

Chapter 2

Case 2: A “Bad” Question

Many years ago, while working as an anesthesiologist and critical care registrar (resident) in King Edward VIII Hospital, University of KwaZulu-Natal, Durban, South Africa, I got interested in the following question:

Does chest physiotherapy (CPT) have a role in the prevention of postoperative respiratory failure after upper abdominal surgery?

I was young and I thought the question could easily be answered, since some surgeons used CPT postoperatively and some did not prescribe to it. Hence, I had two groups. The IRB was easily obtained and so was the consent. I also knew that there would be no lack of patients because upper abdominal knife wounds were very common at our hospital at that time.

After 30 cases, I reviewed the data sheets with my research nurse. On the basis of these findings, we stopped the study. We had not taken into account the many clinical variables that can affect a result.

What variables do you think they were (at least 8)?

Answer/Solution

The study was stopped as it had not taken into account the following (in no particular order):

1. Associated injuries/diseases.
2. Length of surgery, due to the surgical problems and surgeon’s skills.
3. Smoking history.
4. Frequency and duration of CPT.
5. Different types of CPT by different physiotherapists.
6. Antibiotics. Some surgeons used them and some did not.
7. If the antibiotics were used, the timing and dosing of the antibiotics varied tremendously.
8. Mucolytics/bronchodilators. Some physiotherapists used one or the other or both and some did not use any.

Lesson

Always consider the multiple causes that can change a clinical outcome.

Clinical Research

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