VALUE OF A CASE REPORT

Neha Goel
MS DNB MNAMS FRCS (Glasg)
ICARE eye hospital and postgraduate institute
nehadoc@hotmail.com
Case report, is it of value??

- Placed at the foot of the hierarchy of clinical evidence due to intrinsic methodological limitations & non experimental nature
- Anecdotal evidence
- Typically receive fewer citations than research articles, in danger of being phased out
A case for case reports..

- One of the oldest forms of medical reporting (personal communications)
  - Zika virus outbreak – announced by a case report

- Serve as “primers” leading to new discoveries
  - Development of AIDS – case report of Kaposi’s sarcoma in young homosexual male
  - Propanolol for infantile capillary hemangiomas

- Case reports of adverse drug reactions form a fundamental part of pharmacovigilance
  - Thalidomide tragedy – link suspected by a case report
  - Anterior migration of Ozurdex in aphakic – caution added in inset

- Platform for training in scientific writing and critical thinking

Rather than the lowest level of evidence, they are the first line of evidence
Functions of a case report

1. description of new syndromes and diseases
2. side effects of drugs
3. description of mechanisms of disease
4. detection of a new therapy – *maybe so convincing that a RCT is not necessary*
5. lead to further recognition of rare manifestations of disease
6. medical education

Step 1 – which case to report

• Is the case worth reporting?
  • Keep an eye out for unusual / challenging cases, they need not be very rare

• In a busy clinic, remember
  • Documentation, photographs
  • Contact details of the patient
When can we consider a case suitable to be published as a case report?

Unique / rare features of a disease

An unexpected association between diseases or symptoms

Merritt L. Case reports: an important contribution to chiropractic literature. J Can Chiropr Assoc. 2007;51:72-4
When can we consider a case suitable to be published as a case report?

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

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

Merritt L. Case reports: an important contribution to chiropractic literature. J Can Chiropr Assoc. 2007;51:72-4
When can we consider a case suitable to be published as a case report?

Multidrug-resistant *Pseudomonas aeruginosa* endophthalmitis in a silicone oil-filled eye treated with piperacillin/tazobactam: report of a case and review of literature

Neha Goel - Vishaal Bhambhani - Basudeb Ghosh

Lensctomy, vitrectomy, and transvitreal ciliary body photocoagulation as primary treatment for glaucoma in microspherophakia.

Goel N¹, Sharma R², Sawhney A², Mandal M², Choudhry RM².

Merritt L. Case reports: an important contribution to chiropractic literature. *J Can Chiropr Assoc.* 2007;51:72-4
Step 2 – review of literature

• Has it been reported earlier?

• Ask the question – what does this report add?

• Other options –
  • Club it with a review of literature
Photo essay

Christmas tree cataract

The author declares that there is no conflict of interest.
Post traumatic horseshoe-shaped macular tear

Neha Goel, Ravi Sharma, Madhullika Mandal, and Reena M Choudhry
ICARE Eye Hospital and Postgraduate Institute, Noida, Uttar Pradesh, India

Diagnostic and therapeutic challenges.

Mazumdar S, Goel N, Park D, Lujan BJ.

PMID: 25105315 DOI: 10.1097/IAE.0000000000000234 [PubMed - indexed for MEDLINE]
Spectrum of Myelinated Nerve Fibers

Vinod Kumar, MS, DNB, FRCS (Glasg); Neha Goel, MS, DNB;
Usha K. Raina, MD, FRCS, FRCOphth; Basudeb Ghosh, MD, MNAMS

The pictures depict varied extent of involvement in cases with myelinated nerve fibers as seen in clinical practice. Although most cases are found on routine examination, they may present with leukocoria if involvement is extensive.

