

# NASP

# BULLETIN

---

*An official publication of  
Nepal Association for the Study of Pain  
(NASP)*

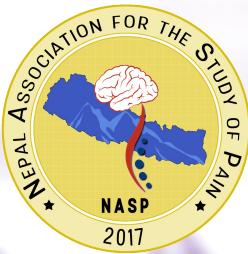
**VOLUME 2, ISSUE 1 & 2,  
YEAR 2022**

## **Highlights**

NASP Events

Articles

News & Literature on Pain



# NASP BULLETIN

An official publication of *Nepal Association for the Study of Pain*

## EDITORIAL BOARD

**Editor in chief:**

Dr. Balkrishna Bhattarai

**Executive Editor:**

Dr. Parineeta Thapa

**Members:**

Dr. Anil Shrestha

Dr. Jyotsna Rimal

Dr. Asish Subedi

Dr. Ninadini Shrestha

Dr. Prakash Maden Limbu

## INSIDE THIS ISSUE

About the bulletin... 3

About NASP... 4

NASP Events... 7

Review Article... 11

Case Reports... 14

News & Literatures from the world on pain... 18

Editorial Policy... 20

## EDITORIAL Pain Management and Ethics

Balkrishna Bhattarai,

Professor,

Anesthesiology and Critical Care,  
BP Koirala Institute of Health Sciences  
(BPKIHS), Dharan-18, Nepal

Chronic pain is a global burden and its treatment is a public health priority world over. A study published in the Lancet has shown chronic pain conditions – viz. low back pain, neck pain and migraine – being among the major causes of disability.<sup>1</sup> Owing to the nature of chronic pain and its high prevalence, the cost of its treatment is an issue of concern. It is not only the cost of treatment of chronic pain but also of lost man days—patient and family carers combined. In the US alone, the total calculated cost of pain to society ranged from 560 to 635 billion USD in 2010.<sup>2</sup> Accurate data from other countries, particularly lower- and middle-income countries, are difficult to find or are lacking. The exact economic burden due to pain in Nepal as a whole is not known though a study done in Nepal in 2005 has shown very high out of pocket expenditure for treating pain in rural setting of eastern Nepal.<sup>3</sup>

Chronic pain, despite being a significant public health problem, its treatment is quite challenging and often poses ethical concerns to the care providers. Having pain treatment been declared as a basic human right, our health systems are supposed to ensure universal access to pain treatment without any discrimination. Pain treatment has thus become a core legal and ethical duty in medicine.<sup>4</sup> Further, unreasonable failure to provide adequate pain relief has been argued to constitute medical negligence.<sup>5</sup> Undermedication of pain also falls under moral negligence.<sup>6</sup> Care providers can breach their standard of care by not extracting adequate history, not treating pain adequately, or not timely consulting experts in pain management. Significant divergence from acceptable standard of care can amount to gross negligence.<sup>7</sup>

Pain treatment in terminally ill patients can lead to legal and ethical consequences as

some of the pain medications used in such patients can cause life-threatening adverse outcomes that can even be misjudged as homicide or euthanasia.<sup>8</sup> Similar consequences can occur in treating geriatric patients which may be misjudged as elderly abuse. Appropriate and timely referral, taking informed consent, and accurate record keeping can to some extent avoid care providers being liable to legal allegations.

Medical ethics in any discipline falls into the four core principles viz., non-maleficence, beneficence, social justice and patient's autonomy; pain treatment is not different. Care provider's failure to rationally relieve patient's pain and suffering can cause harm, and therefore, considered breaching the ethical principles of non-maleficence.<sup>9</sup> Pain patients often have or have diminished capacity to make sound decisions about the treatment on them. In such situations, help may have to be sought from surrogate decision makers in the best interest of the patients. But in conflicting situations, help may be sought from institutional ethics committee.<sup>10</sup>

Patients prescribed opioid analgesics should be scheduled for regular follow up and ideally urine drug level tested regularly for monitoring patient's compliance.<sup>11</sup> Enough time must be given to adequately educate patients about safe use of opioids. It is important to remember that opioids must be prescribed following thorough clinical assessment and not only on patient's or public request (wrong interpretation of pain relief as a right) considering potential implications of opioid misuse.<sup>12</sup>

The ultimate way to improve pain management practices is only through proper patients' and care providers' education. Pain has not been adequately incorporated in health care providers' curricula neither do clear-cut policies and guidelines exist in developing countries like ours. It is our (NASP) responsibility as a stake holders of pain concerns not only to provide pain management care to the needy patients but also to lead the advocacy for proper legal and ethical policies and guidelines in the country.

**References:**

1. Global Burden of Disease Study 2013 Collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 301 acute and chronic diseases and injuries in 188 countries, 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013. Lancet. 2015;386(9995):743-800.
2. Gaskin DJ, Richard P. The economic costs of pain in the United States. J Pain. 2012;13(8):715-24.
3. Bhattacharai B, Pokhrel PK, Tripathi M, et al. Chronic pain and cost: an epidemiological study in the communities of Sunsari district of Nepal. Nepal Med Coll J. 2007;9(1):6-11.
4. Brennan F, Carr DB, Cousins M. Pain management: a fundamental human right. Anesth Analg. 2007;105(1):205-21.
5. Somerville M. Margaret Somerville: putting medicine, ethics and the law under one roof. Interview by Bill Trent. CMAJ. 1987;137(10):945-7.
6. Hunter S. Determination of moral negligence in the context of the undermedication of pain by nurses. Nurs Ethics. 2000;7(5):379-91.
7. Rich BA. Physicians' legal duty to relieve suffering. West J Med. 2001;175(3):151-2.
8. Vansweevelt T. Comparative legal aspects of pain management. Med Law. 2008;27(4):899-912.
9. Gillon R. "Primum non nocere" and the principle of non-maleficence. Br Med J (Clin Res Ed). 1985;291(6488):130-1.
10. Riddick FA Jr. The code of medical ethics of the American Medical Association. Ochsner J. 2003 Spring;5(2):6-10.
11. Erdek MA, Pronovost PJ. The need for an ethics framework for the use of opioids in the treatment of chronic nonmalignant pain. Pain Manag. 2017;7(4):229-31.
12. Brennan F, Cousins, M. J. (2004). Pain relief as a human right. Pain Clinical Updates.2004;12:1-4.

## CONGRATULATIONS



We would like to congratulate NASP general secretary, Dr. Ninadini Shrestha for successfully passing the Fellow of Interventional Pain Practitioners (FIPP) Examinations held in Istanbul, Turkey in October, 2022.

She is now the first pain physician from Nepal to have been awarded with the title of FIPP, which is considered as the highest degree for interventional pain practitioners. We hope her achievement will not only help improve the pain management of our patients, but also act as a catalyst to upgrade the pain education and practice in our country.

We wish her greater success in future!

Executive Committee, NASP

Editorial Board, NASP Bulletin

And all NASP Members

# ABOUT THE BULLETIN

NASP Bulletin is an official publication of the Nepal Association for the Study of Pain (NASP). It is registered in Nepal National Library with ISSN 2773-8213 (Online). This is the second issue of the bulletin. NASP Bulletin aims to publish articles related to various aspects of pain management along with the news on the activities of the NASP and on latest developments in the field of pain across the world. All forms of articles- original research article, case reports, meta-analysis, review articles, letter

to editor are welcome to be considered for the publication in this Bulletin. All articles must be submitted following the manuscript preparation guideline of the Bulletin. They will be subjected to peer review by two external reviewers followed by a review by one of the editors. All the submissions and queries can be sent to the email of the editorial board of NASP Bulletin - [editorial.naspbulletin@gmail.com](mailto:editorial.naspbulletin@gmail.com).

## THE EDITORIAL TEAM

### EDITOR-IN-CHIEF



#### Dr. Balkrishna Bhattarai

Professor,  
Department of Anesthesiology  
and Critical Care,  
B.P. Koirala Institute of Health Sciences  
(BPKIHS), Dharan.

### EXECUTIVE EDITOR



#### Dr. Parineeta Thapa

Assistant Professor,  
Department of Anesthesiology  
and Critical Care,  
B.P. Koirala Institute of Health Sciences  
(BPKIHS), Dharan, Nepal

### MEMBERS



#### Dr. Anil Shrestha

Professor and Head,  
Department of Anaesthesiology,  
T. U. Teaching Hospital,  
Institute of Medicine,  
Tribhuvan University,  
Kathmandu, Nepal



#### Dr. Ninadini Shrestha

Associate Professor,  
Department of Anaesthesiology,  
T. U. Teaching Hospital,  
Institute of Medicine,  
Tribhuvan University  
Kathmandu, Nepal.



#### Dr. Jyotsna Rimal

Professor,  
Department of Oral Medicine  
and Radiology,  
B.P. Koirala Institute of Health Sciences  
(BPKIHS), Dharan, Nepal.



#### Dr. Prakash Maden Limbu

Assistant Professor,  
Department of Anesthesiology  
and Critical Care,  
B.P. Koirala Institute of Health Sciences  
(BPKIHS), Dharan, Nepal



#### Dr. Asish Subedi

Additional Professor,  
Department of Anesthesiology  
and Critical Care,  
B.P. Koirala Institute of Health Sciences  
(BPKIHS), Dharan, Nepal.

