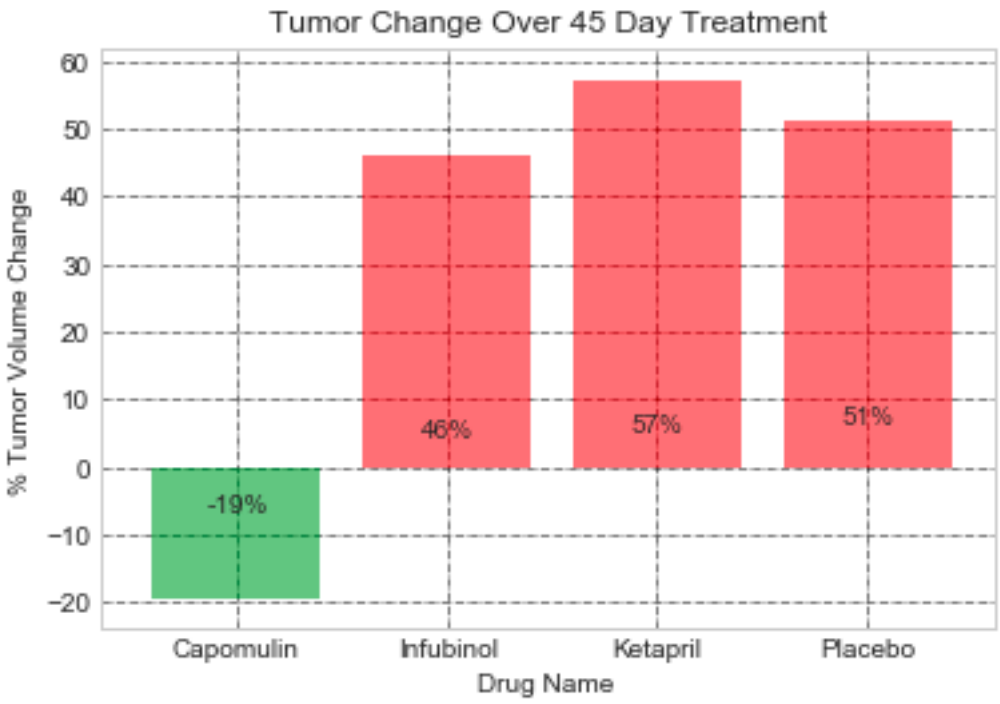
Tumor Volume Change (%) Over Time by Drug



Please see observable trends section for details on findings.

Observable Trends

1. Overall, the Capomulin drug seems to have fared far better than the other 3 drugs (Infubinol, Ketapril and Placebo) over a wide margin, in terms of:
    a. Tumor Response
    b. Metastatic Spread and also
    c. Survival Rate

    Next Step:
    However, we need to make sure this drug has no other side effect on other parts of the body. Also, we need to see how the quality of life seems for someone on the drug.

2. Although the Infubinol drug seemed to have done ok, from a Mestatic spread perspective compared to other drugs, it seems to have done worst when it came to Survival rate of the drug in mice. It seems to have been the worst among all drugs.

3. On the overall, Tumor % growth perspective, Ketapril seems to have fared the worst. However, Ketapril and Placebo seem to have similar patterns in performance in terms of Tumor Response, metastatic spread and survival rate.

    Capomulin seems to showcase itself as a class apart from the other drugs.

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Next Steps:

1. We need to compare these drug responses to a situation where there is no drug involved and see the Tumor response growth rate, Metastatic spread rate as well as Survival Rate. This will give us a better sense of whether the results are actually making a difference and quantify that change.

2. We need to understand any other side effects of these drugs other than the clinical response variables specific to the disease itself like vomiting, diarrhea and others.

3. We need to understand the quality of life with the drug –

4. We need to understand why drugs with a comparatively much smaller survival rate are currently considered – We may be missing some factor. May be also compare variances and standard deviation when calculating and summarizing these values.

5. We also need to see if the mice data set (population) taken into account were all in the same state of heath state to ensure there is no skewing of data.