# Indian Journal of Anesthesia and Analgesia

Indian Journal of Anesthesia and Analgesia (IJAA) (ISSN 2349-8471) is peer-reviewed official scientific journal addresses all aspects of anesthesia practice, including anesthetic administration, pharmacokinetics. preoperative and postoperative considerations, coexisting disease and other complicating factors, cost issues, and similar concerns anesthesiologists contend with daily. The Journal seeks balance between а outstanding basic scientific reports and definitive clinical and management investigations. The Journal manuscripts welcomes reflecting rigorous analysis, even if unusual in style and focus.

**R e a d e r s h i p :** Anaesthesiologists, Critical Care Physicians, Surgeons.

**Disclaimer** The opinion in this publication is those of the authors and is not necessarily those of the **Indian Journal of Anesthesia and Analgesia** Editor-in-Chief and Editorial Board. Appearance of an advertisement does not indicate **IJAA** approval of the product or service. **Editor-in-Chief** 

K. K. Mubarak

Government Medical College, Kozhikode

#### **National Editorial Advisory Board**

## D. S. Ramchandra

Navodaya Medical College Hospital & Research Centre, Raichur

#### Heena R. Parikh

Gujarat Cancer Society Medical College and Research Centre, Ahmedabad

## Mahendra Upadhyay

Baroda Medical College, Baroda

#### Naresh Ganpatrao Tirpude

Govt. Medical College, Nagpur

## **Pramod Patil**

A.C.P.M.Medical College, Dhule

#### Saramma P. Abraham

Saramma P Abraham, Kolencherry

#### **Printed** at

Mayank Offset Process, 794/95 Guru Ram Dass Nagar Extn, Laxmi Nagar, Delhi - 110 092

**All right reserved**. The views and opinions expressed are of the authors and not of the **Indian Journal of Anesthesia and Analgesia**. IJAMY does not guarantee directly or indirectly the quality or efficacy of any product or service featured in the the advertisement in the journal which are purely commercial.

Corresponding address **Red Flower Publication Pvt. Ltd.** 48/41-42, DSIDC, Pocket-II, Mayur Vihar Phase-

I Delhi - 110 091(India) Phone: 91-11-22754205, 45796900, Fax: 91-11-22754205 E-mail: redflowerppl@gmail.com Website: www.rfppl.com Manuscripts must be prepared in accordance with "Uniform requirements for Manuscripts submitted to Biomedical Journal" developed by international committee of medical Journal Editors.

#### Types of Manuscripts and Limits

Original articles: Up to 3000 words excluding references and abstract and up to 10 references.

Original articles: Up to 2500 words excluding references and abstract and up to 10 references.

Case reports: Up to 1000 words excluding references and abstract and up to 10 references.

#### **Online Submission of the Manuscripts**

Articles can also be submitted online from http://www.rfppl.com (currently send your articles through e-mail attachments)

I) First Page File: Prepare the title page, covering letter, acknowledgement, etc. using a word processor program. All information which can reveal your identity should be here. use text/rtf/ doc/PDF files. Do not zip the files.

2) Article file: The main text of the article, beginning from Abstract till References (including tables) should be in this file. Do not include any information (such as acknowledgement, your name in page headers, etc.) in this file. Use text/rtf/ doc/PDF files. Do not zip the files. Limit the file size to 400 kb. Do not incorporate images in the file. If file size is large, graphs can be submitted as images separately without incorporating them in the article file to reduce the size of the file.

3) Images: Submit good quality color images. Each image should be less than 100 kb in size. Size of the image can be reduced by decreasing the actual height and width of the images (keep up to 400 pixels or 3 inches). All image formats (jpeg, tiff, gif, bmp, png, eps etc.) are acceptable; jpeg is most suitable.

Legends: Legends for the figures/images should be included at the end of the article file.

If the manuscript is submitted online, the contributors' form and copyright transfer form has to be submitted in original with the signatures of all the contributors within two weeks from submission. Hard copies of the images (3 sets), for articles submitted online, should be sent to the journal office at the time of submission of a revised manuscript. Editorial office: **Red Flower Publication Pvt. Ltd., 48/41-42, DSIDC, Pocket-II, Mayur Vihar Phase-I, Delhi – 110 091, India, Phone: 91-11-22754205, 45796900, Fax: 91-11-22754205, E-mail: redflowerppl@vsnl.net.** 

#### Preparation of the Manuscript

The text of observational and experimental articles should be divided into sections with the headings: Introduction, Methods, Results, Discussion, References, Tables, Figures, Figure legends, and Acknowledgment. Do not make subheadings in these sections.

#### **Title Page**

The title page should carry

1) Type of manuscript (e.g. Original article, Review article, Case Report)

2) The title of the article, which should be concise, but informative;

 Running title or short title not more than 50 characters;

4) The name by which each contributor is known (Last name, First name and initials of middle name), with his or her highest academic degree(s) and institutional affiliation;

5) The name of the department(s) and institution(s) to which the work should be attributed;

 6) The name, address, phone numbers, facsimile numbers and e-mail address of the contributor responsible for correspondence about the manuscript;

7) The total number of pages, total number of photographs and word counts separately for abstract and for the text (excluding the references and abstract);

8) Source(s) of support in the form of grants, equipment, drugs, or all of these;

9) Acknowledgement, if any; and

10) If the manuscript was presented as part at a meeting, the organization, place, and exact date on which it was read.

#### **Abstract Page**

The second page should carry the full title of the manuscript and an abstract (of no more than 150 words for case reports, brief reports and 250 words for original articles). The abstract should be structured and state the Context (Background), Aims, Settings and Design, Methods and Material, Statistical analysis used, Results and Conclusions. Below the abstract should provide 3 to 10 keywords.

#### Introduction

State the background of the study and purpose of thestudy and summarize the rationale for the study or observation.

#### Methods

The methods section should include only information that was available at the time the plan or protocol for the study was written such as study approach, design, type of sample, sample size, sampling technique, setting of the study, description of data collection tools and methods; all information obtained during the conduct of the study belongs in the Results section.

Reports of randomized clinical trials should be based on the CONSORT Statement (http://www. consort-statement. org). When reporting experiments on human subjects, indicate whether the procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional or regional) and with the Helsinki Declaration of 1975, as revised in 2000 (available at http:// www.wma.net/e/policy/l 7-c\_e.html).

#### Results

Present your results in logical sequence in the text, tables, and illustrations, giving the main or most important findings first. Do not repeat in the text all the data in the tables or illustrations; emphasize or summarize only important observations. Extra or supplementary materials and technical details can be placed in an appendix where it will be accessible but will not interrupt the flow of the text; alternatively, it can be published only in the electronic version of the journal.

#### Discussion

Include summary of key findings (primary outcome measures, secondary outcome measures, results as they relate to a prior hypothesis); Strengths and limitations of the study (study question, study design, data collection, analysis and interpretation); Interpretation and implications in the context of the totality of evidence (is there a systematic review to refer to, if not, could one be reasonably done here and now?, what this study adds to the available evidence, effects on patient care and health policy, possible mechanisms); Controversies raised by this study; and Future research directions (for this particular research collaboration, underlying mechanisms, clinical research). Do not repeat in detail data or other material given in the Introduction or the Results section.

#### References

List references in alphabetical order. Each listed reference should be cited in text (not in alphabetic order), and each text citation should be listed in the References section. Identify references in text, tables, and legends by Arabic numerals in square bracket (e.g. [10]). Please refer to ICMJE Guidelines (http://www.nlm.nih.gov/bsd/ uniform\_requirements.html) for more examples.

#### Standard journal article

[1] Flink H, Tegelberg Å, Thörn M, Lagerlöf F. Effect of oral iron supplementation on unstimulated salivary flow rate: A randomized, double-blind, placebo-controlled trial. J Oral Pathol Med 2006;35:540-7.

[2] Twetman S, Axelsson S, Dahlgren H, Holm AK, Källestål C, Lagerlöf F, et al. Caries-preventive effect of fluoride toothpaste: A systematic review. Acta Odontol Scand 2003;61:347-55.

#### Article in supplement or special issue

[3] Fleischer W, Reimer K. Povidone iodine antisepsis. State of the art. Dermatology 1997;195 Suppl 2:3-9.

#### Corporate (collective) author

[4] American Academy of Periodontology. Sonic and ultrasonic scalers in periodontics. J Periodontol 2000;71:1792-801.

#### Unpublished article

[5] Garoushi S, Lassila LV, Tezvergil A, Vallittu PK. Static and fatigue compression test for particulate filler composite resin with fiberreinforced composite substructure. Dent Mater 2006.

#### Personal author(s)

[6] Hosmer D, Lemeshow S. Applied logistic regression, 2 edn. New York: Wiley-Interscience; 2000.

#### Chapter in book

[7] Nauntofte B, Tenovuo J, Lagerlöf F. Secretion and composition of saliva. In: Fejerskov O, Kidd EAM, editors. Dental caries: The disease and its clinical management. Oxford: Blackwell Munksgaard; 2003. p. 7-27.

#### No author given

[8] World Health Organization. Oral health surveys - basic methods, 4 edn. Geneva: World Health Organization; 1997.

#### Reference from electronic media

[9] National Statistics Online—Trends in suicide by method in England and Wales, 1979-2001. www.statistics.gov.uk/downloads/theme\_health/ HSQ 20.pdf (accessed Jan 24, 2005): 7-18. Only verified references against the original documents should be cited. Authors are responsible for the accuracy and completeness of their references and for correct text citation. The number of reference should be kept limited to 20 in case of major communications and 10 for short communications.

More information about other reference types is available at www.nlm.nih.gov/bsd/uniform\_ requirements.html, but observes some minor deviations (no full stop after journal title, no issue or date after volume, etc).

#### Tables

Tables should be self-explanatory and should not duplicate textual material.

Tables with more than 10 columns and 25 rows are not acceptable.

Number tables, in Arabic numerals, consecutively in the order of their first citation in the text and supply a brief title for each.

Explain in footnotes all non-standard abbreviations that are used in each table.

For footnotes use the following symbols, in this sequence: \*,  $\P$ , †, ‡‡,

#### **Illustrations (Figures)**

Graphics files are welcome if supplied as Tiff, EPS, or PowerPoint files of minimum 1200x1600 pixel size. The minimum line weight for line art is 0.5 point for optimal printing.

When possible, please place symbol legends below the figure instead of to the side.

Original color figures can be printed in color at the editor's and publisher's discretion provided the author agrees to pay

Type or print out legends (maximum 40 words, excluding the credit line) for illustrations using double spacing, with Arabic numerals corresponding to the illustrations.

#### Sending a revised manuscript

While submitting a revised manuscript, contributors are requested to include, along with single copy of the final revised manuscript, a photocopy of the revised manuscript with the changes underlined in red and copy of the comments with the point to point clarification to each comment. The manuscript number should be written on each of these documents. If the manuscript is submitted online, the contributors' form and copyright transfer form has to be submitted in original with the signatures of all the contributors within two weeks of submission. Hard copies of images should be sent to the office of the journal. There is no need to send printed manuscript for articles submitted online.

#### Reprints

Journal provides no free printed reprints, however a author copy is sent to the main author and additional copies are available on payment (ask to the journal office).

#### Copyrights

The whole of the literary matter in the journal is copyright and cannot be reproduced without the written permission.

#### Declaration

A declaration should be submitted stating that the manuscript represents valid work and that neither this manuscript nor one with substantially similar content under the present authorship has been published or is being considered for publication elsewhere and the authorship of this article will not be contested by any one whose name (s) is/are not listed here, and that the order of authorship as placed in the manuscript is final and accepted by the co-authors. Declarations should be signed by all the authors in the order in which they are mentioned in the original manuscript. Matters appearing in the Journal are covered by copyright but no objection will be made to their reproduction provided permission is obtained from the Editor prior to publication and due acknowledgment of the source is made.

#### Abbreviations

Standard abbreviations should be used and be spelt out when first used in the text. Abbreviations should not be used in the title or abstract.