## ABOUT NASP

The Nepal Association for the Study of Pain (NASP) was established in the year 2016 (2073 B.S.) with a vision to establish a pain-free society by collaborating with clinicians, health care providers, policy makers, pain patients, and different societies involved in the field of pain management. The mission of the association are: to support the clinicians, researchers and health-care providers in the study of various aspects of pain and its management; to impart knowledge among the population living in various parts of the country about the various aspects of pain management; and to advocate for proper distribution of resources and drugs necessary for the alleviation of pain. The founder president of NASP is Prof. Balkrishna Bhattarai and the founder secretary is Dr. Asish Subedi.

NASP has gained the status of the country chapter of International Association of the Study of Pain (IASP) on

16th September 2018 during the general assembly of IASP held in Boston during the 17th World Congress on Pain. NASP is also a member society of the South Asian Regional Pain Society (SARPS).

NASP has organized its first national conference virtually in 6 March 2021. Following the successful conduct of the conference, four webinars and one interventional pain management workshop has already been conducted. More of such educational activities will follow in future including a cadaveric workshop that is planned around February/March 2023, and an international pain conference.

To know more about the association and its activities, log in to the website: [www.naspain.com](http://www.naspain.com). For any query you can write to the secretary at: nasp.org2017@gmail.com

## CURRENT EXECUTIVE COMMITTEE OF NASP



**President:**  
Dr. Anil Shrestha



**Vice-president:**  
Dr. Binita Acharya



**Secretary:**  
Dr. Ninadini Shrestha



**Joint secretary:**  
Dr. Sunita Panta



**Treasurer:**  
Dr. Bigen Man Shakya



**Member:**  
Dr. Bhawana Wagle



**Member:**  
Dr. Niru Nepal



**Member:**  
Dr. Rupak Bhattarai



**Member:**  
Dr. Parineeta Thapa

## MESSAGE FROM THE PRESIDENT OF NASP

I am extremely glad to write this message for our 2nd issue of NASP Newsletter. It is indeed a moment of joy for all of us to continue with our newsletter. Plenty of things have changed since the publication of our first issue and we have witnessed waves of COVID-19 since then. Many of us battled with the pandemic and became victorious, however some of our friends could not make it and we lost some of our well-wishers. The pain ignited by the wrath of the pandemic delayed the publication of our second edition however the passion to serve the society became more powerful. Here we are today coming up with our next issue of the newsletter. It is the combined effort of all our members that made it possible to continue with our education in pain management. We were able to continue our CMEs through webinars even during these tough days.

The extra effort made by Dr. Ninadini and Dr. Parineeta to bring out this issue is commendable. The work done by all the members of editorial committee and executive committee is also laudable and the support provided by all the members by sending their articles and or wishes is also admirable. I congratulate all for this excellent job.

Dr. Anil Shrestha  
President,  
Nepal Association for the Study of Pain (NASP)

## MESSAGE FROM THE SECRETARY OF NASP

Dear Esteemed Members, NASP

Greetings from the Secretariat of NASP!

It gives me a great pleasure to write this message as General Secretary of Nepal Association for the Study of Pain (NASP) which is also the country chapter of International Association for the Study of Pain (IASP).

NASP is gradually growing from its establishment in 2017 till today, with a force of 50 members which is now rapidly multiplying. I would like to pay my respect to the past and current office bearers and members, who had the vision to see and make this specialty of pain medicine a torch bearer to relieve pain and suffering of humankind.

It's a proud moment to see the publication of the second issue of the Nepal Association for the Study of Pain (NASP) bulletin. I would really like to appreciate Dr. Balkrishna Bhattarai Sir and Dr. Parineeta Thapa for their constant and patient efforts and hard work for the bulletin. It's a great platform to showcase your clinical work, research and to share your experiences with your peers.

I wish all the success to the editorial team.

Dr. Ninadini Shrestha  
Secretary,  
Nepal Association for the Study of Pain (NASP)

## WHO ARE ELIGIBLE TO BE A MEMBER AND HOW TO GET THE MEMBERSHIP?

Anyone with a master's degree in health related field can avail the full life membership of NASP. They also have the voting rights. But to be the executive member of the NASP, the member should have MD/ MS/ MDS or a PhD degree in health related field with pain research, or in a pain related field and an should hold an active membership of IASP for at least one year. Anyone with a bachelor's

degree in health related field and endorsed by respective council can have associate membership of NASP. Associate members do not have voting rights. The current membership fee is NRs. 5000 for full membership and NRs. 4000 for associate membership. The membership form can be downloaded from the NASP website: [www.naspain.com](http://www.naspain.com).

## LIST OF CURRENT LIFE MEMBERS

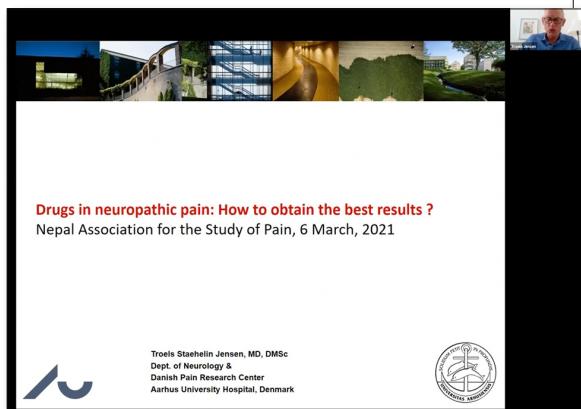
Till now NASP has 50 life members. An honorary life membership was recently awarded to Prof. Roshana Amatya for her contribution in the field of pain management in Nepal.

Membership Number	Name	Type of membership	Address
1	Dr. Balkrishna Bhattarai	Full	BPKIHS, Dharan
2	Dr. Anil Shrestha	Full	Institute of Medicine, Kathmandu
3	Dr. Asish Subedi	Full	BPKIHS, Dharan
4	Dr. Dipesh Dhital	Full	B & B Hospital, Kathmandu
5	Dr. Krishna Pokharel	Full	BPKIHS, Dharan
6	Dr. Ashish Ghimire	Full	BPKIHS, Dharan
7	Dr. Binita Acharya	Full	Institute of Medicine, Kathmandu
8	Dr. Jyotsna Rimal	Full	BPKIHS, Dharan
9	Dr. Sindhu Khatiwada	Full	BPKIHS, Dharan
10	Dr. Renu Gurung	Full	Institute of Medicine, Kathmandu
11	Dr. Bigen Man Shakya	Full	Institute of Medicine, Kathmandu
12	Dr. Ninadini Shrestha	Full	Institute of Medicine, Kathmandu
13	Dr. Nabin Dhakal	Full	AMDA, Dhamak
14	Dr. Parineeta Thapa	Full	BPKIHS, Dharan
15	Dr. Rupak Bhattarai	Full	Nobel Medical College, Biratnagar
16	Dr. Archana Lohani	Full	Institute of Medicine, Kathmandu
17	Dr. Prabhat Rawal	Full	Nepal APF Hospital, Kathmandu
18	Dr. Bhawna Wagle	Full	Bharatpur Cancer Hospital (BPKMCH), Bharatpur
19	Dr. Sunita Panta	Full	Nepalese Army Hospital, Kathmandu
20	Dr. Raju Shrestha	Full	B & C Medical College, Birtamode
21	Dr. Prakash Limbu	Full	BPKIHS, Dharan
22	Dr. Yogesh Dhakal	Full	BPKIHS, Dharan
23	Dr. Smriti Koirala	Full	KIST, Lalitpur
24	Dr. Megha Koirala	Full	Institute of Medicine, Kathmandu
25	Dr. Asha Pun	Full	Kaski Sewa Hospital, Pokhara
26	Dr. Apeksha Mainali	Full	Nepal Medical College Teaching Hospital, Kathmandu
27	Dr. Pawan Kumar Hamal	Full	National Trauma Center, NAMS, Kathmandu
28	Dr. Nabin Pokhrel	Full	National Trauma Center, NAMS, Kathmandu
29	Dr. Roshan Kalwar	Full	BPKIHS, Dharan
30	Dr. Joshan Lal Bajracharya	Full	Mechi Zonal Hospital, Bhadrapur
31	Dr. Laxmi Pathak	Full	UCMS, Bhairawa
32	Dr. Anand Kumar Agrahari	Full	UCMS, Bhairawa
33	Dr. Anjali Paudel	Full	Maldives
34	Dr. Puspak Regmi	Full	Birta City Hospital, Birtamode
35	Dr. Puspendra Limbu	Full	Kankai Hospital, Jhapa
36	Dr. Niru Nepal	Full	B & C medical college, Birtamode
37	Dr. Iccha Maharjan	Full	BPKIHS, Dharan
38	Dr. Parasmani Sah	Full	GNS Sagarmatha Zonal Hospital
39	Dr Shirish Amatya	Full	Patan Academy of Health Science
40	Dr Abhishek Shrestha	Full	Patan Academy of Health Science
41	Dr Ajit Shrestha	Full	Maryland, USA
42	Dr Pragya Regmee	Full	BPKIHS, Dharan
43	Prof. Dr. Roshana Amatya	Full	Kathmandu, Nepal
44	Dr. Hari Prasad Rijal	Full	Kathmandu, Nepal
45	Dr. Bijay KC	Full	Birta City hospital, Birtamode
46	Dr. Jay Prakash Thakur	Full	National Academy of Medical Sciences, Kathmandu
47	Dr. Hari Poudel	Full	Pokhara, Nepal
48	Dr. Tirtha Raj Bhandari	Full	National Trauma Centre, Kathmandu
49	Dr. Samir Shakya	Full	Dhulikhel Hospital, KU
50	Dr. Bashu Dev Parajuli	Full	Institute of Medicine, Kathmandu

# NASP EVENTS

## 1. FIRST NATIONAL CONFERENCE OF NEPAL ASSOCIATION FOR THE STUDY OF PAIN

The first national conference of NASP was conducted on 6 March 2021. The one day conference was held virtually due to the COVID-19 pandemic. Twelve eminent national and international faculties delivered their lectures on various aspects of pain management. About 50 participants attended this conference, including Claudia Sommer, the then president of International Association for the Study of Pain (IASP).



