The correct answer is (D). Here's the breakdown:

\* \*\*The Core Issue:\*\* When you log-transform data, you change the scale on which the mean is calculated. The t-tests applied to the log-transformed data are providing inference on the \*mean of the logged values\*. However, the exponentiated mean of the logged values \*is not\* the same as the mean of the original values (unless the data has a certain property, such as the mean and mode being the same value). This is the fundamental problem.

\* \*\*Why the other options are not the main issues:\*\*

\* \*\*(A)\*\* While true that the median of the logged values does not equal the log of the median, this is not the primary issue with the \*mean\*. The inference of t-tests is about the difference of the means.

\* \*\*(B)\*\* While log-transformed data can become more symmetric, it does not \*have to\* be symmetric, and it does not directly explain the trouble with interpreting the mean on the original scale.

\* \*\*(C)\*\* Whether the original data is symmetric or not does not directly explain why the inference on the mean of the logged data is problematic when interpreting on the original scale.

\* \*\*In more detail:\*\* The most direct translation of the results from a t-test on log-transformed data is to interpret a \*ratio\* of geometric means on the original scale. The geometric mean is the exponentiated average of the log values. The t-test directly assesses the difference in the means of the logged values, so the appropriate measure to use on the original scale is to convert the mean of the logs back to the original scale. This does not mean you can simply "un-log" the results, but rather must consider what is being estimated (the difference of the means of the logged values).

\*\*Therefore, the correct answer is (D).\*\*