#### Checklist

Manuscript Title

- Covering letter: Signed by all contributors
- Previous publication/ presentations mentioned Source of funding mentioned
- Conflicts of interest disclosed

#### Authors

- Middle name initials provided.
- Author for correspondence, with e-mail address provided.
- Number of contributors restricted as per the instructions
- Identity not revealed in paper except title page (e.g. name of the institute in Methods, citing previous study as 'our study')

#### **Presentation and Format**

- Double spacing
- Margins 2.5 cm from all four sides
- Title page contains all the desired information. Running title provided (not more than 50 characters)
- Abstract page contains the full title of the manuscript
- Abstract provided: Structured abstract provided for an original article.
- Key words provided (three or more)
- Introduction of 75-100 words
- Headings in title case (not ALL CAPITALS). References cited in square brackets
- References according to the journal's instructions

#### Language and grammar

- Uniformly American English
- Abbreviations spelt out in full for the first time. Numerals from 1 to 10 spelt out
- Numerals at the beginning of the sentence spelt out

#### **Tables and figures**

• No repetition of data in tables and graphs and in text.

- Actual numbers from which graphs drawn, provided.
- Figures necessary and of good quality (color)
- Table and figure numbers in Arabic letters (not Roman).
- Labels pasted on back of the photographs (no names written)
- Figure legends provided (not more than 40 words)
- Patients' privacy maintained, (if not permission taken)
- Credit note for borrowed figures/tables provided
- Manuscript provided on a CDROM (with double spacing)

#### Submitting the Manuscript

- Is the journal editor's contact information current?
- Is a cover letter included with the manuscript? Does the letter
- 1. Include the author's postal address, e-mail address, telephone number, and fax number for future correspondence?
- 2. State that the manuscript is original, not previously published, and not under concurrent consideration elsewhere?
- 3. Inform the journal editor of the existence of any similar published manuscripts written by the author?
- 4. Mention any supplemental material you are submitting for the online version of your article?

Contributors' Form (to be modified as applicable and one signed copy attached with the manuscript)

# **Subscription Form**

I want to renew/subscribe to international class journal **"Indian Journal of Anesthesia and Analgesia"** of Red Flower Publication Pvt. Ltd.

## **Subscription Rates:**

India: Institutional: Rs.4000, Individual: Rs.1000, Life membership (10 years only for individulas) Rs.5000.
All other countries: \$600

Name and complete address (in capitals):

Payment detail: Demand Draft No. Date of DD Amount paid Rs./USD

1. Advance payment required by Demand Draft payable to Red Flower Publicaion Pvt. Ltd. payable at Delhi.

2. Cancellation not allowed except for duplicate payment.

3. Agents allowed 10% discount.

4. Claim must be made within six months from issue date.

Mail all orders to

## **Red Flower Publication Pvt. Ltd.**

48/41-42, DSIDC, Pocket-II, Mayur Vihar Phase-I, Delhi - 110 091 (India) Tel: 91-11-22754205, 45796900, Fax: 91-11-22754205 E-mail: redflowerppl@vsnl.net, redflowerppl@gmail.com Website: www.rfppl.org

# INDIAN JOURNAL OF ANAESTHESIA AND ANALGESIA

January - June, 2014 Volume 1 Number 1

## Contents

	-
EDITORIAL	
Curriculum of Anaesthesiology at the Undergraduate Level: How Effective	
is the Current Scenario?	9
K.K. Mubarak	
ORIGINAL ARTICLE	
Pioneer of Paediatric Anesthesia: Gordon Jackson Rees	11
Sunil Mhaske	
An Overview of Systematic Reviews and Meta-analyses on Diabetic	
Neuropathy: A Quantitative Cross-Sectional Analysis	13
Kumar Senthil P., Adhikari Prabha, Jeganathan, D'Souza Sydney C.,	
Misri Z.K.	
REVIEW ARTICLE	
Critical Care Journals: From Providing Care in Intensive Units to	
Ensuring Care for Publishing Evidence	23
Kumar Senthil P., Adhikari Prabha, Jeganathan	
CASE REPORT	
Anasthetic Management of a Case of Unilateral Adrenal Mass in Young	
Female for Adrenalectomy	27
Heena Parikh, Malini Mehta	
SHORT COMMUNICATION	
Anesthesiology Journals and their Scientific Contribution: An	
Overview of Published Studies	33
Kumar Senthil P., Adhikari Prabha, Jeganathan	

Revised Rates for 2014 (Institutional)						
Title	Freequency	Rate (Rs): India	Rate (\$):ROW			
Dermatology International	2	2500	280			
Gastroenterology International	2	3500	360			
Indian Journal of Agriculture Business	2	4500	300			
Indian Journal of Anatomy	2	3200	260			
Indian Journal of Ancient Medicine and Yoga	4	6600	330			
Indian Journal of Anesthesia and Analgesia	2	4000	600			
Indian Journal of Anthropology	2	8000	500			
Indian Journal of Applied Physics	2	3500	400			
Indian Journal of Biology	2	1500	170			
Indian Journal of Cancer Education and Research	2	4500	500			
Indian Journal of Communicable Diseases	2	1000	58			
Indian Journal of Dental Education	4	3200	288			
Indian Journal of Forensic Medicine and Pathology	4	12500	576			
Indian Journal of Forensic Odontology	4	3200	288			
Indian Journal of Genetics and Molecular Research	2	5000	262			
Indian Journal of Law and Human Behavior	2	5000	500			
Indian Journal of Library and Information Science	3	7500	600			
Indian Journal of Maternal-Fetal & Neonatal Medicine	2	4500	400			
Indian Journal of Mathematics and Statistics	2	3000	200			
Indian Journal of Medical & Health Sciences	2	1800	120			
Indian Journal of Obstetrics and Gynecology	2	2000	200			
Indian Journal of Pathology: Research and Practice	2	3000	915			
Indian Journal of Plant and Soil	2	5000	1700			
Indian Journal of Preventive Medicine	2	3200	270			
Indian Journal of Reproductive Science and Medicine	4	3000	180			
Indian Journal of Scientific Computing and Engineering	2	3300	280			
Indian Journal of Surgical Nursing	3	1800	70			
Indian Journal of Trauma & Emergency Pediatrics	4	6500	302			
International Journal of Agricultural & Forest Meteorology	2	8000	800			
International Journal of Food, Nutrition & Dietetics	2	3200	900			
International Journal of History	2	6000	500			
International Journal of Neurology and Neurosurgery	2	7500	276			
International Journal of Political Science	2	5000	400			
International Journal of Practical Nursing	3	1500	70			
International Physiology	2	4000	240			
Journal of Animal Feed Science and Technology	2	3500	280			
Journal of Cardiovascular Medicine and Surgery	2	5500	238			
Journal of Orthopaedic Education	2	2500	190			
Journal of Pharmaceutical and Medicinal Chemistry	2	3000	350			
Journal of Psychiatric Nursing	3	1800	70			
Journal of Social Welfare and Management	4	6600	276			
Meat Science International	2	5000	500			
Microbiology and Related Research	2	3800	150			
New Indian Journal of Surgery	4	6500	360			
Ophthalmology and Allied Sciences	2	3000	150			
Otolaryngology International	2	2000	300			
Pediatric Education and Research	4	3200	150			
Physiotherapy and Occupational Therapy Journal	4	7000	360			
Urology, Nephrology and Andrology International	2	2200	350			

#### Terms of Supply:

8

1. Advance payment required by Demand Draft payable to Red Flower Publicaion Pvt. Ltd. payable at Delhi.

2. Cancellation not allowed except for duplicate payment.

3. Agents allowed 10% discount.

4. Claim must be made within six months from issue date.

#### Order from

Red Flower Publication Pvt. Ltd., 48/41-42, DSIDC, Pocket-II, Mayur Vihar Phase-I, Delhi - 110 091 (India), Tel: 91-11-22754205, 45796900, Fax: 91-11-22754205. E-mail: redflowerppl@vsnl.net, redflowerppl@gmail.com, Website: www.rfppl.org

Curriculum of Anaesthesiology at the Undergraduate Level: How Effective is the Current Scenario?



Anaesthesiology is a specialty unique in medical practice of recent origin since the demonstration of successful ether anesthesia by William Thomas Green Morton on 16<sup>th</sup> October 1846. The discovery of action of curare at the myoneural by junction Claude Bernard in 1857 has revolutionized the technique of general anesthesia by the use of neuromuscular blocking drugs. Use of cocaine as local anaesthetic by Carl Koller in 1884 and the introduction of clinical spinal anesthesia by August Bier by the same drug in 1898 has taken the speciality to a different angle. Though the speciality has evolved to provide pain relief during surgical procedures, the clinical skill acquired by the anesthesiologist has now encroached outside

the operation theatres like the postoperative care rooms, the intensive care units, cardiopulmonary resuscitation areas and the pain clinics.

The undergraduate medical curriculum is aimed at providing primary medical care to the with basic patient knowledge of all specialties needed for this. It also creates interest of the candidate in various specialties, which later prompt them to choose their specialty for later postgraduate studies too.

There is no consensus regarding the optimal curriculum or duration or content required for the undergraduate medical education and hence it varies from place to place. To achieve the goal of patient care like perioperative management, critical care, pain therapy and cardiopulmonary resuscitation skills, adequate training in anesthesiology should from start the undergraduate level itself.

Unfortunately, these knowledge to be learnt from the anaesthesiologist has not gained its due credit and importance during the undergraduate medical education period. This deprives the patient adequate medical treatment and does not generate the necessary aptitude and interest of these undergraduates in choosing anaesthesiogy as their future subject of studies also. This probably is the main reason for the lack of qualified anesthesiologists in a developing country like India.

Anesthesiology is considered as a stressful specialty. The reason may be due to dealing with the patient's life and death during the entire perioperative period, with limited recognition of their stressful iob. This probably adds to the scarcity of qualified persons in anaesthesiology practicing this specialty.

Currently, in our country, anaesthesia education at the undergraduate level is often neglected, when compared to other basic specialties like medicine, surgery, obstetrics & gynecology and pediatrics. The reason may be the thinking that anesthesia does not come into the routine stream of basic patient care. In fact,

anesthesia education involves not only the perioperative medical care, but a wide spectrum of medical care including cardiopulmonary resuscitation, critical care, pain therapy, trauma and airway management. This thinking should bring the position of anesthesiology to the mainstream specialty subject of undergraduate medical education.

At present, during the undergraduate training period, there are two weeks of clinical posting and around twenty hours of lecture classes in the subject. During the internship period, they get two weeks of practical training. This seems to be inadequate to teach such a spectrum of areas involved in this subject. Further, since there is no separate theory or clinical examination in the subject, there is a natural tendency for students as well as the teachers to take the subject in a very light manner.

What is the solution to this problem? More stress has to be paid for the inclusion of anaesthesiology as a major subject in the undergraduate medical education. There should be at least one month of clinical postings in the specialty to train them various aspects of resuscitation, airway management and other skills. There should be at least two hours of lecture classes in a week during one of the semesters. After this, there should be a separate examination both in theory and practical, exclusively for anesthesiology. The internship residency programme should incorporate minimum of one month of posting in anaesthesiology to gain the practical The medical curriculum should skills. be modified to attain this goal. Above all, it is the duty of the faculty of the specialty to take keen interest to create the aptitude and skill to their students in the subject.

In fact, the Delhi University has proposed anaesthesia examination as a separate subject in the ninth semester, subject to the approval of the Medical Council of India and the faculty of Medical sciences of the university. This would probably be positive step in this direction, which can be a model for the other Indian Universities too.

## **Editor-in-Chief**

Dr. K.K. Mubarak, DPM, MD (Anaesthesiology) Professor & Head of Anaesthesiology Govt. Medical College, Kozhikode, Kerala 673008

E-mail: mubarakdr@yahoo.co.in

The author is in medical education service of the Government of Kerala since 1989.

