The case report

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Since before Hippocrates, case reports have provided a rich source for teaching and research.1 Biochemistry, pathology and radiology, etc added objectivity to this knowledge in not only diagnosing the disease, sometimes even before the clinical signs appeared, but also in monitoring and prognosticating the course. Single case reports became the principal part of medical literature. However, these reports were not adequate enough to generalize all the clinical events. Further, ‘single case reports with review of the literature’, grouping the common and uncommon features and thereby defining the diseases and syndromes more precisely, featured in the literature. This helped significantly in classifying the diseases more accurately.

In the last decades of the past century, with rapid advances in clinical investigations and pharmacology, journals were flooded with investigatory and ‘evidence-based medicine’ papers rather than single case reports. These papers mainly aimed at defining precisely the role and place of diagnostic testing or therapy. The case reports and case series were blamed for ‘emphasizing unproved information’ and for ‘doing more harm than good’.2 Though considered the ‘weakest’ or ‘lowest’ level of evidence, the case reports often form the basis for many new research.3 The case reports and case series promote the discovery of a new disease or a combination of diseases, unexpected (useful or harmful) effects of therapies, as well as the study of mechanism.4,5 And hence merit publication. Sometimes papers highlighting mistakes are also educative.6 A recent survey shows more than 140,000 case reports in Indexed journals from 1996 to 2000.1 In reality the case reports and case series complement evidence-based medicine.4 The following categories still warrant attention:

1. A unique case representing a new entity or syndrome
2. A case with unidentified association of two or more disorders
3. A case with a clinically important variation from the expected pattern
4. A case report revealing useful or adverse therapeutic effect

Minor uncommon features of a common disease, cases already reported in series, cases with complex investigations with insignificant implications, unusual observations detected by accident but clinically of no use, additional minor adverse effects of a drug, simple age variations, etc do not warrant publication.

The point to be remembered is that the case report must add new information either to change the concept or management in general.

The kind of evidence required to support the conclusion in a case report differs in these four categories. The structure and sequence need to be placed logically for critical argument in the conclusions of the case reports.

PROCESSING ‘THE UNIQUE CASE REPORT’

A vigilant clinician detects a patient with extraordinary manifestations heretofore not encountered, recalls his own experience, inquires with associates and reviews medical literature. To establish the uniqueness of the case is a Herculean task. Vast bibliographic records need to be unearthed to rule out identical or similar manifestations. Failure to find out any such case means the case is unique. However caution is still required. There is a possibility that the search was not thorough enough or the case or syndrome or manifestations might have been described in terms or nomenclature

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not commonly used in current literature.\textsuperscript{4} It is equally likely that the previous observer lacked additional data, which the modern clinician has easy access to. Any such near possibilities must be included in the discussion of the case report. Even when a clinician feels the manifestations to be unique, he should be modest enough not to label it ‘his or her syndrome’ or a ‘new discovery’ on his own. This distinction should not be conferred by oneself but by critical readers who verify the same. However, there are cases, which help to detect a unique chemical disorder or genetic abnormality. Such critical studies establish the uniqueness of the case report.

Once the author has decided to write the case report, he must ask four questions to himself.
1. What is the single important message in the report?
2. Why exactly is the message important?
3. What does it teach or how does it add to the existing knowledge?
4. Whom should the message be conveyed to?

At this stage, analysis of the readership, selection of the appropriate journal and familiarity with its instructions to the authors are critical.\textsuperscript{8,9}

**STRUCTURE OF THE CASE REPORT**

As compared to a research paper, case reports are difficult to write. A research paper has uniform requirements, the observations, presentation of the data, analysis of the data, critical argument, concrete evidence and a definite conclusion are fitted into the standard format of Introduction, Material and Methods, Results and Conclusions (IMRD).\textsuperscript{10} The structure of the case reports may be more complex. The concise description is a story. One or two important elements of the story may not be in chronological order.

