



Case Study-An Answer to Analytical Clinical Decision Making

To begin with, I am really happy to take over the mantle of Associate Editor for Journal of Orthopaedic Case Reports and I believe I would be able to contribute positively to its continued growth. This is my first attempt to an Editorial and I would be writing on the unique paradigm of 'Case Study' and analytical decision making [1,2] that has been so well promoted in JOCR. We are all involved in a continuous decision making process that range from simple to very complex including those that deal with patients and those that deal with our life outside work. Decision making process can vary from fast intuitive decisions to a well-reasoned, analytical decisions that drive patient care. In both the scenarios there is a mixture of Evidence and Experience.

In our everyday orthopedic practice, we are presented with a spectrum of clinical decision making scenarios. At one end of the spectrum there are simple (but high volume) scenarios where we make use of our experience, common logic and intuitive knowledge to make quick decisions. In these case we are rather unaware of the exact process of decision making but when thought about in details the framework presented is strongly rational and quite accurate. At the other end of the spectrum, there are difficult decisions to be made, where the level of uncertainty or complexity is high. These present a truly thought provoking situations and decision making is based on a lot of analytical process which includes literature, books, speaking to colleagues, available evidence and even perspective of the patients and socio-economic circumstances. In dealing with both these scenarios one point will be well appreciated and identified by everyone. Our past experiences with similar or comparable situations comes most handy. This experience may be personal or may be gained from a colleagues case or while browsing the literature but is generally stored within our minds as a distilled information and comes into play in formulating personalised guidelines for individualized patient care in such complex situations. This distil I believe is not static but a dynamic entity that keeps on updating itself with ongoing experiences. I think this is one of those finer hinge points where the Evidence meets Experience and both keep a positive feedback loop to construct the decision making paradigm which we utilise to treat patients. This is the exact point on which the framework of the new concept of 'Case Study' stands and wishes to capture this very essence of practical decision making process. This will also help in updating the paradigm and identifying loopholes in it. One of the major bias in these framework is imbalance between Evidence and Experience. Many a times strong academicians will be biased towards 'Evidence while 'firm' clinicians will be biased towards 'Experience and this imbalance may lead to a suboptimal decisions.

Clinical decision making depending only on evidenced based medicine (EBM) has many drawbacks. High quality evidence comes from randomized control trials where inclusion and exclusion criteria may not allow the generalizability of the results. Also in surgical branches and especially in orthopaedic surgery the number of RCT is quite less and in certain situations RCT's are not even practical. Certain populations have been historically under researched like racial minorities and people with co-morbid diseases. Also, effectiveness reported from randomization may be different than that achieved in routine clinical practice. Factors associated with health related quality of life are not completely validated by quantitative methods. And patient related or socio-economic standpoints present difficult scenarios for clinical studies. Thus the literature in orthopaedics appears to be incomplete and in such scenarios where evidence is insufficient, one has to turn to observational studies and other forms of literature like humble 'Case Reports' or Case Studies to make decisions.

The success of JOCR is enough "evidence" regarding the need of case reports in clinical decision making. The next step is to encourage formats like 'Case Study'. Case studies are explanatory and descriptive record of the clinical practices of a profession and can be looked as a detailed version of a case report, where all the steps taken towards clinical decision making are analyzed in detail and a rationale framework is presented. I believe complex and complicated cases, or cases that present late or are of failed of complicated surgeries are rich topics for writing case studies. As first step the case study should include a brief review of literature. Second step is identification of the problem in the case which may include the diagnostic dilemma and detailed method of differential diagnosis. The third step includes making the reader understand the treatment options that are available and why the particular treatment option was chosen. Here specially all the factors including patients perspective and socioeconomic conditions should be taken into account and a practical decision making paradigm should be provided to the reader. The forth step is explaining the treatment modality in details with inclusion on intraoperative photographs. Follow up and rehabilitation should be detailed enough to be clinically relevant to the reader. The last step in highlighting the salient learning points for the

particular case. I think the case study by Parihar et al published in JOCR is a very good example of how a case study should be written [3]. While case studies themselves do not contribute much to evidence based medicine, they can help researchers generate new ideas and frame questions for clinical studies. They are an invaluable teaching aid- especially for rare and unusual clinical scenarios. Also one of the basic aim of case study is to present to the reader a 'Case Identification' wherein the reader is able to identify such a complex case and has a blueprint for rational thought process in approaching the case and providing optimal management strategies. As compared to a case report which just presents with facts and the final summary of how a case was approached, a case study provides in depth analysis and discussion of a particular case. It is like a puzzle which the reader along with the presenter will try to solve it together. The information in the case study is put in such a way that the reader is put in the same position as the presenter and the reader is also challenged with the problem. I believe case studies will provide good food for thought and an ample room for discussion and letters to editors.

Writing a case study as compared to case report is relatively easy as the guidelines are simpler. This helps a beginner writer (student or clinical practitioner) in efficiently writing a publication. Since most of the clinical interactions occur in the field and not in the teaching and research facilities, it is on the clinical practitioner to publish these case studies to record and pass on their clinical experience. I would personally urge all readers to please look for complex and individualized cases in their experience and try and convert them into 'Case Studies' for JOCR. Me and team of JOCR will be available for help in reviewing your cases and you can directly send your cases to us for review before preparing the manuscript [editor.jocr@gmail.com].

Warm Regards

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