## References

- Rohan D, Ahern S Walsh K. Defining an anesthesia curriculum for medical undergraduates. A Delphi study. *Med Teach*. 2009; 31(1): e1-5.
- 2. Alam MR, Islam MZ. Evaluation of teaching curriculum of anaesthesiology by the undergraduate medical students. *JAFMC, Bangladesh.* 2011; 7(1).
- 3. Asha Tyagi, Surendrakumar, Ashok Kumar Sethi, Upreet Dhaliwal, Factors influencing career choice in anaesthesiology. *Indian J Anaesth.* 2012; 56(4): 342-347.
- A Tyagi, S Ahuja, A Battacharya. Undergraduate medical students assessment of teaching curriculum – A cross sectional study. *Indian J Anaesth.* 2002; 46(3): 186-188.
- 5. LD Mishra. Editorial. *Indian J Anaesth.* 2002; 46(5): 344-346.
- 6. MBBS Anesthesia curriculum, Delhi University.

# **Pioneer of Paediatric Anesthesia: Gordon Jackson Rees**

#### Abstract

Gordon Jackson Rees. known to all hisfriends as 'Jack'. was born on December 1918. He was educated at Oswestry School and entered the University of Liverpool to study medicine in 1937, and qualified M.B.Ch.B. in late1942. His scholastic achievements,by his standards, were modest gave little hint of his and later academic brilliance and practical innovative ability. Early in 1943, Jack was called up into the Royal Air Force medical branch and served as station medical officer being sent to the before Radcliffe Infirmary, Oxford, to anaesthesia study under Professor Robert Macintosh William Mushin. and He obtained the one part Diploma in Anaesthetics in 1946.He became consultant anaesthetist to Roya1 the Liverpool Hospitals in 1949 and, on the invitation of Professor Cecil Gray, joined the new University Department of Anaesthesia as a part time demonstrator. The current article is to enlight the work of this brilliant "Pioneer of paediatric anaesthesia"

**Keywords:** Pediatric anesthesia; Gordon Jackson; Triad of anesthesia.

#### Introduction

Gordon was a consultant anesthetist to the Royal

## Sunil Mhaske



Liverpool Hospitals in 1949 and joined the new university department of anaesthesia as a part-time demonstrator. Together with Professor Cecil Gray, using different drugs to produce specific effects. introduced he the revolutionary concept of the "triad of anaesthesia." Shortly afterwards Jack. as he was known, was persuaded to help develop paediatric anaesthesia. The so-called Jackson Rees technique of paediatric anaesthesia initially developed as a result of his experiences in adult anaesthesia and an intense desire to humanise the management of children in hospital. This technique became known soon throughout other paediatric centres and, as a result, he travelled widely as a visiting professor and invited

lecturer, and was presented with many prestigious awards. He became known as a superb speaker, a witty panelist, and a persuasive debater. His writings are a model of lucidity and a pleasure to read, though he confessed that he was a reluctant writer.[1]

Gordon Jackson Rees was born on 8 December 1918 in Oswestry Shropshire. He was educated at Oswestry School and entered the University of Liverpool to study medicine in 1937. He joined to the Royal Air Force medical branch and obtained the Diploma in Anaesthesia in 1946.

He became a consultant anaesthetist to the Royal Liverpool Hospitals in 1949. He introduced the new concept of the "triad of anaesthesia." He is

Author's Affiliations: \*Professor & Head, Dept of Paediatrics, Padmashree Dr. Vithalrao Vikhe Patil Medical College & Hospital, Near Govt. Milk Dairy, Vilad Ghat, Ahmednagar – 414111.

**Corresponding Author: Dr. Sunil Mhaske,** Professor & Head, Dept of Paediatrics; Padmashree Dr. Vithalrao Vikhe Patil Medical College & Hospital, Near Govt. Milk Dairy, Vilad Ghat, Ahmednagar – 414111.

E - m a i l sunilmhaske@rocketmail.com remembered as one of the pioneers and developers of paediatric anaesthesia and was known with Gray for the "the Liverpool technique" Also he developed Jackson Rees modification of the Ayres T-piece for the ventilation of babies and small children.

Jack assisted to Miss Forshall, a paediatric surgeon with whom he developed the paediatric anesthesia branch. He had an intense desire to humanise the management of children in hospital.

In 1950, he published an article in the *British Medical Journal* on Neonatal Anesthesia. It gave him wide publicity as a pediatric anesthetist.[1,2]

#### Positions

- Fellow of the Faculty of Anaesthetists of the Royal College of Surgeons of England, Fellow of the Faculty of Anaesthetists of the Royal Australian College of Surgeons, Fellow of the Faculty of Anaesthetists of the Royal College of Surgeons of Ireland.
- Fellow of the Royal College of Physicians of London.
- Fellow of the Royal College of Paediatrics and Child Health.

#### Honors

• Awarded by the Medal for the Faculty of Anaesthetists of the Royal College of Surgeons of England

- Frederick Hewitt Medal of the Royal College of Surgeons of England
- Henry Hill Hickman Medal of the Royal Society of Medicine, London
- John Snow Medal of the Association of Anesthetists of Great Britain and Ireland
- Robert M. Smith Award of the American Academy of Pediatrics.
- Founder member and later a President of the Association of Paediatric Anaesthetists of Great Britain and Ireland
- First President of the federation of Association of European Associations of Paediatric Anaesthesia.
- Honorary citizen of the ancient university city of Coimbra, Portugal

Dr Jackson Rees died on 19 January 2001.

#### References

- 1. An appreciation of Dr. Gordon Jackson Rees. Pioneer of Paediatric Anaesthesia. *Paediatr Anaesth.* 2001;11(3): 379-81.
- 2. Thomas Cecil Gray CBE KCSG FRCP FRCS FRCA and Gordon Jackson Rees FRCA FRCP FRCPCH. Major contributors to post-resuscitation care. *Resuscitation* – official journal of European Resuscitation Council, Received 20 July 2006; accepted 20 July 2006.

An Overview of Systematic Reviews and Meta-analyses on Diabetic Neuropathy: A Quantitative Cross-Sectional Analysis

## Kumar Senthil P.\*, Adhikari Prabha\*\*, Jeganathan\*\*\*, D'Souza Sydney C.\*\*\*\*, Misri Z.K.\*\*\*\*

#### Abstract

Background: Evidence informed practice relied upon evidence from systematic reviews and meta-analyses as the highest in the hierarchy in order to inform clinical practice decisions in foot and ankle rehabilitation in people with Diabetic peripheral neuropathic pain (DPNP) and Painful diabetic peripheral neuropathy (PDPN) Purpose: This study aimed to perform a systematic review and quantitative conten analysis of systematic reviews on DPNP andPDPN. **Materials** and Methods:The extracted data about every included study included: journal, year of publication, number of country authors. of manuscript origin, goal of article (evaluation or intervention or both) subtypes of intervention (medical, surgical, or allied health), population characteristics (homogeneous or heterogeneous), and professional dimension. **Results:** There were 36 systematic reviews found, most of which were published from developed countries, in many scientific journals across the past 15 years, with lesser number of authors, with search strategy that utilized limited number of databases included few studies, and they were predominantly on medical interventions.

**Conclusion:** The few systematic reviews and metaanalyses on DPNP and PDPN provided evidence information for decision making towards evaluation and management of foot and ankle dysfunction in this population.

**Key words:** Evidence-based diabetes care; Diabetic peripheral neuropathic pain; Foot and ankle dysfunction; Painful diabetic peripheral neuropathy.

#### Introduction

Clinical research on foot and ankle is evolving through a phase of ongoing paradigm shift towards evidence-informed practice (EIP) where individualized therapy prescription in evaluation and management was to be given with a shared self-reflective clinical reasoning-based decision making considering client preferences and findings from current scientific research evidence.[1-4]

EIP relied upon evidence from systematic reviews and meta-analysis of randomized controlled trials as the highest in the hierarchy in order to inform clinical practice decisions in foot and rehabilitation ankle (FAR).[5] Analysis of reporting status for systematic reviews provides valuable information on status of peak of evidence pyramid necessary for facilitation of policy making in the area under focus.[6]

One of the common complications of the global epidemic of diabetes mellitus is the Diabetic peipheral neuropathy (DPN) which manifests as lower extremity peripheral nerve dysfunction affecting the foot and ankle.[7] Hence there is need to evaluate

Author's **Affiliations:** Founder-President, Academy of Orthopaedic Manual Physical Therapists (AOMPT)™, Freelance Physiotherapist and private practitioner, Mangalore, India, Professor, Department of Medicine, Department Professor, Physiology, <sup>4</sup>Professor, Department of Neurology, <sup>5</sup>Associate Professor Department of Medicine, Kasturba Medical College (Manipal University), Mangalore, India.

**Corresponding Author: Senthil P. Kumar,** Founder-President, Academy of Orthopaedic Manual Physical Therapists (AOMPT)<sup>™</sup>, Freelancer Physiotherapist and private practitioner, Mangalore, India.

E - m a i l : senthilparamasivamkumar@gmail.com 14 Kumar Senthil P. *et al* /An Overview of Systematic Reviews and Meta-analyses on Diabetic Neuropathy: A Quantitative Cross-Sectional Analysis

systematic reviews on DPN so that EIP in FAR could be effectively implemented. The objective of this paper was to perform a quantitative explorative overview of systematic reviews and meta-analyses on DPN.

#### **Materials and Methods**

#### Study Design

Descriptive systematic overview

#### Search methods

Two independent reviewers performed literature search, extracted data according to a pre-decided checklist and performed data synthesis with an ongoing mutual consensus for disagreements at every stage of the review process.

## Search Strategy

The search terms "(neuropathy[Title] OR neuropathic [Title]) AND (diabetes [Title] OR diabetic[Title])" were used through advanced search feature[8] of PubMed database with search filters[9] activated for Systematic Reviews, Abstract available, and English language publications.

## Data Extraction and Synthesis

The obtained articles were considered as systematic review if they fulfilled four criteria: specified crietria for inclusion of studies, specific search strategy mentioning databases, reporting results by mentioning number of included studies, with or without meta-analysis.

The selected reviews were grouped and sugrouped as follows: country of publication, year of publication, number of authors, goal of study, professional dimension, type of population, number of databases, and number of included studies. A similar approach to data synthesis was previously used by Kumar *et al.*[10]

#### **Results: Main Findings**

The initial list of 73 articles was scrutinized and a final list of 36 articles[11-46] was included for data extraction and synthesis. The 37 excluded articles were either not systematic reviews (N=28) or they were not on diabetic neuropathy (N=9).

#### Journals

A total of 30 journals published the 36 systematic reviews and amongst them, ANT had one article[41], AP had one article[35], BMCN had two articles[33,37], BMJ had one article[40], CDSR had 4 articles [14,21,38,43], CJP had one article[16], CMRO had one article[23], DC had two articles[68,72], DFA had one article[15], DM had one article[45], DRCP had two articles[18,24], EJE had one article[12], EODS had one article[25], FK had one article[20], IJE had one article[17], JAMA had one article[31], JDC had one article[31], JE had one article[11], JFAS had one article[30], JGIM had one article[34], JGPT had one article[19], JPSM had one article[42], JRM had one article[26], JVS had one article[32], NJM had one article[28], P had one article[22], PM had one article[39], PO had one article[13], RAPM had one article[36] and SMW had one article[27] (Figure 1).

## Years of Publication

The systematic reviews were published from 1996[45,46] onwards to 1999[44], 2000[42,43], 2005[41], 2007[39,40], 2008[35-38], 2009[30-34], 2010[23-29], 2011[19-22] until 2012[11-18] (Figure 2). Kumar Senthil P. et al / An Overview of Systematic Reviews and Meta-analyses on Diabetic Neuropathy: 15 A Quantitative Cross-Sectional Analysis



Figure 1: Comparison of Number of Articles between Journals

## Figure 2: Comparison of Number of Articles between Years of Publication









## Number of Authors per Article

There was no consistent pattern for number of authors per article found for the systematic reviews, with two authors[15,30], three authors[18,20,21, 23,26,32,34,35,40,41,44], four authors [11,12,14,16,24,28,29,31,37,42,43], five authors[17,22,27,36], six authors[19,25,

seven authors[13], eight 39,46], authors[33] and ten authors[45] (Figure 3).

