The following table presents the mean cumulative weight loss (in grams) for 30 patients receiving propranolol (treatment) and for 60 control patients following sweating during insulin-induced hypoglycemia.

**Mean loss weight compared between treatment and control for 90 patients during insulin-induced hypoglycemia**

|  |  |  |  |
| --- | --- | --- | --- |
| Intervention | N | Mean Weight Loss(in grams) | Standard Deviation |
| Propranolol | 30 | 173 | 27.0 |
| Control | 60 | 153 | 26.0 |

(Note: you can assume equal variance for the two groups.)

1. Provide a 95% confidence interval for the mean weight loss for the propranolol group.
2. Provide a 95% confidence interval for the mean weight loss for the control group.
3. Provide the interpretation of the 95% confidence interval for the mean weight loss for the propranolol group.
4. Using a two-sided test, conduct a test of hypothesis and provide the details of this test. Do we have sufficient evidence to conclude that the mean cumulative weight loss is different for the two groups? (Use a type I error level of = 0.05)
5. Write your conclusion from (d) in words, as you would present them in a report of the findings to a group of biomedical researchers (who might or might not be as well-versed in biostatistics as you are :-).
6. Compute the mean weight loss difference between the propranolol and control group.
7. Provide a 95% confidence interval for the difference in mean weight loss between the propranolol and control group.
8. Provide the interpretation of the 95% confidence interval for the difference in mean weight loss between the propranolol and control group.

Perform the same hypothesis test as in (d) and (e), but change the type I error level to 0.01. How does your main result / conclusion change? (Do not forget your one-two sentence interpretation.)