Qeios

Peer Review

Review of: "Comparison of Clinical and Radiological Diagnosis with Autopsy Findings in Fatal Traffic Accident Cases"

Silke Grabherr[1]

1. Lausanne University Hospital, Lausanne, Switzerland

Dear authors,

I was asked to perform the review of your article « Comparison of Clinical and Radiological Diagnosis with Autopsy Findings in Fatal Traffic Accident Cases »

In general, the paper is well written and well structured. The given explanations are clear. However, I see some major issues that lead me to the point that I am not sure about the real meaning of your paper. Here are my comments about those major issues:

1. I don’t see the sense in separating radiological from clinical diagnosis. I find this rather unnatural. Indeed, it is hard to make a differentiation between them. As radiological exams are just technical approaches to confirm and perform diagnosis in clinical medicine. Also, if I understand right, your « clinical diagnosis » is only the description of injuries that are visible on the surface of the body with the naked eye. But this is not true. A clinical diagnosis is much more. It is the result of the whole analysis including clinical parameters (functional ones, visible ones, and radiologically detectable ones). So why separate them? And why reduce clinical examinations to a simple « external inspection of the body »? This is not realistic for me.

2. Comparing clinically cited injuries with those described at the autopsy makes only limited sense for me. Indeed, it is normal that clinicians only describe injuries that need to be treated. While forensic pathologists describe all injuries visible on the body in a systematic way. This is because the questions that need to be answered are different in clinical medicine than in forensic medicine (with reconstructive questions). This fact has been largely described in the literature (especially concerning clinical forensic medicine). So for me, it is not correct to state that clinical medicine misses a lot of injuries and counts bruises and abrasions. Those are not missed but simply not mentioned as they are of no interest to clinicians. For me, your results are therefore biased and show the work of clinical medicine in a wrong light.

3. Also, concerning your comparison, you mix up descriptive terms and diagnosis. For example, you say that autopsy

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misses the midline shift of the brain. But this is a simple radiological term. It is not used elsewhere. It is indicating a diagnosis (Brain oedema, mass effect) that is simply described with other terms in autopsy reports. So, telling that autopsy is missing this « diagnosis » is not true.

4. One of the big issues is also that it is not clear what you understand under « autopsy ». There are different kinds of autopsies, and in every country, the standards are different. Do you include in this term, for example, complementary analyses such as post-mortem radiology (which kind of radiology?), histology, neuropathology, toxicological analysis, microbiological analysis? The problem is, as this is not clear, the whole methodology of the paper is not clear.

5. I cannot trust your results. For example, you say that autopsy detects more facial fractures than radiology. Ok. But autopsy is very bad at the detection of facial fractures. As we don't know what you are including in autopsy, I cannot say that the finding is true. Also, we don't know what kind of radiological exam has been performed to find the fracture in clinics. If only a thoraco-abdominal CT has been done, then it is normal that it will not detect the fracture. And if the fracture is noticed by the external examination during autopsy, it is not confirmed for me. This means that you are doing statistical analysis on data that we don't know where they are coming from. This is a real problem.

6. The discussed points are the major problems. The fact that in all these cases there are no detailed elements telling the performed exams is very problematic for me. The authors are comparing incomparable data of which the source is not clear.

7. For me, the only interesting thing is the cause of death. Did clinicians and the autopsy come to the same conclusion? Unfortunately, this fact is handled too briefly in this paper. I would need a table explaining the cause of death per case and letting the author judge for himself. I mean, if clinicians put a cerebral cause of death in a polytrauma and the autopsy states "polytrauma" as the cause of death, for me, there is no error. It is only a question of interpretation and definition. Again, we don't know from where the findings are coming; we are comparing incomparable elements, and the results are based on unknown data. For me, this is not acceptable.

The points mentioned here are only the major issues. But before I have the answers to my questions, it does not make sense for me to go further in the analysis of this paper.

Declarations

Potential competing interests: No potential competing interests to declare.