#### Nationality of Corresponding Author

The corresponding authors for reviews were from 10 countries, and Austria had one article[26], Canada had one article[29], China had 6 articles[1116 Kumar Senthil P. et al / An Overview of Systematic Reviews and Meta-analyses on Diabetic Neuropathy: A Quantitative Cross-Sectional Analysis

## Figure 4: Comparison of Number of Articles between Countries



# Figure 7: Comparison of Number of Articles between Interventions



Figure 5: Comparison of Number of Articles between Goals of Study

Figure 8: Comparison of Number of Articles Between study Population



13,20,21,24], Germany had two articles[16,22], Hong Kong had one article[40], Italy had two articles[45,46], Netherlands had two articles[17,28], Taiwan had one article[41], UK had seven articles[18,27,31,33,37,42,43], and USA had 13

Kumar Senthil P. *et al /* An Overview of Systematic Reviews and Meta-analyses on Diabetic Neuropathy: 17 A Quantitative Cross-Sectional Analysis

## Figure-10: Comparison of Number of Articles between Number of Searched Databases



articles[14,15,19,23,25,30,32,34-36,38,39,44] (Figure 4).

## Goal of Study

32 studies had intervention[11-17,19-28,30,31,33-46] had their goal, and 3 were on evaluation[18,29,32], with only one study on both[39] (Figure 5).

#### Professional Dimension of Study

32 studies were on practice[11,12,14, 15,17-21,23-38,40-46], 3 studies were on research[13,16,22] and one was on mixed[39] (Figure 6).

#### Type of Intervention

Of the 33 studies on intervention, 20 were on medical [12,14,16,17,22,23, 25,27,28,33-37,42-46], 4 each on allied health [19,24,26,31] and complementary [11,13,20,21], 3 on surgical treatment [15,30,38] and 2 on multidisciplinary intervention [39,40] (Figure 7).

#### Type of Population

30 studies were homogeneous[11-15,17-21,24-33,35,36,38-41,43-46] and 6 were heterogeneous[16,22,23,34,37,42] (Figure 8).

## Figure 11: Comparison of Number of Articles between Numbers of Included Studies in each Review



Volume 1 Number 1, January - June 2014

18 Kumar Senthil P. *et al* / An Overview of Systematic Reviews and Meta-analyses on Diabetic Neuropathy: A Quantitative Cross-Sectional Analysis

#### Presence/ Absence of Meta-analysis:

22 studies had meta-analysis[11,12,14-17,22,24,25,27,29,32-34,36,37,40,42-46] and 14 studies did not[13,18,19,20,21,23,26,28,30,31,35,38,39,41] (Figure 9).

#### Number of Databases Searched

The studies included search strategies that comprised of searching 1 to 9 databases, with articles utilizing search strategy using 1 databases[15,25,26,32,35,39,43,44], 2 databases[17,23,28,29,30,31,34,36,45,46], 3 databases[14,24,33,37,41], 4 databases [12,16,18,19,40,42], 5 databases[22], 6 databases[11,27,38], seven databases[20], eight databases[13] and nine databases[21] (Figure 10).

#### Number of Included Studies

There was a huge range of 2[30,35] to 321[39] studies included in the reviews, with a greatest number of 6 studies [18,24,25,34,36,46] that included 3 trials each (Figure 11).

#### Discussion

This study aimed to provide an explorative overview of systematic reviews and meta-analyses on DPN and it found that limited number of reviews existed, which were published from developed countries, in many scientific journals across the past 15 years, with lesser number of authors, with search strategy that utilized limited number of databases, included few studies, and they were predominantly on medical interventions.

Overall limited number of systematic reviews warrants training and skill

development for researchers on search strategy and appraisal and meta-analysis software and techniques in order to improve conduct and reporting by authors and changes in publication policies by editors.[47]

The emerging role of China in its third leading position in number of systematic reviews on DPN is a positive trend for a developing country which indicated accessibility to original research through online subscription to scientific databases.[48]

Medical interventions for DPN are the mainstay in management of patients be it aetiopathogenetic, symptomatic or palliative.[49-51] There is scope for systematic reviews on surgical[52], physiotherapeutic[53] and neurodynamic interventions[54] in the future. The larger number of systematic reviews on medical interventions may be due to presence of many RCTs[55] and funding opportunities for industry-sponsored clinical trials from drug developers and companies.[56]

Few acceptable limitations of this study were inclusion of PubMed database for search since it was the widely accessed comprehensive biomedical evidence resource[57]; and use of search filter option instead of subject category of systematic reviews for finding the articles which was due to relatively recent introduction of the latter option in PubMed.[58]

There is need for future analyses of randomized controlled trials to further explore the underlying evidence information so that a more appropriate extrapolation could be made to suit specific patient types of foot and ankle dysfunction in DPN.

#### References

Kumar Senthil P. et al / An Overview of Systematic Reviews and Meta-analyses on Diabetic Neuropathy: 19 A Quantitative Cross-Sectional Analysis

- Barske HL, Baumhauer J. Quality of research and level of evidence in foot and ankle publications. *Foot Ankle Int.* 2012; 33: 1-6.
- 2. Epstein I. Promoting harmony where there is commonly conflict: evidenceinformed practice as an integrative strategy. *Soc Work Health Care*. 2009; 48: 216-31.
- 3. Rycroft-Malone J. Evidence-informed practice: from individual to context. *J Nurs Manag.* 2008; 16: 404-8.
- 4. Peplinski SL, Irwin KE. The clinical reasoning process for the intervention of chronic plantar fasciitis. *J Geriatr Phys Ther.* 2010; 33: 141-51.
- 5. Johnston MV, Dijkers MP. Toward improved evidence standards and methods for rehabilitation: recommendations and challenges. *Arch Phys Med Rehabil.* 2012; 93: S185-99.
- 6. Seel RT, Dijkers MP, Johnston MV. Developing and using evidence to improve rehabilitation practice. *Arch Phys Med Rehabil.* 2012; 93: S97-S100.
- Rader AJ. Surgical decompression in lower-extremity diabetic peripheral neuropathy. JAm Podiatr Med Assoc. 2005; 95: 446-50.
- 8. Sood A, Erwin PJ, Ebbert JO. Using advanced search tools on PubMed for citation retrieval. *Mayo Clin Proc.* 2004; 79: 1295-9.
- Shariff SZ, Sontrop JM, Haynes RB, Iansavichus AV, McKibbon KA, *et al.* Impact of PubMed search filters on the retrieval of evidence by physicians. *CMAJ*. 2012; 184: E184-90.
- 10. Kumar SP, Adhikari P, Jeganathan PS, D'Souza SC, Sisodia V, et al. Evaluation and Intervention of Quality of life in individuals with Diabetic Peripheral Neuropathy- a Quantitative Crosssectional Content Analysis. Clin Res Foot Ankle. 2012; In press.
- Xu HB, Jiang RH, Chen XZ, Li L. Chinese herbal medicine in treatment of diabetic peripheral neuropathy: a systematic review and meta-analysis. J Ethnopharmacol. 2012; 143: 701-8.
- 12. Han T, Bai J, Liu W, Hu Y. A systematic

review and meta-analysis of á-lipoic acid in the treatment of diabetic peripheral neuropathy. *Eur J Endocrinol.* 2012; 167: 465-71.

- Bo C, Xue Z, Yi G, Zelin C, Yang B. Assessing the quality of reports about randomized controlled trials of acupuncture treatment on Diabetic Peripheral Neuropathy. *PLoS One*. 2012; 7: e38461.
- 14. Callaghan BC, Little AA, Feldman EL, Hughes RA. Enhanced glucose control for preventing and treating diabetic neuropathy. *Cochrane Database Syst Rev.* 2012; 6: CD007543.
- 15. Borkosky SL, Roukis TS. Incidence of reamputation following partial first ray amputation associated with diabetes mellitus and peripheral sensory neuropathy: a systematic review. *Diabet Foot Ankle*. 2012; 3.
- 16. Häuser W, Bartram C, Bartram-Wunn E, Tölle T. Adverse events attributable to nocebo in randomized controlled drug trials in fibromyalgia syndrome and painful diabetic peripheral neuropathy: systematic review. *Clin J Pain.* 2012; 28(5): 437-51.
- 17. Mijnhout GS, Kollen BJ, Alkhalaf A, Kleefstra N, Bilo HJ. Alpha lipoic Acid for symptomatic peripheral neuropathy in patients with diabetes: a meta-analysis of randomized controlled trials. *Int J Endocrinol.* 2012; 2012: 456279.
- Smith SC, Lamping DL, Maclaine GD. Measuring health-related quality of life in diabetic peripheral neuropathy: a systematic review. *Diabetes Res Clin Pract.* 2012; 96(3): 261-70
- 19. Ites KI, Anderson EJ, Cahill ML, Kearney JA, Post EC, Gilchrist LS. Balance interventions for diabetic peripheral neuropathy: a systematic review. *J Geriatr Phys Ther.* 2011; 34(3): 109-16.
- 20. Chen W, Luo YF, Liu JP. Topical herbal medicine for treatment of diabetic peripheral neuropathy: a systematic review of randomized controlled trials. *Forsch Komplementmed*. 2011; 18(3): 134-45.
- 21. Chen W, Zhang Y, Liu JP. Chinese herbal

20 Kumar Senthil P. *et al* / An Overview of Systematic Reviews and Meta-analyses on Diabetic Neuropathy: A Quantitative Cross-Sectional Analysis

medicine for diabetic peripheral neuropathy.Cochrane Database Syst Rev. 2011;(6):CD007796.

- 22. Häuser W, Bartram-Wunn E, Bartram C, Reinecke H, Tölle T. Systematic review: Placebo response in drug trials of fibromyalgia syndrome and painful peripheral diabetic neuropathymagnitude and patient-related predictors. *Pain.* 2011; 152(8): 1709-17.
- 23. Roth T, van Seventer R, Murphy TK. The effect of pregabalin on pain-related sleep interference in diabetic peripheral neuropathy or postherpetic neuralgia: a review of nine clinical trials. *Curr Med Res Opin.* 2010; 26(10): 2411-9.
- 24. Jin DM, Xu Y, Geng DF, Yan TB. Effect of transcutaneous electrical nerve stimulation on symptomatic diabetic peripheral neuropathy: a meta-analysis of randomized controlled trials. *Diabetes Res Clin Pract.* 2010; 89(1): 10-5.
- 25. Hall JA, Wang F, Oakes TM, Utterback BG, Crucitti A, Acharya N. Safety and tolerability of duloxetine in the acute management of diabetic peripheral neuropathic pain: analysis of pooled data from three placebo-controlled clinical trials. *Expert Opin Drug Saf.* 2010; 9(4): 525-37.
- 26. Pieber K, Herceg M, Paternostro-Sluga T. Electrotherapy for the treatment of painful diabetic peripheral neuropathy: a review. *J Rehabil Med.* 2010; 42(4): 289-95.
- 27. Wolff RF, Bala MM, Westwood M, Kessels AG, Kleijnen J. 5% lidocaine medicated plaster in painful diabetic peripheral neuropathy (DPN): a systematic review. *Swiss Med Wkly*. 2010; 140(21-22): 297-306.
- 28. Mijnhout GS, Alkhalaf A, Kleefstra N, Bilo HJ. Alpha lipoic acid: a new treatment for neuropathic pain in patients with diabetes? *Neth J Med.* 2010; 68(4): 158-62.
- 29. Kanji JN, Anglin RE, Hunt DL, Panju A. Does this patient with diabetes have large-fiber peripheral neuropathy? *JAMA*. 2010; 303(15): 1526-32.
- 30. Roukis TS, Schade VL.Percutaneous flexor tenotomy for treatment of neuropathic toe ulceration secondary to

toe contracture in persons with diabetes: a systematic review. *J Foot Ankle Surg.* 2009; 48(6): 684-9.