NASPCON Virtual Conference Date: 6 March 2021 Scientific Program		
TIME (Nepal time)	Session 1 (Moderator Dr Renu Gurung)	
8.30 am - 8.45 am	Welcome speech from IASP/NASP President	
8.45 am - 9.10 am	Role of Regenerative Medicine in Pain	Dr Chris Paulus
9.10 am - 9.35 am	CRPS-Current Understanding and Therapy	Dr Harsha Shanthanna
9.35 am - 10 am	MRI in Low Back Pain	Dr Joseph Park
10 am -10.25 am	Cervicogenic Headache	Dr Philip Chan
10.25 am - 10.35 am	<b>Break</b>	
Session 2 (Moderator Prof. Balkrishna Bhattarai)		
10.35 am - 11 am	Coping Strategies in Chronic Pain	Dr Rabi Shakya
11 am - 11.25 am	Multi-modal Approach in Cancer Pain Management	Dr M.R. Rajagopal
11.25 am -11.50 am	Phrenic Nerve Sparing Shoulder Blocks	Dr Sindhu Khatiwada
11.50 am -12.15 pm	Ultrasound Guided Lumbar Spine Interventions for Chronic Pain	Dr Helen Gharaei
12.15 pm -12.25 pm	<b>Break</b>	
Session 3 (Moderator Dr Ninadini Shrestha)		
12.25 pm -12.50 pm	Unveiling the Enigma of Diagnostic Dilemma of Orofacial Pain	Dr Apeksha Mainali
12.50 pm - 1.15 pm	Opioids in Perioperative Settings: Friend or foe?	Dr Sambhu Acharya
1.15 pm -1.40 pm	Drugs in Neuropathic Pain: How to obtain the best results?	Prof. Troels Jensen
1.40 pm -2.05 pm	Peripheral Neuromodulation in chronic pain: Past, present and future.	Dr Athmaja Thottungal
2.05 pm - 2.15 pm	<b>Break</b>	
Session 4. Free Papers (Moderator Prof. Krishna Pokharel)		
2.15 pm - 3 pm	Closing Remarks	
3 pm		

**IASP Chapter: Nepal Association for the Study of Pain (NASP)**

IASP Chapter since 2014  
Member of IASP Federation:  
South Asian Regional Pain Society (SARPS)

**NASP Members are engaged in:**

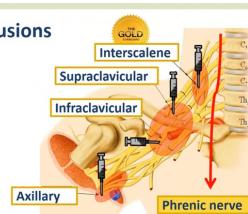
- Southeast Asia Pain Camp Recipients
- IASP Developing Countries Project: Initiative for Improving Pain Education Award Winners
- PRF Editorial Board
- 2020 John J. Bonica Trainee Fellowship
- Global Alliance of Partners for Pain Advocacy (GAPPA) Task Force
- Virtual Series on Pain & Expo



### Peripheral neuromodulation Past, present and future

Dr. Athmaja Thottungal  
MBBS,FRCA,FFPMRCA,EDRA, FIPP, CIPS  
Consultant – Chronic pain and Regional Anaesthesia specialist  
Kent and Canterbury Hospital  
East Kent University Hospitals NHS Foundation Trust, UK.  
Pain lead-London Society of Regional Anaesthesia (LSORA)

#### Conclusions



#### In closing...



I extend my best wishes for a productive and successful virtual conference.

**IASP definition of pain 2020**  
An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage.

<https://journals.lww.com/pain/pages/articleviewer.aspx?year=2020&issue=09000&article=00006&type=Abstract>



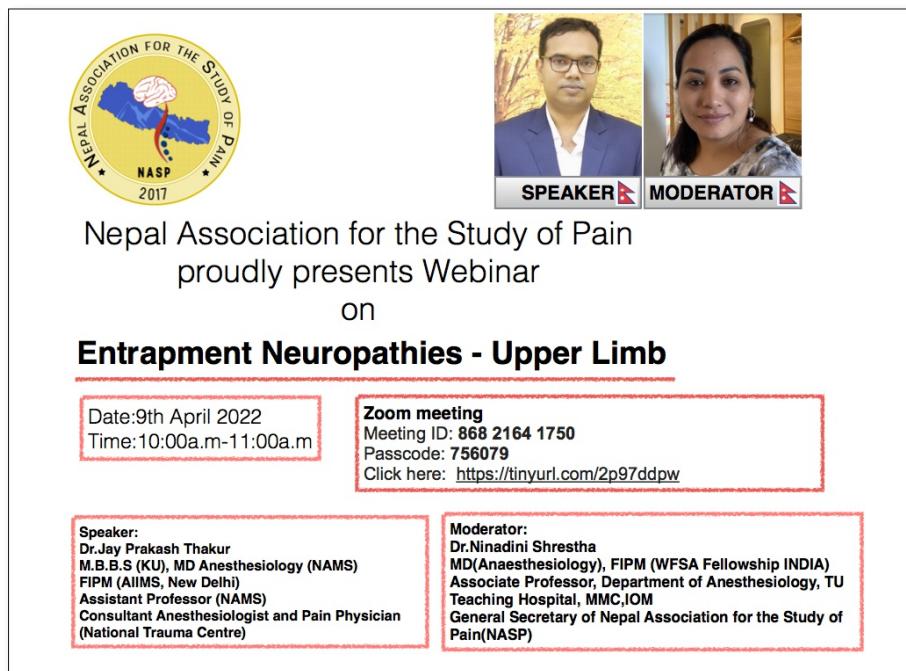
## 2. WEBINAR- "SONOANATOMY AND ULTRASOUND GUIDED INTERVENTIONS IN SHOULDER PAIN WITH LIVE DEMONSTRATION"

This Webinar was conducted on 12 March 2022. It was presented as Wisonic Dandelion College Global Webinar by NASP in collaboration with Wisonic and N.S. Biomedical. In this webinar Dr. Ninadini Shrestha gave a PowerPoint presentation on the ultrasound guided interventions in shoulder pain followed by a live video of ultrasound evaluation in shoulder pain. The session was moderated by Dr. Shirish Prasad Amatya. It was an interactive session of 90 minutes with lots of international participation. The video recording of the webinar can be accessed here.

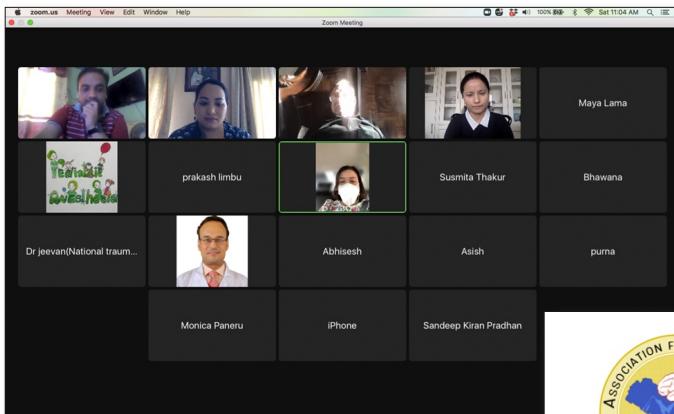


## 3. WEBINAR- ENTRAPMENT NEUROPATHIES- UPPER LIMB

This webinar was organized on 9th April 2022 by NASP. The speaker was Dr. Jay Prakash Thakur who elaborated on "Entrapment Neuropathies of the Upper Limb" with PowerPoint presentation. This session was moderated by Dr. Ninadini Shrestha. It was an interactive session mainly focusing on various common sites of nerve compression, diagnostic dilemma and interventional treatment modalities.



## 4. WEBINAR- DEBUNKING MYTHS ABOUT PEDIATRIC PAIN MANAGEMENT



This webinar was organized by NASP on 21st May 2022. The speaker was Dr. Utsav Acharya who is a pediatric anesthesiologist. The PowerPoint presentation was on "Debunking Myths about Pediatric Pain management". This session was moderated by Dr. Binita Acharya. This was an interactive session with participation from Dr. Duenpen Horatanaruang and Dr.Sahatsa Mandee who shared their valuable experience as pediatric pain management experts from Thailand.