REFERENCES
Step 3 — art of writing a case report

• **Title** —
  • should be descriptive and accurate
  • can include the words “case report”
  • describe what is of greatest interest (presentation / diagnosis / intervention / outcome)

• **Abstract** —
  • rationale, presentation, intervention, outcome, main lessons to learn
  • (summary of the manuscript)
Step 3 – art of writing a case report

• **Introduction** –
  • background information
  • pertinent definitions
  • literature review (only mention)
  • why the case is novel (purpose of publishing)

• **Case presentation** –
  • chronological order
  • avoid irrelevant information but give enough detail for the reader to establish validity
  • results of investigations (include normal values of less common investigations)
Step 3 – art of writing a case report

• **Discussion** –
  • compare and contrast with published literature
  • describe similarities and differences of the case with previous ones
  • establish a temporal and causal relationship
  • mention limitations (e.g., lack of MRI)

• **Conclusion** –
  • brief summary of the case
  • draw recommendations and conclusion
  • list opportunities for research
  • key “take away” message
Remember!

• Informed consent – must be taken and mentioned

• Avoid patient identifiers – DOB, investigation reports, etc

• Literature review – list the strategy and extent of the search, include the database searched, the dates that the database was searched, the languages covered, and the search terms used.
<table>
<thead>
<tr>
<th>Topic</th>
<th>Item</th>
<th>Checklist item description</th>
<th>Line/Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>1</td>
<td>The words “case report” should be in the title along with the area of focus</td>
<td></td>
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<tr>
<td>Key Words</td>
<td>2</td>
<td>Four to seven key words—include “case report” as one of the key words</td>
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<tr>
<td>Abstract</td>
<td>3a</td>
<td>Background: What does this case report add to the medical literature?</td>
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<tr>
<td></td>
<td>3b</td>
<td>Case summary: chief complaint, diagnoses, interventions, and outcomes</td>
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<tr>
<td></td>
<td>3c</td>
<td>Conclusion: What is the main “take-away” lesson from this case?</td>
<td></td>
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<tr>
<td>Introduction</td>
<td>4</td>
<td>The current standard of care and contributions of this case—with references (1-2 paragraphs)</td>
<td></td>
</tr>
<tr>
<td>Timeline</td>
<td>5</td>
<td>Information from this case report organized into a timeline (table or figure)</td>
<td></td>
</tr>
<tr>
<td>Patient Information</td>
<td>6a</td>
<td>De-identified demographic and other patient or client specific information</td>
<td></td>
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<tr>
<td></td>
<td>6b</td>
<td>Chief complaint—what prompted this visit?</td>
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<td></td>
<td>6c</td>
<td>Relevant history including past interventions and outcomes</td>
<td></td>
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<tr>
<td>Physical Exam</td>
<td>7</td>
<td>Relevant physical examination findings</td>
<td></td>
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<tr>
<td>Diagnostic Assessment</td>
<td>8a</td>
<td>Evaluations such as surveys, laboratory testing, imaging, etc.</td>
<td></td>
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<tr>
<td></td>
<td>8b</td>
<td>Diagnostic reasoning including other diagnoses considered and challenges</td>
<td></td>
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<tr>
<td></td>
<td>8c</td>
<td>Consider tables or figures linking assessment, diagnoses and interventions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8d</td>
<td>Prognostic characteristics where applicable</td>
<td></td>
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<tr>
<td>Interventions</td>
<td>9a</td>
<td>Types such as life-style recommendations, treatments, medications, surgery</td>
<td></td>
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<tr>
<td></td>
<td>9b</td>
<td>Intervention administration such as dosage, frequency and duration</td>
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<td></td>
<td>9c</td>
<td>Note changes in intervention with explanation</td>
<td></td>
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<td></td>
<td>9d</td>
<td>Other concurrent interventions</td>
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<tr>
<td>Follow-up and Outcomes</td>
<td>10a</td>
<td>Clinician assessment (and patient or client assessed outcomes when appropriate)</td>
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<tr>
<td></td>
<td>10b</td>
<td>Important follow-up diagnostic evaluations</td>
<td></td>
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<tr>
<td></td>
<td>10c</td>
<td>Assessment of intervention adherence and tolerability, including adverse events</td>
<td></td>
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<tr>
<td>Discussion</td>
<td>11a</td>
<td>Strengths and limitations in your approach to this case</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11b</td>
<td>Specify how this case report informs practice or Clinical Practice Guidelines (CPG)</td>
<td></td>
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<tr>
<td></td>
<td>11c</td>
<td>How does this case report suggest a testable hypothesis?</td>
<td></td>
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<tr>
<td></td>
<td>11d</td>
<td>Conclusions and rationale</td>
<td></td>
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<tr>
<td>Patient Perspective</td>
<td>12</td>
<td>When appropriate include the assessment of the patient or client on this episode of care</td>
<td></td>
</tr>
<tr>
<td>Informed Consent</td>
<td>13</td>
<td>Informed consent from the person who is the subject of this case report is required by most journals</td>
<td></td>
</tr>
<tr>
<td>Additional Information</td>
<td>14</td>
<td>Acknowledgement section; Competing Interests; IRB approval when required</td>
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</table>
Step 4 – selecting the journal