- 31. Paton J, Bruce G, Jones R, Stenhouse E. Effectiveness of insoles used for the prevention of ulceration in the neuropathic diabetic foot: a systematic review. *J Diabetes Complications*. 2011; 25(1): 52-62.
- 32. Feng Y, Schlösser FJ, Sumpio BE. The Semmes Weinstein monofilament examination as a screening tool for diabetic peripheral neuropathy. *J Vasc Surg*. 2009; 50(3): 675-82.
- 33. Quilici S, Chancellor J, Löthgren M, Simon D, Said G, Le TK, Garcia-Cebrian A, Monz B. Meta-analysis of duloxetine vs. pregabalin and gabapentin in the treatment of diabetic peripheral neuropathic pain. *BMC Neurol.* 2009; 9: 6.
- 34. Chou R, Carson S, Chan BK. Gabapentin versus tricyclic antidepressants for diabetic neuropathy and post-herpetic neuralgia: discrepancies between direct and indirect meta-analyses of randomized controlled trials. J Gen Intern Med. 2009; 24(2): 178-88.
- 35. Evans JD, Jacobs TF, Evans EW. Role of acetyl-L-carnitine in the treatment of diabetic peripheral neuropathy. *Ann Pharmacother*. 2008; 42(11): 1686-91.
- 36. Hurley RW, Lesley MR, Adams MC, Brummett CM, Wu CL. Pregabalin as a treatment for painful diabetic peripheral neuropathy: a meta-analysis. *Reg Anesth Pain Med*. 2008; 33(5): 389-94.
- 37. Sultan A, Gaskell H, Derry S, Moore RA. Duloxetine for painful diabetic neuropathy and fibromyalgia pain: systematic review of randomised trials. *BMC Neurol.* 2008; 8: 29.
- Chaudhry V, Russell J, Belzberg A. Decompressive surgery of lower limbs for symmetrical diabetic peripheral neuropathy. *Cochrane Database Syst Rev.* 2008; (3): CD006152.
- Barrett AM, Lucero MA, Le T, Robinson RL, Dworkin RH, Chappell AS. Epidemiology, public health burden, and treatment of diabetic peripheral neuropathic pain: a review. *Pain Med*.

Kumar Senthil P. *et al /* An Overview of Systematic Reviews and Meta-analyses on Diabetic Neuropathy: 21 A Quantitative Cross-Sectional Analysis

2007; 8(Suppl 2): S50-62.

- 40. Wong MC, Chung JW, Wong TK. Effects of treatments for symptoms of painful diabetic neuropathy: systematic review. *BMJ*. 2007; 335(7610): 87.
- 41. Sun Y, Lai MS, Lu CJ. Effectiveness of vitamin B12 on diabetic neuropathy: systematic review of clinical controlled trials. *ActaNeurol Taiwan*. 2005; 14(2): 48-54.
- 42. Collins SL, Moore RA, McQuayHJ, Wiffen P. Antidepressants and anticonvulsants for diabetic neuropathy and postherpetic neuralgia: a quantitative systematic review. *J Pain Symptom Manage*. 2000; 20(6): 449-58.
- 43. Airey M, Bennett C, Nicolucci A, Williams R. Aldose reductase inhibitors for the prevention and treatment of diabetic peripheral neuropathy. *Cochrane Database Syst Rev.* 2000; 2: CD002182.
- 44. Margolis DJ, Kantor J, Berlin JA. Healing of diabetic neuropathic foot ulcers receiving standard treatment. A metaanalysis. *Diabetes Care*. 1999; 22(5): 692-5.
- 45. Nicolucci A, Carinci F, Cavaliere D, Scorpiglione N, Belfiglio M, Labbrozzi D, Mari E, Benedetti MM, Tognoni G, Liberati A. A meta-analysis of trials on aldose reductase inhibitors in diabetic peripheral neuropathy. The Italian Study Group. The St. Vincent Declaration. *Diabet Med.* 1996; 13(12): 1017-26.
- 46. Nicolucci A, Carinci F, Graepel JG, Hohman TC, Ferris F, Lachin JM. The efficacy of tolrestat in the treatment of diabetic peripheral neuropathy. A metaanalysis of individual patient data. *Diabetes Care*. 1996; 19(10): 1091-6.
- 47. Wallace J, Byrne C, Clarke M. Making evidence more wanted: a systematic review of facilitators to enhance the uptake of evidence from systematic reviews and meta-analyses. *Int J Evid Based Healthc.* 2012; 10: 338-46.
- He M, Hu Y. Integrating the online nursing evidence-based information resources for evidence-based nursing study in China. *Int J Nurs Pract.* 2012; 18: 429-436.

- 49. Kumar SP, Adhikari P, Jeganathan PS, D'Souza SC. Medical management of diabetic peripheral neuropathic pain: a focused review of literature. *International Journal of Neurology and Neurosurgery*. 2010; 2(1): 29-46.
- 50. Smith HS, Argoff CE. Pharmacological treatment of diabetic neuropathic pain. *Drugs*. 2011; 71: 557-89.
- 51. Petit WA Jr, Upender RP. Medical evaluation and treatment of diabetic peripheral neuropathy. *Clin Podiatr Med Surg*. 2003; 20: 671-88.
- 52. Kumar SP, Adhikari PA, Jeganathan PS, Misri ZK. Surgical management of painful diabetic peripheral neuropathy- a focused review. *Int J Neurol Neurosurg.* 2012; 4(1): 21-5.
- 53. Kumar SP, Adhikari P, Jeganathan PS, D'Souza SC. Physiotherapy management of painful diabetic peripheral neuropathy: a current concepts review of treatment methods for clinical decision-making in practice and research. *Int J Curr Res Rev.* 2010; 2(9): 29-39.
- 54. Kumar SP, Adhikari P, Jeganathan PS, Kumar V. Neurodynamic mobilization for neuropathic pain- a review of current evidence. *Journal of Indian Association of Physiotherapists.* 2011; 9(1): 32-9.
- 55. Manchikanti L, Hirsch JA, Smith HS. Evidence-based medicine, systematic reviews, and guidelines in interventional pain management: Part 2: Randomized controlled trials. *Pain Physician*. 2008; 11: 717-73.
- 56. Doyle J, Armstrong R, Waters E. Key issues in Cochrane systematic reviews: cultural and economic considerations. J Public Health (Oxf). 2008; 30: 342-44.
- 57. Balakumar P, Marcus SJ, Jagadeesh G. Navigating your way through online resources for biomedical research. *RGUHS J Pharm Sci.* 2012; 2: 5-27.
- 58. Richter RR, Austin TM. Using MeSH (medical subject headings) to enhance PubMed search strategies for evidencebased practice in physical therapy. *Phys Ther.* 2012; 92: 124-32.

# Indian Journal of Anesthesia and Analgesia

## Library Recommendation Form

If you would like to recommend this journal to your library, simply complete the form below and return it to us. Please type or print the information clearly. We will forward a sample copy to your library, along with this recommendation card.

## Please send a sample copy to:

Name of Librarian Library Address of Library

## Recommended by:

Your Name/ Title Department Address

## Dear Librarian,

I would like to recommend that your library subscribe to the **Indian Journal of Anesthesia and Analgesia**. I believe the major future uses of the journal for your library would be:

1. As useful information for members of my specialty.

2. As an excellent research aid.

3. As an invaluable student resource.

4. I have a personal subscription and understand and appreciate the value an institutional subscription would mean to our staff.

5. Other

Should the journal you're reading right now be a part of your University or institution's library? To have a free sample sent to your librarian, simply fill out and mail this today!

Stock Manager **Red Flower Publication Pvt. Ltd.** 48/41-42, DSIDC, Pocket-II, Mayur Vihar, Phase-I Delhi - 110 091 (India) Tel: 91-11-22754205, 45796900, Fax: 91-11-22754205 E-mail: redflowerppl@gmail.com, redflowerppl@vsnl.net Website: www.rfppl.org

# Critical Care Journals: From Providing Care in Intensive Units to Ensuring Care for Publishing Evidence

Kumar Senthil P.\*, Adhikari Prabha\*\*, Jeganathan\*\*\*

#### Abstract

This review article was primarily intended to update the evidence on analyses of critical care journals through a search of PubMed database There were 11 studies analyzing critical care journals in aspects of journals prices, editorial board composition, impact factor. national representation national productivity international representation European contribution Chinese contribution, and equal-credit authorship, survey reporting, and referencing accuracy. There is need for recent studies on analyzing methodological issues, ethical issues and conflicts of interest policies in critical care journals.

**Keywords:** Critical care; Intensive care; Journal trend; Publication policies; Anesthesiology research.

This review article was primarily intended to update the evidence on analyses of critical care journals through a search of PubMed database.

## Price Development

Boldt *et al* analyzed the development in prices of anesthesia/critical care

journals (Anesthesiology, Emergency Medicine & Critical Care, Surgery, Medicine (General), and Cardiac & Cardiovascular Systems) and compared them to prices of other disciplinary journals. There was an increase in prices in the range of 13% to 199%. The mean price increase was higher for Critical care than Anesthesiology, and the journals' size (number of articles or pages) was not found to increase proportionally with the increase in prices.[1]

# Composition of the Editorial/Advisory Boards

Boldtand Maleck analyzed 18 Anesthesiology and 16 Emergency Medicine & Critical Care journals about the editorship and membership the of advisory boards. There were 140 editors and 423 advisory board members In the Anesthesiology section, and they were from 14 and 30 countries respectively whereas there were 159 editors and 835 advisory board members in the Emergency Medicine &

Critical Care section, and most of them were from USA.[2]

## Impact Factor

Boldt et al analyzed the impact factors (IFs) of Anesthesiology and Emergency Medicine & Critical Care journals and most IFs constantly increased over the years, with EM&CC having better increase in trend.More Anesthesiology and Emergency Medicine & Critical Care journals were from the USA and they showed an IF >2.0over the past 10 years compared to those ofEuropean journals.[3]

Author's Affiliations: <sup>1</sup>Founder-President, Academy of Orthopaedic Manual Physical Therapists (AOMPT)<sup>™</sup>, Freelancer Physiotherapist and private practitioner, Mangalore, India, <sup>2</sup>Professor, Department of Medicine, <sup>3</sup>Professor, Department of Physiology, Kasturba Medical College (Manipal University), Mangalore, India.

**Corresponding Author: Senthil P. Kumar,** Founder-President, Academy of Orthopaedic Manual Physical Therapists (AOMPT)<sup>™</sup>, Freelancer Physiotherapist and private practitioner, Mangalore, India.

E - m a i l : senthilparamasivamkumar@gmail.com

## National Representation

Boldt et al studied the national origin of articles published in 17 Anesthesiology and 13 Emergency Medicine & Critical Care journals for the country of origin of the first author. Among the 10,643 articles in 30 journals, 4,283 articles were from USA, 1418 articles were from UK. In 14 of the 17 US journals, >50% of the publications came from the US.The impact factor per million inhabitants ratio was higher forthe small highly industrialized nations (Finland and Sweden)than large highly industrialized countries (USA, Germany and Japan). The United States was found to be the most active nation in this medical area, followed by the United Kingdom.[4]

## National Productivity

Li et al examined the national productivity of 17,667 articles published in 20 highly cited journals. The productivity was more from North America, West Europe, and East Asia; with high-income countries publishing 89.68% of the total articles. The United States published the most number of articles followed by United Kingdom, Germany, France, and Australia. Besides, the United States also had the most number of randomized, controlled trials, the highest total impact factors, and the highest total citations. Articles published per million population size revealed that Australia had the highest number of articles, followed by Netherlands, Switzerland, Austria, and Belgium.[5]

## International Contribution

Shahla *et al*x assessed the publications per million inhabitants of major countries by examining the published papers in five major respiratory and intensive care journals (Intensive Care Medicine, Critical Care Medicine, Chest, The American Review of Respiratory Disease, and Circulatory Shock). USA and Canada were found to be the predominant contributors followed by the other countries in the following order: Switzerland, Sweden, Belgium, the Netherlands, Finland, Austria, Denmark, UK, France, Spain, Italy, Norway, Japan and Germany.[6]

## European Contribution

Shahla et al assessed the European contribution to the intensive care medicine literature by reviewing all original articles and case reports in 5 major journals (Critical Care Medicine, Intensive Care Medicine, Chest, The American Review of Respiratory Disease and Circulatory Shock). Journal-specific differences were noted and an overall decline in the US contributions and a corresponding increase in the European participations to Chest and the American Review of Respiratory Disease was found, but not to Critical Care Medicine or Circulatory Shock. There was a progressive increase in the French, Italian and Spanish contributions among the European articles.[7]

## Chinese Contribution

Li *et al* examined the Chinese contribution in 932 articles published in 18 critical care journals from three major regions of China—Mainland (ML), Hong Kong (HK), and Taiwan (TW). TW had greater number of articles and with impact factors than ML and HK, and their numbers increased from 1999 to 2008. HK had the highest average citations per article, followed by TW and ML. The most popular journal was Journal of Trauma.[8]

## Equal-credit Authorship

Wang *et al* investigated the prevalence and characteristics of equal-credit authorship in publications in four major journals of critical care medicine (American Journal of Respiratory and Critical Care Medicine, Critical Care Medicine, Intensive Care Medicine, and Critical Care). All four journals had 'equal-author' articles, with an increasing trend over the years. The first two authors received equal credit in most articles, and none of the four journals provided specific guidance regarding this practice in their instructions to authors.[9]

## Reporting of Surveys

Duffett *et al* analyzed the quality of reporting of 151 surveys published in five critical care journals (American Journal of Respiratory and Critical Care Medicine, Critical Care, Critical Care Medicine, Intensive Care Medicine, and Pediatric Critical Care Medicine).[10]

The journals published at a rate of 0.38 per 1000 citations per yearand the median number of respondents and reported response rates were 217 and 63.3%, respectively. United States and Canada were commonly surveyed, and theyfrequently examined practice (78.8%), attitudes or opinions (60.3%), and less frequently knowledge (9.9%). The commonly reported survey design and methods were: 1) instrument development, instrument testing and clinimetric properties.