Nepal Association for the Study of Pain  
Proudly Presents Webinar  
on  
**Debunking Myths about Pediatric Pain Management**

Date: 21st May 2022  
Time: 10:00a.m-11:00a.m

**Zoom meeting**  
Meeting ID: 707 030 7002  
Passcode: 581388  
Click here: <https://tinyurl.com/5n6uhuh52>

**Speaker:**  
Dr.Utsav Acharya  
M.B.B.S, MD Anesthesiology  
Diploma in Pediatric Anesthesia(Thailand)  
Consultant Pediatric Anesthesiologist  
TU Teaching Hospital, MMC,IOM

**Moderator:**  
Dr.Binita Acharya  
M.B.B.S(DU), MD Anesthesiology (NAMS),Fellowship in Clinical Pain Management (Mahidol University)  
Associate Professor, Department of Anesthesiology,  
TU Teaching Hospital, MMC,IOM  
Vice President, Nepal Association for the Study of Pain(NASP)

## 5. WEBINAR- ULTRASONOGRAPHY IN CENTRAL NEURAXIAL BLOCK: SOME BASIC CONCEPTS

This webinar was organized by NASP on 2nd July 2022. The speaker was Dr. Bashu Dev Parajuli, an obstetric anesthesiologist and he spoke on "Ultrasonography for Central Neuraxial Block: Some Basic Concept". The session was moderated by Dr. Anil Shrestha. It was a PowerPoint presentation with live demonstration on performing ultrasonography for central neuraxial block.

Nepal Association for the Study of Pain  
Proudly Presents Webinar  
on  
**Ultrasonography for Central Neuraxial Block: Some Basic Concept**

**Date:** Saturday  
**Date:** 2nd July 2022 A.D  
**18 Asar 2079 B.S**  
**Time:** 10:00a.m-11:30a.m

**Zoom meeting**  
Meeting ID: 707 030 7002  
Passcode: 581388  
Click here: <https://tinyurl.com/3a3r474m>

**Speaker:**  
Dr.Bashu Dev Parajuli  
MD Anaesthesiology, Fellowship in Obstetric Anesthesia  
Lecturer, Department of Anesthesiology  
TU Teaching Hospital, MMC,IOM,TU

**Moderator:**  
Dr.Anil Shrestha  
MD Anesthesiology and Critical Care Medicine, Fellowship in Interventional Pain Management  
Professor and Head, Department of Anesthesiology  
TU Teaching Hospital, MMC,IOM,TU  
President, Nepal Association for the Study of Pain(NASP)

Image of spine USG in different plane

2. Parasagittal plane:



Image of spine USG in different plane

1. Vertical plane:

- Ligamentum flavum, Posterior dural space n posterior longitudinal ligament
- Intrathecal space
- Anterior dural space and anterior longitudinal
- Lamina and articular process
- Transverse process



## 6. WORKSHOP: INTERVENTIONAL PAIN MANAGEMENT

September is "Pain Awareness Month" celebrated all over the world with educational programs to public and medical personnel. NASP has been celebrating September with different kind of activities since many years now. This year, an interventional pain management workshop for education and skill upliftment of medical personnel was organized on 24th September 2022, Saturday at Nidan Hospital, Lalitpur. The program started with a welcome Speech by NASP President Prof. Dr. Anil Shrestha which was then followed by two lectures on "basic anatomy of lumbar spine" and "approaches for transforaminal epidural steroid Injection and facet joint intraarticular injection" by Dr. Ninadini Shrestha. Following first case discussion about a lady with low back ache with left sided radiculopathy since 1 month with an MRI finding of prolapsed intervertebral disc L4-L5 with L5 traversing root compression, a live demonstration of fluoroscopic guided transforaminal epidural steroid injection at left L4-L5 was performed by Dr. Abhisesh Shrestha. The second case

was a 42-year-old gentleman with paraxial low back ache without radiculopathy and pain aggravating on changing position. Live demonstration of fluoroscopic guided facet joint intraarticular injection right L4-L5 and L5-S1 was performed by Dr. Abhisesh Shrestha.

A total of 30 participants with prior registration had participated. The program was also attended by some executive members and life members of NASP and other invited guests. There were no registration fees charged. The patients who consented for this educational program were treated free of cost. It was a very successful program with great learning experience as feedbacks were gathered from the participants. It was a very interactive program. We are grateful to our sponsors and the technical support. We hope to conduct similar program every year on September as a month of pain awareness. This program was also covered in online news. Please find the link below.

<https://swasthyakhabar.com/story/48365>



## REVIEW ARTICLE

# Ultrasound Guided Phrenic Nerve Sparing Blocks for Shoulder Analgesia: a Review

Sindhu Khatiwada<sup>1</sup>

<sup>1</sup>Professor, Department of Anaesthesiology and Critical Care, B. P. Koirala Institute of Health Sciences, Dharan, Nepal.

### Abstract

Interscalene brachial plexus block is a standard technique for providing effective analgesia after shoulder surgeries. It is invariably associated with phrenic nerve block, which leads to hemi-diaphragmatic palsy and therefore may not be an ideal block for shoulder analgesia in patients with preexisting respiratory dysfunction. Modifications in interscalene block with reduction in volume and concentration of local anesthetics used have shown to reduce the incidence of phrenic nerve palsy. Some of the alternatives to interscalene block for shoulder analgesia are superior trunk block, suprascapular nerve block, supraclavicular and infraclavicular brachial plexus block. These nerve blocks, by injecting local anesthetic away from the roots of brachial plexus can reduce the incidence of phrenic nerve palsy. Selective peripheral blockade of both suprascapular and axillary nerves may completely avoid blocking phrenic nerve and can be an attractive alternative to interscalene block for providing shoulder analgesia in patients with preexisting respiratory problems.

**Keywords:** Analgesia; Diaphragmatic palsy; Phrenic nerve palsy; Shoulder blocks.

Surgeries involving shoulder are routine procedures these days. To achieve effective analgesia after shoulder surgeries, it is imperative to block all the nerves supplying shoulder joint and the surrounding structures. The nerves supplying shoulder are suprascapular, lateral pectoral, musculocutaneous, subscapular and axillary, all of which originate from brachial plexus, mainly from C5, C6, and C7 nerve roots.

Interscalene brachial plexus block (ISBPB) is a standard nerve block technique for providing effective analgesia after shoulder surgeries. By depositing local anesthetics around C5, 6, and 7 nerve roots, it blocks all the nerves supplying the shoulder. However, because of close proximity of the roots of brachial plexus to various vital structures like phrenic nerve, vertebral artery, vagus nerve, and cervical ganglion, ISBPB is potential to cause serious adverse events.

Phrenic nerve palsy (PNP) is an inevitable complication associated with ISBPB that occurs in nearly 100% of individuals. Phrenic nerve originates from C3, 4, 5 nerve roots and courses down in the neck anterior to the anterior scalene muscle. The nerve lies 18 to 20 mm medial to the C5 nerve root at the level of the cricoid cartilage and diverges an additional 3 mm away for every cm that it descends over the scalene muscle.<sup>1</sup> Phrenic nerve then enters thorax and ends by supplying diaphragm, the principle muscle of respiration.

Concomitant blockade of phrenic nerve with ISBPB, leads to ipsilateral hemi-diaphragmatic palsy (HDP), which is well tolerated by patients if they are young and healthy. However, patients with preexisting respiratory diseases like asthma, chronic obstructive pulmonary diseases and pathologies involving the contralateral phrenic nerve and diaphragm, might develop variable degree of respiratory insufficiency in the perioperative period. Providing analgesia for shoulder surgeries in these patients, could pose a challenge to the anesthesiologist. To address this

problem, there has been a quest for an alternate nerve block technique, either a modification of ISBPB or an entirely different block that provides similar degree of analgesia as ISBPB, but with reduced incidence of PNP.

Studies have reported reduction in the incidence of PNP, with reduction in either volume or concentration of local anesthetic used for ISBPB. When volumes 5 ml and 20 ml of 0.5% ropivacaine were compared on respiratory consequences of ISBPB in patients undergoing shoulder surgery, HDP occurred in 45% patients with 5 ml and 100% patients with 20 ml.<sup>2</sup> Similarly, when volumes 5 ml and 10 ml of 0.75% ropivacaine were used for ISBPB in patients undergoing rotator cuff arthroscopic surgery, incidence of HDP was 33% with 5 ml and 60% with 10 ml.<sup>3</sup> Pain scores and analgesic consumption within 24 h after surgery were similar between groups in both the studies.<sup>2, 3</sup>

Ropivacaine 20 ml, 0.1% and 0.2% were used for ISPB in patients undergoing arthroscopic rotator cuff repair. With lower concentration, the incidence of HDP after 30 min of block was 42%, and in post anesthetic care unit (PACU) was 35%. With higher concentration, the incidence of HDP was 71% after 30 min and 67% in PACU.<sup>4</sup> Pain scores and analgesic consumption in PACU was similar in both the groups. However with high concentration block, analgesic consumption within 72 h after surgery was less, block duration was longer and postoperative pulmonary functions were reduced more as compared to low concentration block.

Some of the alternatives to ISBPB that can provide similar degree of analgesia after shoulder surgeries are superior trunk block (STB), suprascapular nerve block (SCNB) and shoulder block. These nerve block techniques, by injecting local anesthetic (LA) away from the roots of brachial plexus can avoid blocking phrenic nerve.

