CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY

Name(s)
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Project Number
36791

Project Title
Amoxicillin and Vitamin C: A More Powerful Combination

Abstract

Objectives/Goals
The purpose of this experiment is to test which ratio of amoxicillin and vitamin C is most effective in combating Staphylococcus epidermidis bacteria.

Methods/Materials
During my experiment, I used the standard Kirby-Bauer disk sensitivity testing method. I mixed Amoxicillin powder in distilled water, and did the same procedure to the vitamin C powder. Next, I created different ratios of the Vitamin C and Amoxicillin solutions (0:100,20:80,40:60,ect.). Then, I dipped filter paper hole punches into the solutions, and placed them on petri dishes inoculated with Staphylococcus epidermidis bacteria. I incubated the dishes for four days, and measured the zones of inhibition with a clear ruler.

Results
After measuring the sizes of the zones of inhibition, I saw that while amoxicillin alone had an average zone of inhibition of 3.1 cm, but a combination of 40 Amoxicillin to 60 Vitamin C showed a larger zone of inhibition with 3.158 cm on average. All other combinations of Amoxicillin and vitamin C had moderate zone of inhibition size between 2 and 3 centimeters. My results also showed that Vitamin C had an average zone of inhibition size below one centimeter.

Conclusions/Discussion
In this experiment, I have concluded that a combination of 40 amoxicillin and 60 vitamin C is more effective at combating Staphylococcus epidermidis instead of amoxicillin alone. All other combinations of amoxicillin and Vitamin C showed to be less effective than Amoxicillin alone.

Summary Statement
This experiment tested whether a combination of Vitamin C and Amoxicillin (An antibiotic) was better at combating bacteria than Vitamin C or Amoxicillin alone.

Help Received
During my experiment, my parents purchased the supplies and my teacher, Mr. Briner, gave me advise during my experimenting.