## Referencing Accuracy

Oermannand Ziolkowski evaluated the number and types of errors in references in 3 critical care nursing journals (Journal of PeriAnesthesia Nursing, American Journal of Critical Care, and Critical Care Nurse). The authors examined 244 referencesand found 56 errors at an overall error rate of 22.9%. 19.6% had major errors (misspelled or omitted author names and initials) and 45% wereminor errors (non-first page discrepancies). Errors in author names combined with incorrect or missing volume or issue numbers were the 2 most common errors, accounting for 61% of errors.[11]

There were 11 studies analyzing critical care journals in aspects of journals' prices, editorial board composition, impact factor, national representation, national productivity, international representation, European contribution, Chinese contribution, and equal-credit authorship, survey reporting, and referencing accuracy. There is need for recent studies on analyzing methodological issues, ethical issues and conflicts of interest policies in critical care journals.

## References

- Boldt J, Maleck WH, Fent T. Price development in important anesthesia and critical care medicine journals in comparison to journals of other disciplines. *Acta Anaesthesiol Scand*. 2001; 45(4): 458-64.
- 2. Boldt J, Maleck W. Composition of the editorial/advisory boards of major English-language anesthesia/critical care journals. *Acta Anaesthesiol Scand.* 2000; 44(2): 175-9.
- Boldt J, Haisch G, Maleck WH. Changes in the impact factor of anesthesia/ critical care journals within the past 10 years. *Acta Anaesthesiol Scand*. 2000; 44(7): 842-9.
- 4. Boldt J, Maleck W, Koetter KP. Which countries publish in important anesthesia and critical care journals? *Anesth Analg.* 1999; 88(5): 1175-80.
- Li Z, Qiu LX, Wu FX, Yang LQ, Sun YM, Lu ZJ, Yu WF. Assessing the national productivity in subspecialty critical care medicine journals: a bibliometric analysis. *J Crit Care*. 2012; 27(6): 747.e1-5.
- Shahla M, Hedeshi AR, Verhaeghe V, Gomez J, Vincent JL. International participation in major intensive care journals. "The smaller the better". *Intensive Care Med.* 1996; 22(11): 1258-60.

- Kumar Senthil P. *et al* / Critical Care Journals: From Providing Care in Intensive Units to Ensuring Care for Publishing Evidence
- Shahla M, Verhaeghe V, Hedeshi AR, Friedman G, Vincent JL. European participation in major intensive care journals. *Intensive Care Med.* 1995; 21(1): 7-10.
- Li Z, Liao Z, Wu FX, Yang LQ, Sun YM, Yu WF. Scientific publications in critical care medicine journals from Chinese authors: a 10-year survey of the literature. *J Trauma*. 2010; 69(4): E20-3.
- 9. Wang F, Tang L, Bo L, Li J, Deng X. Equal contributions and credit given to authors in critical care medicine journals during

a 10-yr period\*. *Crit Care Med.* 2012; 40(3): 967-9.

- Duffett M, Burns KE, Adhikari NK, Arnold DM, Lauzier F, Kho ME, Meade MO, Hayani O, Koo K, Choong K, Lamontagne F, Zhou Q, Cook DJ. Quality of reporting of surveys in critical care journals: a methodologic review. *Crit Care Med.* 2012; 40(2): 441-9.
- Oermann MH, Ziolkowski LD. Accuracy of references in three critical care nursing journals. *J Perianesth Nurs*. 2002; 17(2): 78-83.

<sup>26</sup> 

# Anasthetic Management of a Case of Unilateral Adrenal Mass in Young Female for Adrenalectomy

## Heena Parikh\*, Malini Mehta\*\*

#### Abstract

Pheochromocytoma umours originating from chromaffin tissue and typically occurs in patients of 30-50 years of age, commonly present with symptoms and signs of catecholamine excess. A 22 year old female patient presented with right sided flank pain, palpitation and occasional giddiness scheduled for right adrenalectomy. Diagnosis was confirmed by CT scan abdomen and post operatively <u>histop</u>athological by examination.

Preoperatively patient's blood pressure was normal. Here we discuss her intraoperative management and post operative course in anaesthesia room as well as in surgical ICU, especially pulmonary oedema that occurred within 2 hours after resection. (Half life of cortisol is 80-110 minutes.)

The anaesthetic technique used was combined general and regional anaesthesia with control of blood pressure during operation and manipulation of tumor with nitroglycerine infusion.Postoperative concerns included acute adrenal insufficiency and pulmonary oedema which were successfully managed in anaesthesia room and ICU.Epidural surgical analgesia was used for postoperative pain relief.

One month later she was reassessed and was symptom free.

**K e y w o r d s :** Pheochromocytoma (adrenalectomy); Hypertension; Anaesthetic management; Pulmonary oedema.

## Introduction

Pheochromocytoma is characterized bv catecholamine secreting tumor that originates in adrenal medulla or in chromaffin tissue along the vertebral para sumpathetic chain extending from pelvis to the base of skull.[1] Typically present in 30-50 years of age group.Tumour had been recognized earlier by Von Frankel and the name 'dusky coloured tumour' was first used by 1912.[2,3] Pick in Successful surgery for excision of pheochromocytoma was first performed by Roux(1926) and Mayo(1927).[4]

More than 95% of Pheochromocytoma are found in abdominal cavity and about 90 % originates in adrenal medulla.[5] Approximately 15% of Pheochromocytoma are malignant, 18% extra adrenal and 20% familial.[6] Clinically inapparent adrenal mass may be detected incidentally as part of Multiple endocrine neoplasia or during unrelated surgery.[7,8] excision Surgical is currently recommended for adrenal mass >5 cm as well as for all types of functioning tumours.

## Case Report

A 22 year female patient named sangita ben weighing 35 kg was scheduled for adrenalectomy. She had right sided flank pain, palpitation and occasional

Author's Affiliations: <sup>1\*</sup>M.D. Professor and Head of Anaesthesiology, GCs Medical College and Research Centre, Ahmedabad, <sup>\*\*</sup>M.D., Ex. Professor, Anaesthesiology, Waghodiya, Vadodara, Gujarat, India.

**Corresponding Author: Dr.** Heena Parikh, \*M.D. Professor and Head of Anaesthesiology, GCs Medical College and Research Centre, Ahmedabad, India.

E-mail: drmrshc@gmail.com

giddiness for last 2 months. She had undergone for tuberculous cervical lymphnode excision under local anaesthesia 5 years back. Patient had no history of headache, nausea and vomiting.

Preoperatively when patient came for preanaesthetic fitness, she had pulse 100 min and BP 160/110 mm of Hg. After 10 min of rest BP was 150/100 mm of Hg. In systemic examination RS, CVS, CNS revealed no clinically detectable adnormality.

Investigation profile of this patient was Hb-11.7 gm%, PCV-36.8%, Random blood Sugar-96 mg%, Total billirubin-0.3 mg%, ALT-25 IU/L, Urinary VMA – 1.38 mg/ day (normal up to 15 mg/day), USG abdomen shows isodense rounded lesion of 45×35 mm seen at upper pole fight kidney with calcification, possibility of right adrenal mass. CT abdomen-right adrenal mass suggestive of pheochromocytoma.

Patient was scheduled for surgery under ASA(American society of anaesthesiologists) class-3 anaesthesia risk and informed consent was obtained for the same. T. Alprazolam (0.5 mg) P.O. was given at night before operation.

On the day of surgery in preanaesthesia room BPL –Accura multipara monitor was attached. Pulse 112/min, BP 150/90 mm of Hg, SpO<sub>2</sub> 99% with room air, Respiratory Rate 14/min and temperature was normal. After securing intravenous cannula, DNS and RL infusion was started.

Patient was premedicated with Glycopyrrolate (0.2 mg), Midazolam (1 mg), Fentanyl (100  $\mu$ g), Ondansatron (4 mg) and Ranitidine (50 mg) intravenously.

Following drugs were arranged to combat any crisis intraoperatively.

- Sodium nitroprusside
- Nor adrenaline
- Nitroglycerine

- Dopamine
- Metoprolol
- Dobutamine

After 100% preoxygenation (8 Lt/min) for 5 min. Patient was induced with propofol 1% 100 mg intravenous and trachea was intubated with 7.00 mm I.D. cuffed endotracheal tube after achieving adequate relaxation with vecuronium bromide 3.5 mg. After intubation and before surgery CVP was inserted. After intubation heart rate increased upto 140/min and BP upto 160/110 mm of Hg.

Maintenance of anaesthesia was done by positive pressure ventilation with  $O_2$ and  $N_2O$  as 50%-50% with sevoflurane (MAC 3 to 4 %) and inj. Vecuronium 1 mg IV and inj. Propofol 4-6mg/kg/hr through infusion pump (SP 102 L&T). Intraoperatively non invasive BP, Pulse, SpO<sub>2</sub>, ECG, EtCO<sub>2</sub>, CVP and Urine output were monitored.

Intraoperatively during handling and manipulation of mass, BP was raised up to 196/130 mm of Hg which was treated with inj. NTG 25 mg drip in 500ml of isotonic saline with the rate of 20 µdrops /min. After ligation of adrenal vein there was sudden fall in blood pressure to 70/ 50 mm of Hg and immediately inj. NTG and sevoflurane was stopped. HAES (hydroxyl ethyl starch) IV started and rate of RL was increased. BP rose up to 90/ 70 mm of Hg after 10 min.

Intraoperative fluid management included

Inj. DNS 500 ml IV

Inj. RL 2500 ml IV

Inj. HAES (hydroxyl ethyl starch) 250 ml IV

Inj. 25% dextrose 20cc IV

Urine output-650 ml throughout surgery.

Epidural catheter was inserted at L3-L4 intervertebral space under aseptic precautions.Patient was reversed with inj.glycopyrrolate 0.01 mg/kg and inj. Neostigmine 0.05 mg/kg IV after adequate reflexes. The trachea was extubated after full recovery of counsciousness and spontaneous breathing.

Patient was conscious, oriented and fully responded to verbal commands and shifted to recovery room with Pulse 100/min, BP 100/70 mm of Hg,  $SpO_2$ -98% without  $O_2$ . Patient shifted to postanaesthesia room. Duration of surgery was 3 hrs.

Inj. Tramadol 75 mg (1.5ml) + Inj.NS 6.5 ml-Total volume of 8 ml supplemented through epidural catheter as a postoperative analgesia, when patient complained of pain (after 1 hr of surgery)

Patient kept on  $O_2$  ventimask with  $O_2$ 4 Lt/min in postanaesthesia room. 2 hours postoperatively patient became tachypnoic, restless, desaturated, had tachycardia and bilateral crepitations. SpO<sub>2</sub> was 50% with O<sub>2</sub> (4 Lt/min) through venti mask and CVP-30 cm of water.