Superior trunk (ST) of brachial plexus is formed by the union of C5 and C6 nerve roots. For blocking this trunk, C5

**Corresponding Address:** Dr. Sindhu Khatiwada, Professor, Department of Anaesthesiology and Critical Care, B. P. Koirala Institute of Health Sciences, Dharan, Nepal. Email: sindhukhatiwada@gmail.com

and C6 nerve roots are first located within the interscalene groove and traced distally and laterally to where they coalesced into the ST. For providing effective shoulder analgesia, it is imperative to block ST proximal to take off of the suprascapular nerve from it. Superior trunk block provided noninferior analgesia when compared to ISBPB, in terms of requirement of analgesics and pain scores for up to 24 h after arthroscopic shoulder surgery.<sup>5</sup> Ropivacaine 0.5%, 15 ml was used for both the blocks. The incidence of HDP was 76% with STB and 97% with ISBPB and decrease in spirometry values from baseline was significantly greater with ISBPB.

Suprascapular nerve after branching off from ST, runs laterally under omohyoid muscle in the supraclavicular region and can usually be identified as a small hypoechoic structure lateral to ST. Subomohyoid SCNB was found non-inferior to ISBPB in terms of similar pain scores and analgesic consumption for 24 h after arthroscopic shoulder surgery and for the blockade of ST.<sup>6</sup> Ropivacaine 0.5%, 15 ml was used for both the blocks. The consistency of STB was assessed by quantifying the frequency of sensory-motor block in C5-C6 dermatome at 30 min post block. Concomitant blockade of ST with SCNB, supposedly blocks the axillary and subscapular nerves, thereby provides effective analgesia as ISBPB. Suprascapular nerve can be blocked also by posterior approach in the suprascapular fossa, where it lies deep to supraspinatus muscle.

When anterior and posterior approach of SCNB, combined with an axillary nerve block was compared using 10 ml of 0.375% ropivacaine in patients undergoing arthroscopic shoulder surgery, HDP occurred in 40% patients with anterior approach and 2% patients with posterior.<sup>7</sup> Posterior approach selectively blocks suprascapular nerve far away from the phrenic nerve, whereas anterior approach invariably blocks the phrenic nerve. The analgesic efficacy of posterior approach block was significantly less when compared with anterior. Non-effective blockade of an articular branch of the suprascapular nerve by posterior approach, as this branch leaves the nerve before suprascapular notch and concomitant blockade of other sensory innervation of shoulder by anterior approach could be the reasons. Comparable analgesia between anterior SCNB and ISBPB, also suggests the anterior approach to be more than an isolated block of suprascapular nerve.<sup>8</sup>

Anterior suprascapular block was superior to supraclavicular brachial plexus block (SCPB), when compared with ISBPB for providing analgesia and preservation of respiratory functions in patients undergoing arthroscopic shoulder surgery.<sup>8</sup> Ropivacaine 15 ml, 0.5% was used for each of these blocks. Pain scores in the first 60 min after surgery and total analgesic consumption within the first 24 h was similar between patients getting either suprascapular or SCPB. The reduction in vital capacity, FEV1, and diaphragmatic excursion at 60 min after surgery was significantly more with ISBPB, followed by SCPB and least by SCNB.

Supraclavicular BPB has been suggested to be an efficient alternative to ISBPB for providing shoulder analgesia with reduced incidence of hoarseness and Horner's syndrome.<sup>9</sup> The incidence of HDP was 78% with ISBPB and 42% with SCPB.<sup>9</sup> Injection of LAs more lateral and distal with SCPB compared to ISBPB reduces the incidence of adverse events including PNP. The ISBPB is often preferred over SCPB for shoulder analgesia, owing to its lower incidence of pneumothorax and assumption of insufficient blockade of suprascapular and axillary nerves

with SCPB. With use of ultrasound, these concerns can be definitely overcome to a great extent.

Infraclavicular brachial plexus block (ICPB) with a single injection, distally at the cord level can block subscapular, axillary and lateral pectoral nerves. Combination of ICPB and SCNB with posterior approach provided an effective postoperative analgesia after shoulder arthroplasty without any incidence of HDP, whereas the incidence was 90% with ISBPB.<sup>10</sup> Levobupivacaine 0.25% 20 ml was used for both ISBPB and ICPB, and 10 ml for SCNB. Although the pain scores within 24 h after surgery was comparable between groups, analgesic requirement was significantly less with ISBPB.<sup>10</sup> Using higher volume of LAs with ICPB, may provide better postoperative analgesia owing to the complete blockade of lateral and posterior cords but with increased risk of PNP, which was 13% when 30 ml of 0.5% ropivacaine was used.<sup>11</sup> Similarly, the incidence of HDP was 5% when combination of ICPB with 15 ml 0.75% ropivacaine and SCNB anterior approach with 4 ml 0.5% ropivacaine was used for shoulder arthroplasty.<sup>12</sup>

Another reliable alternative to ISBPB for avoiding PNP could be more distal, selective blockade of axillary and suprascapular nerves, also known as shoulder block. Axillary and suprascapular nerves innervate the majority of shoulder joint. As compared to ISBPB, shoulder block was associated with lower incidence of dyspnea and discomfort, but had lower analgesic efficacy. Analgesic consumption in the immediate postoperative period was more with the combination block compared to ISBPB, but similar thereafter throughout 24 h after surgery.<sup>13</sup> Combination of suprascapular nerve block by posterior approach and posterior cord block by infraclavicular approach was also found to provide effective shoulder analgesia in a patient with bronchial asthma.<sup>14</sup>

Considering the possibility of completely avoiding PN block by the combination of SCNB posterior approach and axillary nerve block, it may be the best option for providing analgesia after shoulder surgeries in patients with preexisting respiratory dysfunction, provided it is used as a part of multimodal analgesia.

## Conclusions

Interscalene brachial plexus block with low volume of local anesthetics can reduce the incidence of phrenic nerve block. Blockade of superior trunk, suprascapular nerve, supraclavicular and infraclavicular brachial plexus also reduce the incidence of phrenic nerve palsy by injecting local anesthetics more lateral and distal to the roots of brachial plexus. Selective blockade of both suprascapular and axillary nerves could have a minimum or no impact on the blockade of phrenic nerve and could be a possible diaphragm sparing alternative to interscalene brachial plexus block. Multimodal analgesic approach by combining any of these blocks with systemic analgesics is always the best option.

## References:

- El-Boghdady K, Chin KJ, Chan VW. Phrenic nerve palsy and regional anesthesia for shoulder surgery: anatomical, physiologic, and clinical considerations. *Anesthesiology*. 2017;127(1):173-91.
- Riazi S, Carmichael N, Awad I, et al. Effect of local anaesthetic volume (20 vs 5 ml) on the efficacy and respiratory consequences of ultrasound-guided interscalene brachial plexus block. *Br J Anaesth*. 2008;101(4):549-56.
- Lee JH, Cho SH, Kim SH, et al. Ropivacaine for ultrasound-guided interscalene block: 5 mL provides similar analgesia but less phrenic

- nerve paralysis than 10 mL. *Can J Anaesth.* 2011;58(11):1001-6.
4. Wong AK, Keeney LG, Chen L, et al. Effect of local anesthetic concentration (0.2% vs 0.1% ropivacaine) on pulmonary function, and analgesia after ultrasound-guided interscalene brachial plexus block: a randomized controlled study. *Pain Med.* 2016;17(12):2397-403.
  5. Kang R, Jeong JS, Chin KJ, et al. Superior trunk block provides noninferior analgesia compared with interscalene brachial plexus block in arthroscopic shoulder surgery. *Anesthesiology.* 2019;131(6):1316-26.
  6. Abdallah FW, Wijeysundera DN, Laupacis A, et al. Subomohyoid anterior suprascapular block versus interscalene block for arthroscopic shoulder surgery: a multicenter randomized trial. *Anesthesiology.* 2020;132(4):839-53.
  7. Ferre F, Pommier M, Laumonerie P, et al. Hemidiaphragmatic paralysis following ultrasound-guided anterior vs. posterior suprascapular nerveblock: a double-blind, randomized control trial. *Anesthesia.* 2020;75(4):499-508.
  8. Auyong DB, Hanson NA, Joseph RS. Comparison of anterior suprascapular, supraclavicular, and interscalene nerve block approaches for major outpatient arthroscopic shoulder surgery: a randomized, double-blind, noninferiority trial. *Anesthesiology.* 2018;129(1):47-57.
  9. Guo CW, Ma JX, Ma XL, et al. Supraclavicular block versus interscalene brachial plexus block for shoulder surgery: A meta-analysis of clinical control trials. *Int J Surg.* 2017;45:85-91.
  10. Aliste J, Bravo D, Finlayson RJ, et al. A randomized comparison between interscalene and combined infraclavicular-suprascapular blocks for arthroscopic shoulder surgery. *Can J Anaesth.* 2018;65(3):280-7.
  11. Petrar SD, Seltenerich ME, Head SJ, et al. Hemidiaphragmatic paralysis following ultrasound-guided supraclavicular versus infraclavicular brachial plexus blockade: a randomized clinical trial. *Reg Anesth Pain Med.* 2015;40(2):133-8.
  12. Musso D, Klaastad O, Ytrebo L. A combination of infraclavicular and suprascapular nerve blocks for total shoulder arthroplasty: A case series. *Acta Anaesthesiol Scand.* 2021;65(5):674-80.
  13. Dhir S, Sondekoppam RV, Sharma R, et al. A comparison of combined suprascapular and axillary nerve blocks to interscalene nerve block for analgesia in arthroscopic shoulder surgery: an equivalence study. *Reg Anesth Pain Med.* 2016;41(5):564-71.
  14. Casanova MG, Choi S, McHardy PG. Ultrasound-guided posterior cord and selective suprascapular block for shoulder surgery. *Br J Anaesth.* 2016;117(6):835.