The usual sequence has 5 steps:\textsuperscript{7}
1. A statement saying why the case is worth reading about
2. Brief account of the case with only relevant data
3. Discussion about the validity of the evidence
4. Possible alternative explanations for case features
5. Conclusions with implications

The long, story type case reports have been replaced by a more concise and efficient format. The case report must be precise, focused on its primary message, well-organized and structured with distinct aims.\textsuperscript{3,4} The structure of the case report will vary depending upon its message. Some generalizations about the uniqueness of the case report may be done which will guide in highlighting the points in the structure of the text.\textsuperscript{7}

1. The simplest form of case report is ‘report with review’ where you just confirm the observation which is in variation from the published data.
2. If the report is counter to the existing concept, demonstrate how and why.
3. If there is a conflict in the interpretation of the basic concept, argue and justify with evidence.
4. If the report has some unexpected findings, explain what the expectations were and how the new findings are important in practice.
5. If one detects some mechanism from the observations, state the observations and whether and why the mechanism can be generalized.
6. If the aim is to highlight an omission or mistake, state explicitly why and how it could be missed or avoided

For proper organization and structure of the case report, all this must be done concisely and precisely focusing on the principal message.\textsuperscript{3,4}

**THE FORMAT OF THE CASE REPORT**

**The Title**
The title should be as specific and brief as possible. It should indicate what the report is about. Avoid the use of ‘The case report of’ or ‘Unusual case of’ or ‘A rare case or cause of’ etc.\textsuperscript{11} The very fact that these articles are published under the section of ‘case report’, indicates that they are unusual or rare.

**Abstract**
Some journals require an abstract. It should usually be in the conventional format and should not have more than 150 words. Since it is a highly condensed version of the report, all the important observations, evidence and conclusion must be incorporated in the abstract. At the end of the abstract indicate the implications in clinical practice or research.\textsuperscript{12,13} In such a format omit conclusions or summary at the end.

**Introduction**
The reader must know at the very beginning what the report is about. The introduction must be brief—one or two short paragraphs. It should include how the case was noticed, vital features and data worth reporting, a brief review of the literature and why the case is unique or unexpected.\textsuperscript{14} The details of the literature are to be presented in a discussion to assess the strength of the evidence for the conclusions.\textsuperscript{10}
Case Report
The clearest way to describe is in a chronological sequence starting with the first evidence of the problem that is the focus of the report. After noticing the unusual features, the author may give some important relevant data in the past history describing it adequately before returning to the present narration.\(^7\)

Only truly relevant data with dates and times should be described in a chronological order and sequence and with adequate interpretation. The more extensive data is better presented in a tabular form in a chronological structure rather than as a narration in the text.

Some Variations
In most case reports the description of the case should be followed by discussion. However, if for example unusual features suggest a familial or genetic disorder, a report on the family structure or genetic study should be included after case description. If any special laboratory or other investigations are carried out, a section on material and methods and results needs to be incorporated as in a research paper.

Discussion
To substantiate the inference in the introduction, the discussion should include an argument to support it. The review of the literature must be as detailed as possible. One cannot just say that 'The review of the literature failed to reveal any similar case.' The indices searched, the extent of the search, the search terms, the search language, the dates of the search, etc must be clearly specified. This information helps to convince the reader about the author’s sincerity. For an honest argument, the searches not covered should be included. In science do not conceal any weaknesses. The reader may find it useful to search additional sources.\(^7\)

All the evidence must be clearly and specifically related to the problem. Any symptoms or signs likely to be caused by drugs or therapies must be separated. If the aim of the paper is to report unusual features of the disease, all the additional studies used in the investigations must be recent and up to date. Please do not rely on fringy evidence. As in a free and fair argument counter evidences must be dealt with adequately. If the review of the literature reveals some similarities, the variations should be stressed and assessed. If there are any inadequacies in previously reported similar cases, they must be argued properly. If the journal requires an abstract, omit conclusions or summary following the discussion. Instead, conclude the discussion with a paragraph about the principal message.\(^7\)

Conclusion
Since the case report is not a research article, the message is not conclusive. Hence some journals prefer a summary in place of conclusions. Please follow the particular journal’s instructions.