Patient was reintubated after sedation with IV 1 mg inj. Midazolam in postanaesthesia room, pinkish froth appeared in endotracheal tube. ABG showed respiratory and metabolic alkalosis. Patient was diagnosed as pulmonary ordema and treated with Inj. Furosemide 1 mg/kg IV and put on ventilator with SIMV mode with PSV + PEEP

Ventilatory Settings

Vt-500ml

RR-14min

Fi02-100%

PEEP-8 cm of water

Inj. Dopamine 10  $\mu g/kg/min$  IV infusion

Inj. Dexamethasone 8 mg IV

Inj. Hydrocortisone 200 mg IV

Inj. Deriphylline 2ml IV and IV antibiotics

Initially overnight  $FiO_2$  was 100%, every 4 hourly arterial blood gas estimation showed improved  $PaO_2$  and  $PaCO_2$ .  $FiO_2$  decreased to 60% and on next morning patient put on T-piece and was extubated in afternoon.

Patient was fully conscious, with pulse 116/min and BP 110/70 mm of Hg with Inj.Dopamine 10  $\mu$ g/kg/min IV infusion and SpO<sub>2</sub> 98% with O<sub>2</sub> 4 Lt/min through ventimask.

Rate of infusion of inj. Dopamine drip was adjusted according to blood pressure.

Inj. Hydrocortisone 100 mg IV 8 hourly and inj. Dexamethasone 8 mg IV 12 hourly were tapered gradually and stopped after 3 days.

Patient kept in surgical ICU for 2 days and shifted to surgery ward for 8 days.

On 10th postoperative day, patient was discharged from surgical ward.

Histopathological examination confirmed the mass to be benign adrenal phreochromocytoma.

# Discussion

А substantial proportion of pheochromcytoma secrets predominantly norepinephrine, sometimes paroxysmal but usually and often in huge quantities. Sustained severe hypertension is often the commonest presentation of pheochromcytoma[5], there is also vasoconstriction in arterial and venous sites due to released norepinephrine and there by decreasing the circulating blood volume.

Diagnosis can be a problem in pheochromcytoma since it has a great numbers of variations in clinical findings and biological activities. Paroxysmal hypertension is not a specific finding and not present generally. Diagnosis is usually confirmed by raised urinary catecholamines and VMA in 24 hrs urine, localization of tumour is accurately done by CT scan, MRI, MIBG scan.[6]

Main aim is resolution of symptoms in the preoperative period, so that wide variation in arterial blood pressure does not take place during operation. This is achieved by anti adrenergic drugs i.e.  $alpha(\alpha)$  and beta ( $\beta$ ) blockers, but in our case this drugs are not required as patient was normotensive preoperatively.

Our goals of anaesthetic management should be to suppress haemodynamic responses during laryngoscopy and intubation and catecholamine release during handling of adrenal mass.

Premedication should be according to choice of anaesthesiologists but drug causing histamine release should be avoided.We used benzodiazepines to reduce anxiety induced activation of sympathetic nervous system. According to Hull's, a rational anaesthetic technique should be based on sound pharmacological principles rather than an 'idiosyncratic fondness for particular drugs or methods'! We differ from Hull only in preferring a combined general and regional anaesthetic technique.[1]

In our case we used propofol 1% as induction agent and fentanyl, a potent short acting opiod as analgesic and of them to attenuate the haemodynamic effect of laryngoscopy and intubation.

Vecuronium was used for intubation instead of suxamethonium because latter may causes histamine release and compression of abdominal tumour during fasciculation.[9] Vecuronium was used due to its cardiovascular stability and inability to release histamine.

Sevoflurane reduces mean arterial pressure by peripheral vasodilatation and decreases sympathetic nervous system activity[10]. Sevoflurane depresses sympathetic neurotransmission in omental vessels by reducing neuronal norepinephrine (NE) release and NE sensitivity in arteries and by releasing NE release in veins.[11] It relaxes vascular smooth muscles in the presence of the sympathetic neurotransmitter norepinephrine in the mesenteric artery of rabbit and rat.[12] The low solubility of sevoflurane in blood and fat indicate that it is an anaesthetic agent with which anaesthetic level may be rapidly altered and controlled.[13,14]

Nitroglycerine infusion was used to control the blood pressure during handling of tumour.[1] After removal of tumour blood pressure was maintained with crystalloids and colloids.

Post operatively in a patient of pheochromocytoma, cardiogenic and non cardiogenic pulmonary oedema may be present.[15] Cardiogenic pulmonary oedema resulted from pheochromcytoma is a well known phenomena. This finding develops as consequence of late diastolic pressure increase of the left ventricle due to paroxysmal elevations in arterial blood pressure. The same finding may also be caused by myocarditis due to the high levels of catecholamines. Echocardiographic findings in cardiopathy caused by the elevated levels of catecholamines include either dilated hypertrophic cardiomyopathy or sometimes obstructive type findings.[16]

Non cardiogenic pulmonary oedema is very rare. The mechanism of the development of non cardiogenic pulmonary oedema in pheochromcytoma cases is not clearly understood yet. An immediate beginning without cardiac dysfunction findings implicates a pathogenesis alike neurogenic pulmonary oedema. Theoretical mechanism explaining the appearance of neurogenic pulmonary oedema is a formation of immediate and transient vasoconstriction resulted from intensive  $\alpha$ -adrenergic stimulation due to sympathetic activity. As this condition affects the extravascular fluid clearance

and causes to:

- (a) Shift of blood from the systemic circulation to lung circulation
- (b) vasoconstriction in the lung
- (c) Lympathetic obstruction

These factors result in edema due to the increase in hydrostatic pressure. Additionally, pulmonary hypertension may lead to capillary permeability alterations and pulmonary haemorrhage. Neurogenic pulmonary oedema may be prevented by early treatment with adrenergic blockers.

## Conclusion

Proper diagnosis and management is required. When the patients condition is identified and treated pharmacologically to control responses to catecholamine release, management of anaesthesia can be highly stressful for the inexperienced anaesthetist. So early involvement of anaesthesiologists is essential along with proper monitoring, adequate fluid replacement and also availability of drugs which can alter blood pressure. Finally, advent of laparoscopic and robotic adrenal-sparing adrenalectomy have resulted in reduced hospital stay, earlier oral intake and resumption of normal activity. Patients with pheochromcytoma ideally be managed by an experienced team of anaesthetists, endocrinologists and endocrine surgeons.

#### References

- 1. Hull CJ. Phaeochromocytoma. Diagnosis, preoperative preparation and anaesthetic management. *Br J Anaesth.* 1986; 58: 1453-68.
- Frankel F von. Ein fall von doppelseitigem, völlig latent verlaufen Neben nierentumor und gleichzeitiger Nephritis mit Veränderungen am Circulations apparat und Retinitis.

*Virchow's Arch Pathol Anat.* 1886; 103: 244–63.

- 3. Pick L Das. Ganglioma embryonale sympathicum (sympathoma embryonale), eine typische bosärtige Geschwultsform des sympathischen Nervensystems. *Berl Klin Wochenschr.* 1912; 49: 16–22 (also *Verh Berl Med Ges.* 1912; 13: 522–57).
- 4. Welbourn RB. Early surgical history of phaeochromocytoma. *Br J Surg.* 1987; 74: 594–6.
- Mina Basu, Sampa Datta Gupta, Soma Mukhopadhyay, Subrata Saha.
   Anaesthetic management of bilateral phaeochromocytoma in a young female patient. *Indian Journal of Anaesthesia*. 2007; 51: 237-239.
- Manger WM, Eisenhofer G. Pheochromocytoma: diagnosis and management update. *Curr Hypertens Rep.* 2004; 6: 477-84.
- Thomas JL, Bernardinodino ME. Phaeochromocytoma in mul-tiple endocrine adenomatosis. *JAMA*. 1981; 245: 1467 - 9.
- 8. Rajeshwari Subramaniam. Pheochromocytoma – Current concepts in diagnosis and management. *Trends in Anaesthesia and Critical Care.* 2011; 1: 104–110.
- 9. Stoelting RK. Blood pressure and heart rate changes during short-duration laryngoscopy for tracheal intubation: influence of viscous or intravenous lidocaine. *Anesth Analg.* 1978; 57: 197-9.
- Malan TP Jr, DiNardo JA, Isner RJ, Frink EJ Jr, Goldberg M, Fenster PE, Brown EA, Depa R, Hammond LC, Mata H. Cardiovascular effects of sevoflurane compared with those of isoflurane in volunteers. *Anesthesiology*. 1995; 83: 918-28.
- Thorlacius K, Zhoujun C, Bodelsson M. Effects of sevoflurane on sympathetic neurotransmission in human omental arteries and veins. *Br J Anaesth.* 2003; 90: 766-73.
- 12. A Yamaguchi, DDS and E Okabe, DDS, Ph.D. Effect of sevoflurane on the vascular reactivity of rabbit mesenteric artery. *Br J Anaesth*. 1995; 74: 576-582.

- 13. Van de Louw A, Plaud B, Debaene B. Use of sevoflurane for surgery of pheochromocytoma. *Ann Fr Anesth Reanim.* 1998; 17: 301-5.
- 14. Tanaka S, Miyabe M, Ohyama I, Seki S, Tsukamoto T, Namiki A. Sevoflurane with continuous epidural anesthesia for removal of pheochromocytoma. *Masui*. 1991; 40:1261-4.
- 15. Tuncer Tug, Necmi ozdemir, Vedat

Bulut, Aziz Karaoglu. A Case of Pheochromocytoma Manifested as Noncardiogenic Pulmonary Edema. *Tr J of Medical Sciences*. 1999; 29: 71–74.

 Hamada N, Akamatsu A, Joh T. A case of pheochromocytoma complicated with acute renal failure and cardiomyopathy. *Jpn Circ J.* 1993; 57: 84-90.

# Indian Journal of Trauma and Emergency Pediatrics

Handsome offer for Indian Journal of Emergency Pediatrics subscribers Subscribe **Indian Journal of Trauma and Emergency Pediatrics** and get any one book or both books absolutely free worth Rs.400/-.

## Offer and Subsctription detail

*Individual Subscriber* One year: Rs.1000/- (select any one book to receive absolutely free) Life membership (valid for 10 years): Rs.5000/- (get both books absolutely free)

Books free for Subscribers of **Indian Journal of Trauma and Emergency Pediatrics.** Please select as per your interest. So, dont' wait and order it now.

Please note the offer is valid till stock last.

CHILD INTELLIGENCE By Dr. Rajesh Shukla ISBN: 81-901846-1-X, Pb, vi+141 Pages Rs.150/-, US\$50/-Published by World Information Syndicate

**PEDIATRICS COMPANION** By **Dr. Rajesh Shukla** ISBN: 81-901846-0-1, Hb, VIII+392 Pages Rs.250/-, US\$50 Published by **World Information Syndicate** 

Order from **Red Flower Publication Pvt. Ltd.** 48/41-42, DSIDC, Pocket-II, Mayur Vihar, Phase-I Delhi - 110 091 (India) Tel: 91-11-22754205, 45796900, Fax: 91-11-22754205 E-mail: redflowerppl@gmail.com, redflowerppl@vsnl.net Website: www.rfppl.org

#### 32

# Anesthesiology Journals and their Scientific Contribution: An Overview of Published Studies

Kumar Senthil P.\*, Adhikari Prabha\*\*, Jeganathan\*\*\*

#### Abstract

The objective of this short communication was to reiterate the role of anesthesiology journals in informed decision making by summarizing studies on analyses of those journals found in PubMed database There were five studies analyzing anesthesiology journals, three on authorship and two on randomized controlled trials. Whilst the two authorship studies reported increase in Chinese contribution, one authorship study reported decline in American contribution. The two studies on RCTs had emphasized improved quality of reporting which is needed in anesthesiology journals.

**Keywords:** Evidence analysis; Journal analysis; E v i d e n c e - b a s e d anesthesiology; Publication policies.

The objective of this short communication was to reiterate the role of anesthsiology journals in informed decision making by summarizing studies on analyses of those journals found in PubMed database.