## CASE REPORT

# Radiofrequency Ablation of Ganglion Impar in Carcinoma of Cervix with Chronic Perineal Pain

Rupak Bhattacharai<sup>1</sup>, Gautam Das<sup>2</sup>, Monika Dabgotra<sup>2</sup>

<sup>1</sup>Department of Anesthesiology, Critical Care & Pain Management, Nobel Medical College Teaching Hospital, Biratnagar, Nepal.

<sup>2</sup>Daradia Pain Clinic, Kolkata, India.

### Abstract

Ganglion impar block is one of the commonly used and safest procedures for chronic pelvic pain, visceral pain and perineal pain. It can also be used in sympathetically mediated pain, secondary to cancer pain. The therapeutic block can be done with neurolytic agents like alcohol or phenol. We present a case report of radiofrequency ablation as a therapeutic block in a patient with chronic pelvic & perineal pain secondary to carcinoma of cervix. Patient's pain on VAS score and requirement of other analgesic decreased with time.

**Keywords:** Chronic pelvic & perineal pain; Ganglion impar block; Radiofrequency ablation.

### Introduction

Chronic perineal pain is one of the common presentations in case of metastatic cancer patients. The common site of pain in cervical cancer patient includes low back pain, buttocks and perineal pain due to lower lumbo-sacral plexus involvement. Sympathetically mediated perineal pain is a poorly localized type of pain with burning quality and a sense of urgency in the perineal region.<sup>1</sup> The management of chronic perineal pain involves a multimodal approach with the primary goal directed towards maximal achievable functional restoration and significant reduction in severity and intensity of pain.<sup>2</sup> These cancer related pain can be controlled with different interventions. The ganglion impar (ganglion of Walther) is a single retroperitoneal bundle of nerves located near the sacro-coccygeal joint and marks the end of two paravertebral sacral sympathetic chains.<sup>3</sup> Thus a ganglion impar block can be safe and reliable intervention used in treating perineal pain. It is a type of sympathetic block that can be used as a treatment of sympathetically mediated pain, secondary to malignancy, neuropathic pain and post surgical pain. Percutaneous radiofrequency (RF) thermocoagulation application can provide long standing pain relief in chronic pain.<sup>4</sup>

In this case report, we present that radiofrequency ablation may be one of the options for treating a patient with carcinoma of cervix presenting with chronic perineal pain not controlled with high doses of oral opioids.

### Case report

A 41-year-old lady, a known case of carcinoma of cervix presented to Daradia Pain Clinic, Kolkata with severe pelvic and perineal pain for 4 months. She had received four cycles of chemotherapy for her condition. Pain on visual analog scale was recorded in between 70-90 mm. She was receiving tablet morphine 10 mg four hourly and 20 mg at bed time with additional transdermal fentanyl patch. She was on pregabalin 75 mg per day and injection diclofenac occasionally. Despite being on above mentioned analgesics, she was experiencing severe

perineal pain which was even affecting her sleep and daily activities. She also felt that it was increasing her stress level. On examination, there was no sensory or motor loss. Perineal examination was not done. Her PET scan showed carcinoma cervix with uterine involvement. Besides this, there was an involvement of bilateral ureter with bilateral hydronephrosis. There was no involvement of rectum or bladder. The patient was diagnosed as a chronic pelvic pain and perineal pain secondary to carcinoma cervix and was subjected to ganglion impar diagnostic block with local anesthetic solution. Under aseptic technique, 5 ml of lignocaine was injected and the patient's pain decreased significantly within 10 minutes. Pain on visual analog scale was reduced to less than 50%. Then the patient was scheduled for a ganglion impar radiofrequency ablation. Radiofrequency ablation of ganglion impar was performed by trans-coccygeal approach using aseptic technique on prone position after confirming on C-arm. Conventional RF with sensory stimulation of 50 Hz at 0.5 V and motor stimulation of 2 Hz at 1 V was achieved and RF was done with 80 degree centigrade for 90 seconds for 2 cycles. After RF, 40 mg of methylprednisolone acetate was injected. No intra-operative and post procedure complications were noted.

The patient was observed for one hour following the radiofrequency ablation. Her VAS score for pain during that time was 3, thus showing significant pain reduction. Patient was discharged on the same day and asked to follow up every week for two months. She was asked to take tablet diclofenac 50 mg PRN if pain persisted.

Patient came for follow up after a week and subsequently for two months at the pain clinic. Her pain score was persistently low at 2-3 and she was able to do her normal work and daily activities. She needed tablet diclofenac about two times in a week for breakthrough pain.

### Discussion

The ganglion impar supplies nociceptive and sympathetic fibers to the perineum, distal rectum, perianal region, distal urethra, valve/ scrotum, and the distal third of the vagina.<sup>5</sup>

*Corresponding Address: Dr. Rupak Bhattacharai, Associate Professor, Department of Anesthesiology, Critical Care & Pain Management, Nobel Medical College Teaching Hospital, Biratnagar, Nepal. Email: bhattachairupak@hotmail.com*

Ganglion impar block provides immediate pain relief of 50%-75% per injections lasting for about weeks to months.<sup>6</sup> Radiofrequency treatment is a percutaneous minimally invasive procedure. Its widespread use and availability makes us consider it as a good option for safe destruction of ganglion.<sup>3</sup>

Demircay et al.<sup>7</sup> conducted a retrospective study on 10 patients with chronic coccydynia treated by conventional RF, and revealed that 90% of the patients had a successful outcome which was similar to our case.

Usmani H et al.<sup>8</sup> conducted a study on conventional radiofrequency thermocoagulation versus local anesthetic and steroid injection for ganglion impar block in chronic perineal pain and concluded that ganglion impar block by conventional RF provided significantly better pain relief with no major side effects as compared to local anesthetic-steroid combination.

Gurses E et al.<sup>9</sup> studied impar ganglion radiofrequency ablation in successful management of oncologic perineal pain and concluded that this technique was beneficial for decreasing chronic pelvic pain and similar was seen in our case where the pain intensity decreased by 50%.

Although blockage of ganglion impar with local anesthetics and/ or steroid has a faster onset of action, it is associated with early re-occurrence of pain after few weeks. With the use of radiofrequency ablation of ganglion impar in our case, we not only observed more than 50% decrease in pain score and subsequent decrease in the oral intake of analgesics but also simultaneous improvement in the quality of life of patient and a longer pain free time.

## Conclusion

Our case has shown that radiofrequency ablation of ganglion impar tends to be effective procedure that helps the patient with perineal pain secondary to carcinoma cervix by providing longer pain free period and improved quality of life along with decreased oral analgesic requirement. But further well designed studies are required to recommend its precise and conceptual use in cancer pain patients.

## References

1. Wallace MS, Leung AY, McBeth MD. Malignant Pain. In: Raj P, editor. Textbook of Regional Anesthesia. Pennsylvania: Churchill Livingstone Publisher; 2002. p. 585.
2. Bridges D, Thompson SW, Rice ASC. Mechanism of neuropathic pain. Br J Anaesth. 2001;87-26.
3. Reig E, Abejon D, del Pozo C, Insausti J, Contreras R. Thermocoagulation of the ganglion impar or ganglion of Walther: description of modified approach. Preliminary results in Chronic, nononcological pain. Pain Pract. 2005;5:103-10.
4. Walters A, Muhrleman M, Osiro S, et al. One is the loneliest number: A review of the ganglion impar and its relation to pelvic pain syndromes. Clin Anat. 2013;26(7):855-61. DOI: 10.1002/ca.22193
5. Green IC, Cohen SL, Finkenzeller D, Christo PJ. Interventional therapies for controlling pelvic pain: What is the evidence? Curr Pain Headache Rep. 2010;14:22-32.
6. Buttaci JC, Foye PM, Stitik TP. Coccydynia successfully treated with ganglion impar blocks: A case series. Am J Phys Med Rehabil. 2005;84:218.
7. Demircay E, Kabatas S, Cansever T, et al. Radiofrequency thermoregulation of ganglion impar in the management of coccydynia: preliminary results. Turk Neurosurg. 2010; 20:328-33.
8. Usmani H, Andleeb R, Tauhee N, Anjum S, Asif N. Conventional Radio Frequency Thermo Coagulation versus Local and steroid Injection for Ganglion Impar Block in Chronic Perineal Pain of Non-oncological Origin. J Anesth Clin Care. 2014;1:005.
9. Gurses E. Impar ganglion radiofrequency application in successful management of oncologic perineal pain. J Pak Med Assoc. 2014;64(6):697-9.