- Target audience
- Does the journal accept case reports?
- Confirm if indexed
- Go through previous case reports in that journal
Limitations of case reports

- Can raise false alarms — avastin in CSC, FQs and uveitis
- Subject to bias as 90% report successes as against 10% reporting failures
- Many case reports do not add significantly to the body of knowledge
Conclusion

- Case reports can be well received, and have significant influence on subsequent research / literature and possibly on clinical practice.

- Excellent teaching aids in case-based learning

- Useful training in the art of how to publish
Handbook of CLINICAL TRIALS IN OPHTHALMOLOGY

**Salient Features**

- Inclusion of all major clinical trials in all subspecialties of ophthalmology compiled together for ready reference
- Facts pertaining to these trials (including description, results, etc.) have been presented without any modification
- Each trial/study is described under common headings and arranged chronologically or in order of significance
- Proper referencing has been provided for further reading
- Tables providing the summaries of the trials "at a glance" have been given at the end of each chapter

**AK Gupta**

Ms. (Ophthalmology) is Director (Academics) at ICARE Eye Hospital and Postgraduate Institute, Noida, UP, and at Shroff Eye Centre, New Delhi, India. He also holds the position of Chairman, Ophthalmology Research Project Committee, ICMR 2013-14. He held the honorable position of Dean Medical Faculty, University of Delhi 1990–92, Dean, Maulana Azad Medical College, New Delhi 1992–95. He has unparalleled experience as a teacher and examiner for over 45 years at various reputed medical colleges, including AIIMS, JIPMER, Pondicherry, PGIMER, Rohtak, Medical College, Goa, Maulana Azad Medical College, New Delhi. He has over 110 publications in various national and international journals. He has authored several books, including *Textbook of Ophthalmology and Current Topics in Ophthalmology*. He was awarded the lifetime achievement award by the All India Ophthalmological Society in 2011.

**Vinod Kumar Aggarwal**

Ms. (Ophthalmology) is currently working as Assistant Professor, University College of Medical Sciences (UCMS) and GTB Hospital, Delhi, India. He has worked as Specialty Registrar at Wrexham Maelor Hospital, Wales, UK 2009–10. He is actively involved in teaching undergraduate and postgraduate students and has been awarded the “Distinguished resource teachers of the society” by the Delhi Ophthalmological Society. He has over 40 indexed publications in various journals. He has authored several chapters in books and is a reviewer for many international journals. He has been invited faculty at various state and national conferences.

**Neha Goel**

Ms. (Ophthalmology) is currently working as Vitreoretina and Uvea Consultant at ICARE Eye Hospital and Postgraduate Institute, Noida, UP, India. She has over 55 publications in various journals (35 indexed publications). She has presented over 60 papers at various state-level, national, and international conferences and is the recipient of numerous awards, including “Young Researcher’s” (PG) Award for thesis (AIDS), Dr. KC Agarwal trophy (DOS), Dr. HS Trehan trophy (DOS), etc.