## Country-specific Contribution

Two studies by Li *et al*[1] and Li et al<sup>[2]</sup> analyzed 17 journals for articles from East Asia (Japan, China, and South Korea)and found 3076 researcharticles. China and Korea had moderate increase in number of articles while Japan had decreasing trend. China had more citation index for articles its and Anesthesia & Analgesia published more articles from this region.

Szokol *et al* reviewed three leading anesthesia journals (Pain, Anesthesiology, and Anesthesia & Analgesia) for American contribution authorship. The in proportion of American publications was found to be decreasing over the period 1980-2000. Multiple factors such as American publication in journals other than these journals, and the increased quality of submissions from other countries might have influence these

# findings.[3]

## Quality of Randomized Controlled Trials

Greenfield *et al* reviewed four anesthesiology iournals (Anesthesiology, Anesthesia & Analgesia, Anaesthesia, and Canadian Journal of Anaesthesia) and performed quality evaluation of RCTs using a validated assessment tool, and overall quality score was found as 44%. Quality scores were higher for appropriate controls and discussions of side effects and were lower for randomization blinding. blinding observers to results, and post-beta estimates. 32%

Author's Affiliations: <sup>1</sup>Founder-President, Academy of Orthopaedic Manual Physical Therapists (AOMPT)<sup>™</sup>, Freelancer Physiotherapist and private practitioner, Mangalore, India, <sup>2</sup>Professor, Department of Medicine, <sup>3</sup>Professor, Department of Physiology, Kasturba Medical College (Manipal University), Mangalore, India.

**Corresponding Author: Senthil P. Kumar,** Founder-President, Academy of Orthopaedic Manual Physical Therapists (AOMPT)<sup>™</sup>, Freelancer Physiotherapist and private practitioner, Mangalore, India.

E - m a i l : enthilparamasivamkumar@gmail.com Kumar Senthil P. *et al* / Anesthesiology Journals and their Scientific Contribution: An Overview of Published Studies

of RCTs did not report important pretreatment clinical predictors.[4]

Greenfield *et al* reviewed four anesthesiology journals (Anesthesiology, Anesthesia & Analgesia, Anaesthesia, and Canadian Journal of Anesthesia) and found200 randomized controlled trials (RCTs) out of 2164 articles published in 2006. The Quality scores were found to be improved from the year 2000 to 2006, with improvements in reporting of sample size estimates, major end-points, and discussion of side effects. Suboptimal reporting was evident for randomization blinding, observer blinding to continuing studies, and post-beta estimates in trials with negative outcomes.[5]

There were five studies analyzing anesthesiology journals, three on authorship and two on randomized controlled trials. Whilst the two authorship studies reported increase in Chinese contribution, one authorship study reported decline in American contribution. The two studies on RCTs had emphasized improved quality of reporting which is needed in anesthesiology journals.

The retrieved studies inherently involve two types of bias, firstly- authorspecific; the authors of first two studies are the same (both the studies appear identical), so are those of the last two (one is an update of the other). Secondly, journal-specific bias was also found; of the five articles found, four were published in Anesthesia and Analgesia, and only one article was from Journal of Anesthesia.

#### References

- Li Z, Shi J, Liao Z, Wu FX, Yang LQ, Yu WF. Scientific publications in anesthesiology journals from mainland China, Taiwan, and Hong Kong: a 10-year survey of the literature. *Anesth Analg.* 2010; 110(3): 918-21.
- Li Z, Qiu LX, Wu FX, Yang LQ, Sun YM, Yu WF. Scientific publications in anesthesiology journals from East Asia: a 10-year survey of the literature. *J Anesth.* 2011; 25(2): 257-62.
- Szokol JW, Murphy GS, Avram MJ, Nitsun M, Wynnychenko TM, Vender JS.Declining proportion of publications by American authors in major anesthesiology journals. *Anesth Analg.* 2003; 96(2): 513-7.
- 4. Greenfield ML, Rosenberg AL, O'Reilly M, Shanks AM, Sliwinski MJ, Nauss MD.The quality of randomized controlled trials in major anesthesiology journals. *Anesth Analg.* 2005;100(6):1759-64.
- Greenfield ML, Mhyre JM, Mashour GA, Blum JM, Yen EC, Rosenberg AL. Improvement in the quality of randomized controlled trials among general anesthesiology journals 2000 to 2006: a 6-year follow-up. *Anesth Analg.* 2009; 108(6): 1916-21.

#### **BOOKS FOR SALE**

#### CHILD INTELLIGENCE

#### By Dr. Rajesh Shukla

ISBN: 81-901846-1-X, Pb, vi+141 Pages

Price: Rs.150/-, US\$50/-

#### Published by World Informations Syndicate

This century will be the century of the brain. Intelligence will define success of individuals; it remains the main ingredient of success. Developed and used properly, intelligence of an individual takes him to greater heights. Ask yourself, is your child intelligent! If yes, is he or she utilizing the capacity as well as he can? I believe majority of people, up to 80% may not be using their brain to best potential. Once a substantial part of life has passed, effective use of this human faculty cannot take one very far. So, parents need to know how does their child grow and how he becomes intelligent in due course of time. As the pressure for intelligence increases, the child is asked to perform in different aspects of life equally well. At times, it may be counterproductive. Facts about various facets of intelligence are given here. Other topics like emotional intelligence, delayed development, retardation, vaccines, advice to parents and attitude have also been discussed in a nutshell. The aim of this book is to help the child reach the best intellectual capacity. I think if the book turns even one individual into a user of his best intelligence potential, it is a success.

#### PEDIATRICS COMPANION

By Dr. Rajesh Shukla

ISBN: 81-901846-0-1, Hb, VIII+392 Pages

Price: Rs.250/-, US\$50

#### Published by World Informations Syndicate

This book has been addressed to young doctors who take care of children, such as postgraduate students, junior doctors working in various capacities in Pediatrics and private practitioners. Standard Pediatric practices as well as diseases have been described in a nutshell. List of causes, differential diagnosis and tips for examination have been given to help examination-going students revise it quickly. Parent guidance techniques, vaccination and food have been included for private practitioners and family physicians that see a large child population in our country. Parents can have some understanding of how the doctors will try to manage a particular condition in a child systematically. A list of commonly used pediatric drugs and dosage is also given. Some views on controversies in Pediatrics have also been included. Few important techniques have been described which include procedures like endotracheal intubations, collecting blood samples and ventilation. I hope this book helps young doctors serve children better.

#### Order from

Red Flower Publication Pvt. Ltd. 48/41-42, DSIDC, Pocket-II, Mayur Vihar, Phase-I Delhi - 110 091 (India) Tel: 91-11-22754205, 45796900, Fax: 91-11-22754205 E-mail: redflowerppl@gmail.com, redflowerppl@vsnl.net

# STATEMENT ABOUT OWNERSHIP AND OTHER PARTICULARS ABOUT "Indian Journal of Anesthesia and Analgesia" (See Rule 8)

1. Place of Publication		Delhi	
2. Periodicity of Publication	:	Quarterly	
3. Printer's Name	:	Asharfi Lal	
Nationality	:	Indian	
Address	:	3/258-259, Trilok Puri, Delhi-91	
4. Publisher's Name	:	Asharfi Lal	
Nationality	:	Indian	
Address	:	3/258-259, Trilok Puri, Delhi-91	
5. Editor's Name	:	Asharfi Lal (Editor-in-Chief)	
Nationality	:	Indian	
Address	:	3/258-259, Trilok Puri, Delhi-91	
6. Name & Address of Individuals		Asharfi Lal	
who own the newspaper and particulars of	:	3/258-259, Trilok Puri, Delhi-91	
shareholders holding more than one percent			
of the total capital			

I Asharfi Lal, hereby declare that the particulars given above are true to the best of my knowledge and belief.

Sd/-

(Asharfi Lal)

# **Instructions to Authors**

Submission to the journal must comply with the Guidelines for Authors. Non-compliant submission will be returned to the author for correction.

To access the online submission system and for the most up-to-date version of the Guide for Authors please visit:

http://www.rfppl.com

Technical problems or general questions on publishing with *IJAA* are supported by Red Flower Publication Pvt. Ltd's Author Support team (http://ww.rfppl.com)

Alternatively, please contact the Journal's Editorial Office for further assistance.

A Lal

Publication -in-Charge Indian Journal of Anesthesia and Analgesia Red Flower Publication Pvt. Ltd. 48/41-42, DSIDC, Pocket-II Mayur Vihar Phase-I Delhi - 110 091 India

Phone: 91-11-22754205, 45796900, Fax: 91-11-22754205 E-mail: redflowerppl@gmail.com Website: www.rfppl.org

## Call for Reviewers

Indian Journal of Anesthesia and Analgesia (IJAA) (ISSN 2349 9 8471) is official peer-reviewed scientific journal addresses all aspects of anesthesia practice, including anesthetic administration, pharmacokinetics, preoperative and postoperative considerations, coexisting disease and other complicating factors, cost issues, and similar concerns anesthesiologists contend with daily. The Journal seeks a balance between outstanding basic scientific reports and definitive clinical and management investigations. The Journal welcomes manuscripts reflecting rigorous analysis, even if unusual in style and focus.

Readership: Anaesthesiologists, Critical Care Physicians, Surgeons.

One must have at least five years of experience in the field after completion of the education in that field and at least five original research papers in journal(s).

Please note that the acceptance of your application will be at the sole discretion of the editors.

Please provide your complete information and affiliation in brief through e-mail or you can register your self on our website www.rfppl.com.

## For more information, please contact:

Publication-in-charge

## **Red Flower Publication Pvt. Ltd.**

48/41-42, DSIDC, Pocket-II Mayur Vihar Phase-I Delhi – 110 091 India Phone: 91-11-22754205, 45796900, Fax: 91-11-22754205 E-mail: redflowerppl@vsnl.net, redflowerppl@gmail.com

Website: www.rfppl.org

# **Subscription Form**

I want to renew/subscribe to international class journal **"Indian Journal of Anesthesia and Analgesia"** of Red Flower Publication Pvt. Ltd.

## Subscription Rates:

India: Institutional: Rs.4000, Individual: Rs.1000, Life membership (10 years only for individulas) Rs.5000.
All other countries: \$600

Name and complete address (in capitals):

Payment detail: Demand Draft No. Date of DD Amount paid Rs./USD

1. Advance payment required by Demand Draft payable to Red Flower Publicaion Pvt. Ltd. payable at Delhi.

2. Cancellation not allowed except for duplicate payment.

3. Agents allowed 10% discount.

4. Claim must be made within six months from issue date.

Mail all orders to

# Red Flower Publication Pvt. Ltd.

48/41-42, DSIDC, Pocket-II, Mayur Vihar Phase-I, Delhi - 110 091 (India) Tel: 91-11-22754205, 45796900, Fax: 91-11-22754205 E-mail: redflowerppl@vsnl.net, redflowerppl@gmail.com Website: www.rfppl.org



HELP THESE INDIAN CHILDREN TO BUILD THEIR OWN FUTURE!

Over 250 children in Belsar village in India, in the backwards rural District of Gonda in Uttar Pradesh (see map) will be without a school building by the end of this school year... unless we help them to pay for building materials for

**a new school building.** Parents who are masons, carpenters and others are c and construct the building. World Without Obstacles – a registered NGO enabled this initiative.

For many years WWO already works together with a small primary school called Gurukul Children Academy. The school is financially independent from the NGO in its day-to-day operations. WWO helps to increase quality of education and health of children and their families. We already designed a future vision together with an architect and the school Principal. During school hours the new building will be used to educate 300 children and after hours WWO will give health info-sessions and vocational skill trainings to adults from the village. The multifunctional building will also be used as a regional office and accommodation for volunteers of the NGO. This will allow WWO to reach out to even more people in Belsar and Gonda District.

In total we need about INR 52 lakh to realise the complete multifunctional school building with 10 class rooms. One class room on average costs around INR 4 lakh. Phase 1 was partly financed via a global online crowd funding campaign. To allow the children continuity of education in the next school year we need to complete construction





Indian Journal of Anaesthesia and Analgesia