# CASE REPORT

## Fibromyalgia Presenting as Radicular Pain

Niru Nepal<sup>1</sup>

<sup>1</sup>B&C Medical College Teaching Hospital And Research Center Pvt. Ltd, Birtamode, Jhapa

### Abstract

Fibromyalgia (FM) is one of the most commonly encountered chronic widespread pain (CWP) condition in rheumatology. The estimated prevalence ranges from 2-12%. It seems ill defined with no clear understanding of the pathology and therefore no specific targeted treatment. Research has provided a better understanding of the aetiopathology and FM is now regarded as a centralized pain state. Here we are presenting a case with widespread pain that mimicked as L5 radiculopathy.

**Keywords:** Diagnostic criteria, Fibromyalgia, Radicular pain

### Introduction

Fibromyalgia is one of the most important cause of widespread pain and is a common medical condition affecting the general population. Middle aged females are most commonly affected.<sup>1</sup> The pain of fibromyalgia is generally widespread, involving both sides of the body. Pain usually affects the neck, buttocks, shoulders, arms, the upper back, and the chest. Fibromyalgia pain is less clear but may result from neurochemical imbalances in the central nervous system (CNS) that lead to an augmentation of pain perception, typified by allodynia (pain due to a stimulus that does not usually provoke pain) and hyperalgesia (increased pain from a stimulus that usually provokes pain).<sup>2,3</sup> This suggest that these individuals have fundamental problem with pain or sensory processing rather than an abnormality confined to the region where the patient is currently experiencing the pain. Here we are presenting a case with widespread pain which mimicked the symptoms of L5 radiculopathy.

### Case report

A 42-year-old female presented to outpatient clinic with a history of low back pain radiating to right anterior and medial aspect of thigh down to knee for 6-7 months with occasional tingling sensation of right great toe. Patient also complained of bilateral knee pain, neck and right paramedian upper back pain. The pain was moderate in intensity with NRS of 6. Back pain increased with sitting on the floor, working with forward bending and standing for 15-20 minutes. Pain was partially relieved on lying down. Knee pain increased on climbing up and down the stairs. The patient was a known case of hypertension on treatment with tab. cilnidipine 10 mg once a day.

On examination, sensation on right foot was slightly decreased compared to left foot and there was a mild midline and right paramedian tenderness in the lower back. Tenderness was observed in right trapezius muscle at mid-thoracic level.

Her symptoms were similar to a case of L5 radiculopathy. However, she also had other somatic symptoms with Widespread Pain Index (WPI) of 9, Symptom Severity (SS) Scale Score of 6. Hospital Anxiety and Depression Scale (HADS) showed a depression Score of 13 and an anxiety

score of 9, showing that she was depressed. So a provisional diagnosis of fibromyalgia with myofascial pain syndrome of trapezius was made, with a differential diagnosis of PIVD L4-L5 radiculopathy. Patient was then prescribed tab. sertraline 50 mg. However the patient lost to follow-up and we could not access the outcome of the treatment.

### Discussion

Pathophysiology of Fibromyalgia is not fully understood. Widespread musculoskeletal pain is the dominant feature of fibromyalgia.<sup>4,5</sup> Proximal regions such as the neck, shoulders, hips, and thighs are most commonly involved, but pain may be felt in the hands and feet.<sup>6</sup> Central sensitization, blunting of inhibitory pain pathways and alterations in neurotransmitters lead to aberrant neurochemical processing of sensory signals in the CNS, thus lowering the threshold of pain and amplification of normal sensory signals causing constant pain.<sup>7,8</sup>

Anxiety and depression are the most common association.<sup>9</sup> There are several other conditions associated with fibromyalgia (Table 1).

Fibromyalgia patients have widespread pain over large muscle groups, muscle tenderness, and also have straight cervical spines and straight lumbar spines by measuring the Cobb angle. It is quite possible that much of the pain experienced by fibromyalgia patients relates to increased muscle tension.<sup>10</sup>

The American College of Rheumatology (ACR) has framed a diagnostic criteria for fibromyalgia based on the use of two scales- WPI and SS Scale.<sup>4</sup> The WPI consists of a list of 19 painful body areas, with each area receiving a score of 1 (Total WPI score range: 0-19). In SS Scale, the severity of fatigue, waking unrefreshed, cognitive symptoms (memory and attention impairment) are assessed with a 4-point Likert Scale, and the extent of somatic symptoms in general are scored from 0 to 3 according to the number of symptoms. Thus the SS Score ranges from 0-12. To diagnose fibromyalgia, one of these two conditions must be fulfilled- a WPI  $\geq 7$  and SS  $\geq 5$ , or a WPI between 3 and 6 and SS  $\geq 9$ . Our patient was diagnosed as a case of fibromyalgia since she had a WPI of 9 and SS Score of 6.

*Corresponding Address: Dr. Niru Nepal, Department of Anesthesiology and Critical Care, B&C Medical College Teaching Hospital And Research Center Pvt. Ltd, Birtamode, Jhapa. Email: nnirupokhare174@gmail.com*

Table 1: Conditions associated with fibromyalgia

Musculoskeletal	Genitourinary	Gastro intestinal	Miscellaneous
<ul style="list-style-type: none"> <li>• Non-dermatomal paresthesia</li> <li>• Temporo-mandibular joint syndrome</li> <li>• Hyper mobility syndrome</li> <li>• Restless legs syndrome</li> <li>• Rheumatoid arthritis</li> <li>• Systemic lupus erythematosus</li> <li>• Sjögren syndrome</li> <li>• Osteoarthritis</li> <li>• Chronic fatigue syndrome</li> <li>• Carpal tunnel syndrome</li> <li>• Myofascial pain syndrome</li> </ul>	<ul style="list-style-type: none"> <li>• Dysmenorrhea</li> <li>• Interstitial cystitis</li> <li>• Vulvodynia</li> <li>• Female urethral syndrome</li> <li>• Vulvar vestibulitis</li> <li>• Premenstrual syndrome</li> </ul>	<ul style="list-style-type: none"> <li>• Irritable bowel syndrome</li> <li>• Esophageal dysmotility</li> </ul>	<ul style="list-style-type: none"> <li>• Tension/ migraine headaches</li> <li>• Mitral valve prolapsed</li> <li>• Allergy</li> <li>• Vestibular disorders</li> <li>• Ocular disturbances</li> <li>• Anxiety disorders</li> <li>• Reynaud phenomenon</li> <li>• Thyroid dysfunction</li> <li>• Lyme disease</li> <li>• Hyperventilation</li> <li>• Cognitive dysfunction</li> </ul>

## Conclusion

Fibromyalgia is a syndrome characterized by increased pain sensitivity, fatigue, sleep disturbance and other symptoms as a result of dysregulation of neurophysiologic functions. The patient may come with symptoms that mimic other conditions like PIVD. A careful musculoskeletal history and examination remains the most important diagnostic test for such conditions.

## References

1. Benzon HT, Rathmell JP, Wu CL, Trusk DC, Argoff CE, Hurley RW. editors. Practical management of pain. 5th ed. Philadelphia: Elsevier; 2014.
- 2 Clauw DJ, Arnold LM, McCarberg BH. FibroCollaborative. The science of fibromyalgia. Mayo Clin Proc. 2011;86:907–11. doi:10.4065/mcp.2011.0206
3. International Association for the Study of Pain. IASP taxonomy. Available at: <http://www.iasp-pain.org/Taxonomy>. Accessed April 1, 2016.
4. Wolfe F, Clauw DJ, Fitzcharles MA, et al. The American College of Rheumatology preliminary diagnostic criteria for fibromyalgia and measurement of symptom severity. Arthritis Care Res (Hoboken). 2010;62(5):600-10. doi:10.1002/acr.20140
5. Wolf F, Smythe HA, Yunas MB, et al. The American College of Rheumatology 1990 criteria for the classification of fibromyalgia: report of the Multicenter Criteria Committee. Arthritis Rheum. 1990;33(2):160-172. doi:10.1002/art.1780330203
6. Bennett RM. Clinical manifestations and diagnosis of fibromyalgia. Rheum Dis Clin North Am. 2009;35(2):215-232. doi:10.1016/j.rdc.2009.05.009
7. Staud R. Is it all central sensitization? Role of peripheral tissue nociception in chronic musculoskeletal pain. Curr Rheumatol Rep. 2010;12(6):448-54. doi:10.1007/s11926-010-0134-x
8. Yunus MB. Role of central sensitization in symptoms beyond muscle pain, and the evaluation of a patient with widespread pain. Best Pract Res Clin Rheumatol. 2007;21(3):481-97. doi: 10.1016/j.bepr.2007.03.006.
9. Arnold LM, Hudson JI, Keck PE, Auchincloss MB, Javaras KN, Hess EV. Comorbidity of fibromyalgia and psychiatric disorders. J Clin Psychiatry. 2006;67(8):1219-25. doi: 10.4088/jcp.v67n0807
10. Katz RS, Small A, Farkasch A. The Lumbar Spine in Fibromyalgia. 2014 ACR/ARHP Annual meeting abstract supplement. Arthritis Rheumatol. 2014;66 Suppl 10:S1-S1402. doi:10.1002/art.38914

## NEWS AND LITERATURES FROM THE WORLD ON PAIN - 2022

### A MULTIVARIABLE PREDICTION MODEL FOR EARLY PREDICTION OF CHRONIC POSTSURGICAL PAIN IN ADULTS

A Dutch-German research team developed and validated a prognostic model for chronicification of pain after surgery by conducting a prospective cohort study in adult patients undergoing orthopaedic, vascular, trauma, or general surgery between 2018 and 2019. Multivariable logistic regression models for CPSP were developed using data from the University Medical Centre (UMC) Utrecht and validated in data from the Erasmus UMC Rotterdam, The Netherlands.