In the conclusion or the summary section, state the aim, summarize important findings, and highlight the unique features of the case and its clinical relevance. If the journal requires an abstract or summary at the beginning, omit the conclusion at the end of the report. Instead add a line or two at the end of the abstract and discussion emphasizing the implications for clinical practice or suggesting possibilities for further study.\(^{15,16}\)

Style of writing
Writing of the case report should not be taken casually if one aspires to convey any useful information. It needs the same purpose as for a research paper, probably more zeal, enthusiasm and efforts to make it concise and precise. Writing itself is a skill and needs care, accuracy and economy. It must employ the principles of writing a précis. All the irrelevant and unimportant words and sentences need to be omitted and preferably words should replace clauses and phrases. Every word and sentence must have a direct bearing on the report.\(^17\) There is no scope for any laxity. Only good and interesting reasoning is not sufficient. It is useless if the facts on which it is based are not reliable. The length should be 1000 to 1500 words, preferably one page.\(^18\) Usually the journal allows one table, one figure or illustration and three to five references. So one has to be more alert and choosy. Revise critically every word, phrase, sentence, paragraph and section and be sure that the message is conveyed effectively and emphatically.\(^{19,20}\)

A case report can be informative, interesting, scholarly and original in its conclusions and the author must try his best to make it so.

REFERENCES
5. Exotic diseases close to hom. Lancet 1999;354:1221

## Forthcoming Events

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<tr>
<td><strong>JPGM GOLD CON: 50 years of medical writing - International conference on journal writing and publishing</strong></td>
<td>September 23rd – 26th 2004, Mumbai, India. Dr Atul Goel, Department of Neurosurgery, Seth G. S. Medical College, Parel, Mumbai - 400012, India. Tel: 91-22-24129884. Fax: 91-22-25032398, E-mail: <a href="mailto:goldcon@jpgmonline.com">goldcon@jpgmonline.com</a>. Web: <a href="http://www.jpgmonline.com/goldcon.asp">www.jpgmonline.com/goldcon.asp</a></td>
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<td><strong>National Conference of Indian Association of Surgical Oncology &amp; International Symposium on Advances in Oncology</strong></td>
<td>September 24th – 26th 2004, Jaipur, India. Dr Raj Govind Sharma, Organizing Secretary, Uniara Garden, Jaipur - 302004, India. Tel: 0141 2622783, 2620343. E-mail: <a href="mailto:rajraj1@sancharnet.in">rajraj1@sancharnet.in</a></td>
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<td><strong>22nd World Congress of Endourology and SWL</strong></td>
<td>November 2nd – 4th, 2004, Mumbai, India. Dr Mahesh Desai, Muljibhai Patel Urological Institute, Dr. V. V. Desai Road, Nadiad - 387001, Gujarat, India. Tel: (0268) 2520323 / 2520330. Fax: (0268) 2520248. E-mail: <a href="mailto:info@mpuh.org">info@mpuh.org</a></td>
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<td><strong>14th Biennial Conference Asian Pacific Association For Study of The Liver (APASL) with 13th Annual Conference of Indian Association for The Study of The Liver</strong></td>
<td>December 11th – 15th, 2004, New Delhi, India. Dr S. K. Sarin, President APASL. E-mail: <a href="mailto:welcome@apaslindia2004.com">welcome@apaslindia2004.com</a>, Website: <a href="http://www.apaslindia2004.com">www.apaslindia2004.com</a></td>
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<td><strong>The 64th Annual Conference of the Association of Surgeons of India</strong></td>
<td>December 26th to 30th, 2004 Dr Mohan Gupta, Organising Secretary, ASICON 2004 Aarogya Hospital, Twin City Market, 5-4-183 to 199, Moazam Jahi Market. Hyderabad - 500001, India. Tel: 0091-40-30903994, 55624687, Tele/Fax:0091-40-24744223, E-mail: <a href="mailto:asicon_2004@yahoo.com">asicon_2004@yahoo.com</a> / <a href="mailto:asicon20004@rediffmail.com">asicon20004@rediffmail.com</a></td>
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