

Case Reports and Evidence Based Medicine: Redefining the Apex of the Triangle

A lot has been written on topic of relevance of case reports in the current scenario of Evidence Based Medicine, however one classic article by Jan P Vandembroucke published in Journal of the Royal Society of Medicine stands out [1]. This article has encompassed all the positives of case reports and the relevance in the era of Evidence based medicine. It specifically points towards one important observation about case reports and case series and the Evidence triangle. As per convention the randomized trials are at the apex of triangle of evidence generation as they provide the strongest evidence for a hypothesis. However Case reports and case series sit comfortably at the apex of triangle of Hypothesis generation. As far as new advancements, new techniques are concerned the case reports and case series are the foremost. They act as heralds in generation of new insights into diseases, new problems, new solutions, new methods of diagnosis, investigation, treatment, technological advancements etc. Also identification of a new side effect, a previously unknown complication, even a previously unknown advantage, all fall into the domain of case reports and case series. Case reports and case series contain the seeds out of which germinates the tree of Evidence.

Another important aspect of case reports and case series are their strong practice based scenario. Especially in surgical field like orthopaedics, where every case has its own individual profile and every surgeon has his own experience and set of skills, the management protocols very commonly sway from the convention. This is also affected by the socio-economic and infra-structure facilities as well as the geographical variation in disease and patient profile and preferences. With so many variables to match, many a times surgeons are prompted to improvise and invent new methods of treatment. These when reported might be useful to peers working in similar scenarios. Best example is published in this very issue as letter to editor. A technique of percutaneous needle tenotomy was reported in our pervious issue [2]. This article turned out to be useful for another surgeon in treatment of similar case [3], further validating the usefulness of the technique. This snowballing of 'Evidence' is another advantage of publishing a case report. Accumulation of these reports ultimately leads to acceptance of a technique, generation of a new hypothesis, recognition of a complication (and even a method to avoid the complication).

Again specific to orthopaedic specialty are our atypical cases. The delayed presentations, non-unions, multiple fractures, atypical age presentations, complicated fractures, treatment failures, implant failures etc. These atypical cases are like individual problems and every surgeon approaches these in his own personal way. This approach is based on experience, evidence and multitude of factors and provides an insight into the thought process for treatment of such 'atypical' scenarios. This synthesis of thought process is one of the most educational and sometimes very inspiring treatise.

Frame shift ability of case reports is quite undervalued both by the authors and reviewers. Karl Popper very aptly states it as, "Science only advances when unexpected observations cause a frame shift in our previously held beliefs" [4]. This is possible not only by a case report on positive outcome but also on a negative outcome. Case reports have a selection bias where most authors report cases with positive outcome, however a negative outcome case report can be equally important. As case reports act to generate the hypothesis, they also act to check the continued validity and effectiveness of an Evidence based approach. Case reports can be termed as "Post Marketing Surveillance" for evidence generated by Randomized trials. Specially the reported outcome that conflict with the current EBM guidelines need to be published and reported. This will complete the cycle of evidence generation and may lead to generation of new hypothesis and a better Guideline.



We personally believe Case Reports and Case Series are torch bearers in Field of Evidence based medicine. They are the foot soldiers who gather material for hypothesis generation and also accumulate knowledge of rare and unique occurrences. We at Journal of Orthopaedic Case Reports are pledged to provide a platform for all kinds of case reports in Orthopaedics. We also take this opportunity to thank the Indian Orthopaedic Research Group in helping our team to improve the quality of manuscripts published in JOCR. We again thank our authors, reviewers and readers for their support.

With this we leave you to enjoy the new issue of Journal of Orthopaedic Case Reports.

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References

1. *Vandenbroucke JP. Case reports in an evidence-based world. J R Soc Med. 1999 Apr;92(4):159-63.*
2. *Patwardhan S, Shyam AK, Sancheti P. Percutaneous Needle Tenotomy for Tendo-achillis Release in cases of Clubfoot – Technical Note. J Ortho Case Reports 2012;2(1):35-36.*
3. *Patnaik S. Percutaneous Needle Tenotomy for Tendo-achillis Release in Clubfoot- A Response. J Orthopaedic Case Reports 2012 April-June;2(2):29*
4. *Popper K: Conjectures and Refutations: The Growth of Scientific Knowledge. London: Routledge, 1972, 222 p.*

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New in this Issue: Orthopaedic Images

New Section has been added to JOCR in which discussion on an Orthopaedic Image will be published. A picture speaks more than a thousand words and we as Clinicians come across a lot of such images. These images often challenge our knowledge and prejudice and teach us valuable lessons of clinical practice. These do not fit into any level of Evidence but nevertheless they are important from practical point of view. This special section intends to provide a platform for these images. One such "Orthopaedic Image" is published in this issue and readers can refer to it as a template.

We will accept all kinds of images, including but not limited to, Radiographs, MRI, CT Scans, Arthroscopy Pictures, Clinical Pictures, FEA analysis photos, Photomicrographs of Histopathological slides, Intraoperative images and images of Implants. Along With Images Video files can also be send to us for inclusion into the manuscript. This section is not only open to Orthopaedic Surgeons, but also to Radiologists, Pathologists, Rheumatologists and any other clinician, however the subject matter should be essentially related to Musculoskeletal system.

For an article to be included in Journal of Orthopaedic Images, they should meet one of the following criteria

-Images that provide a new basis for a improvisation of existing diagnostic, investigative or management protocols

Unexpected or unusual presentations of a disease

New associations or variations in disease processes

Presentations, diagnoses and/or management of new and emerging diseases

An unexpected association between diseases or symptoms

An unexpected event in the course of observing or treating a patient

New technique or modification of original surgical technique

Unusual complication of a particular disease or surgery

Findings that shed new light on the possible pathogenesis of a disease or an adverse effect

Radiographs that do not fit into the current classification systems

A technical note demonstrated on a single case.

The submission should be through the online submission system "Scripture" available through www.jocr.co.in

In case of any queries write to us at editor.jocr@gmail.com