The best performing model (area under the curve = 0.82; 95% confidence interval [CI], 0.76–0.87) included preoperative opioids use, bone surgery, numerical rating scale pain score on postoperative day 14, and the presence of painful cold within the painful area 2 weeks after surgery.

As only four easily obtainable predictors are necessary for reliable CPSP prediction, the models are useful for the clinician to be alerted to further assess and treat individual patients at risk. Identification of the presence of painful cold within 2 weeks after surgery as a strong predictor supports altered pain processing as an important contributor to CPSP development.

#### Reference:

van Driel MEC, van Dijk JFM, Baart SJ, Meissner W, Huygen FJPM, Rijssdijk M. Development and validation of a multivariable prediction model for early prediction of chronic postsurgical pain in adults: a prospective cohort study. *Br J Anaesth.* 2022;129(3):407-415. doi:10.1016/j.bja.2022.04.030

### MINDFULNESS MEDITATION-INDUCED PAIN RELIEF

Although recent evidence suggested that mindfulness meditation-induced pain relief is associated with the engagement of unique cortico-thalamo-cortical nociceptive filtering mechanisms., the functional neural connections supporting mindfulness meditation-based analgesia remained unknown. This randomized controlled trial study showed that mindfulness meditation interrupted the communication between brain areas involved in pain sensation and those that produce the sense of self. Researchers found that participants who were actively meditating reported approximately 30 percent reduction in pain intensity and pain unpleasantness. They propose that mindfulness meditation is associated with a novel self-referential nociceptive gating mechanism to reduce pain.

#### Reference:

Riegner G, Posey G, Oliva V, Jung Y, Mobley W, Zeidan F. Disentangling self from pain: mindfulness meditation-induced pain relief is driven by thalamic-default mode network decoupling [published online ahead of print, 2022 Jul 7]. *Pain.* 2022;10.1097/j.pain.0000000000002731. doi:10.1097/j.pain.0000000000002731

### NONPHARMACOLOGICAL INTERVENTIONS FOR INDIVIDUAL FEATURES OF FIBROMYALGIA

This systematic review and meta-analysis of 167 randomised controlled trials ( $n = 11,012$ ) assessing 22 nonpharmacological interventions for patients aged  $> 16$  years with fibromyalgia showed that exercise, psychological treatments, multidisciplinary modality, balneotherapy, and massage improved Fibromyalgia Impact Questionnaire (FIQ). Subgroup analysis found that all forms of exercise improved pain except for flexibility exercise. Mind-body and strengthening exercises improved fatigue, whereas aerobic and strengthening exercises improved sleep. Psychological treatments including

cognitive behavioural therapy and mindfulness improved FIQ, pain, sleep, and depression but not fatigue. The findings of this metanalysis suggest that nonpharmacological interventions for fibromyalgia should be individualised according to the predominant symptom.

#### Reference:

Kundakci B, Kaur J, Goh SL, et al. Efficacy of nonpharmacological interventions for individual features of fibromyalgia: a systematic review and meta-analysis of randomised controlled trials. *Pain.* 2022;163(8):1432-1445. doi:10.1097/j.pain.0000000000002500

## EFFICACY AND SAFETY OF DICLOFENAC PATCHES

This phase III multicenter randomized double-blind placebo-controlled comparative study evaluated the efficacy and safety of diclofenac sodium patches for the treatment of cancer pain. In the diclofenac group, once-daily diclofenac sodium patches were started at 150 mg/day (2 patches) and could be increased up to 225 mg/day (3 patches). The primary efficacy endpoint was the time to insufficient analgesic response. Time to insufficient analgesic response was significantly longer with diclofenac sodium patches than with placebo ( $p$ -value = 0.0016). They concluded that once-daily diclofenac sodium patches are effective in treating cancer pain and are well tolerated.

### Reference:

Yamaguchi S, Terahara T, Okawa K, Inakura H. A multicenter, randomized, double-blind, placebo-controlled, comparative study to evaluate the efficacy and safety of newly developed diclofenac patches in patients with cancer pain [published online ahead of print, 2021 Sep 25]. Pain. 2021;10.1097/01.j.pain.0000831636.00436.22. doi:10.1097/01.j.pain.0000831636.00436.22

## POSITION STATEMENT FROM INTERNATIONAL ASSOCIATION FOR THE STUDY OF PAIN PRESIDENTIAL TASK FORCE ON CANNABIS AND CANNABINOID ANALGESIA

Although there is much interest worldwide on the potential application of cannabis and cannabinoid medications for pain management, due to the lack of high-quality clinical evidence, the International Association for the Study of Pain (IASP) does not currently endorse general use of cannabis and cannabinoids for pain relief. IASP recognizes the pressing need for preclinical and clinical studies to fill the research gap, and for education on this topic.

### Reference:

1. IASP Presidential Task Force on Cannabis and Cannabinoid Analgesia. International Association for the Study of Pain Presidential Task Force on Cannabis and Cannabinoid Analgesia position statement. Pain. 2021;162(Suppl 1):S1-S2. doi:10.1097/j.pain.0000000000002265

## BALLOON COMPRESSION VS RADIOFREQUENCY FOR PRIMARY TRIGEMINAL NEURALGIA

In this randomized, double-blinded, head-to-head trial, the effects of balloon compression (BC) and radiofrequency ablation (RF) in pain control in primary trigeminal neuralgia was assessed. An interim analysis was planned after half of the estimated sample was collected. The interim analysis showed that balloon compression was not superior to radiofrequency in terms of pain related outcome at 6 months post-procedure. Patients on radiofrequency group presented more paresthetic symptoms than balloon

compression at 30 days after intervention. Based on the findings on interim analysis, the study was halted due to futility because BC was not superior to RF.

### Reference:

1. Sterman-Neto H, Fukuda CY, Duarte KP, et al. Balloon compression vs radiofrequency for primary trigeminal neuralgia: a randomized, controlled trial. Pain. 2021;162(3):919-929. doi:10.1097/j.pain.0000000000002070.

## LATEST PUBLICATIONS ON PAIN FROM NASP MEMBERS

- Subedi A, Schyns-van den Berg AMJV, Thapa P, et al. Intrathecal morphine does not prevent chronic postsurgical pain after elective Caesarean delivery: a randomised controlled trial. Br J Anaesth. 2022;128(4):700-707. doi:10.1016/j.bja.2021.11.036
- Subedi A, Pokharel K, Sah BP, Chaudhary P. Association of preoperative pain catastrophizing with postoperative pain after lower limb trauma surgery. J Psychosom Res. 2021;149:110575. doi:10.1016/j.jpsychores.2021.110575
- Adhikari P, Subedi A, Sah BP, Pokharel K. Analgesic effects of intravenous ketamine after spinal anaesthesia for non-elective caesarean delivery: a randomised controlled trial. BMJ Open. 2021;11(6):e044168.

4. Ghimire A, Subedi A, Bhattacharai B, Sah BP. The effect of intraoperative lidocaine infusion on opioid consumption and pain after totally extraperitoneal laparoscopic inguinal hernioplasty: a randomized controlled trial. BMC Anesthesiol. 2020;20(1):137

5. Shakya BM, Gurung R, Shrestha A, Acharya B, Shrestha N. Persistent pain after vertebroplasty: Not to miss facet joint pain. Grande Medical Journal. 2020;2(1):22-4. doi: 10.3126/gmj.v2i1.45694

6. Shakya BM, Shakya S, Shrestha N. Pain management practices and perceived barriers among the health professionals of different hospitals in Nepal. Journal of Clinical and Diagnostic Research. 2020;14(1):UC01-UC05. doi : 10.7860/JCDR/2020/42904.13421

# **INFORMATION FOR AUTHORS**

## **EDITORIAL POLICY**

NASP Bulletin is an official publication of the Nepal Association for the Study of Pain (NASP). It is published twice a year, in January and July. NASP Bulletin aims to publish articles related to various aspects of pain management along with the news on the activities of the NASP. Articles of different categories- original research article, case reports, meta-analysis, review articles, letter to editor are welcome to be considered for the publication in this Bulletin. They will be subjected to peer review by two external reviewers followed by a review by one of the editors. The language of publication is English. The author should clearly specify the type of article being submitted.

All articles must be submitted following the manuscript preparation guideline of the Bulletin. There should be a uniformity in language used, either American or British English. The manuscript should be formatted in A4 size

paper with 1 inch margin in all sides. Times New Roman font with 12 font size should be used, with double spacing. The references should be formatted in Vancouver style. The file should be submitted in \*.doc or \*.docx format. Any figure or picture should be submitted in \*.jpg format. The details of the manuscript submission guideline will be available at NASP website soon. All the submissions and queries can be sent to the email of the editorial board of NASP Bulletin- editorial.naspbulletin@gmail.com.

### **Bulletin contact information**

NASP Bulletin Editorial Office  
Nepal Association for the Study of Pain  
editorial.naspbulletin@gmail.com