



NASP BULLETIN

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

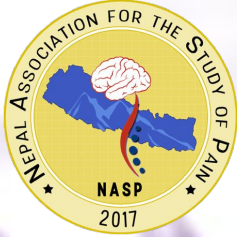
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Highlights

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Articles

News & Literature on Pain



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

EDITORIAL

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Pain is one of the commonest causes of suffering and distress of humankind affecting a large proportion of population around the world.¹ Almost one out of five people suffer from moderate to severe intensity chronic pain and significant proportion of those being unable or less able to carry on independent lifestyle due to their pain.² It is well known that pain is the commonest reasons for people to seek medical attention.³ Uncontrolled pain can affect physical, mental, social and financial wellbeing. The stress caused by pain not only leads to various distressing symptoms but also triggers a cascade of detrimental effects on our body systems.

Acute pain, if inadequately treated, can transform into chronic pain.⁴ The resulting chronic pain causes negative emotions, anger and irritability in the patient.⁵ Strain, disruption of relationship, disabilities and dependence on others are obvious social consequences of uncontrolled pain, thereby causing loss of jobs and unemployment.⁶ Epidemiological studies have shown that

chronic pain has very high prevalence. It is estimated that 30% of the world population is suffering from some or other type of chronic or recurring pain. However, lack of properly designed studies and cultural differences in reporting pain make precisely estimating pain prevalence difficult.⁷ Exact overall prevalence of chronic or recurrent pain in Nepal is not known but isolated studies have shown a prevalence up to 57%.^{8,9}

Pain control is an important aspect of overall clinical care as the prevalence of uncontrolled pain has been considered one of the quality indicators of clinical services.¹⁰ Huge proportion of the sufferers is not getting adequate pain relief worldwide despite remarkable advances in various modalities of diagnosis and treatment in the medical field. Of further concern, vulnerable groups like children, elderly, pregnant, mentally and/or physically incapacitated persons are at greater risks of getting inadequately treated.¹¹

Pain is a huge economic burden globally; annual estimated cost of pain is much greater than the cost for major chronic diseases like diabetes, heart diseases and cancer.¹² In our context also, pain has been causing huge out of pocket expenditure

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VIRTUAL CONFERENCE
6th march
2021
PAIN

Registration:
NASP member: 500 NPR Non-NASP member: 1000 NPR Student/Resident/Nurse: 500 NPR

(significant portion of per capita GDP) with 1.37 days/month/person man-day loss in economic terms.⁹

Study and management of pain is challenging because of complexity and variability of pathophysiology, overlapping of mechanisms and adverse effects of pharmacological interventions. Moreover, various barriers exist hindering the proper access of the available options in its management. The barriers identified are either system-related, care provider-related or patient related. Whatever the barrier type may be, the ultimate consequence is inadequate or inappropriate pain management and the sufferer are the patients.

Lack of clearly defined standards and protocols, limited access to medications and care providers are among the major system-related factors.^{13,14} Also, lack of referral pathways is considered a major system-related barrier in palliative care setting.¹⁵ Expectedly, these system-barriers are more striking in developing and resource limited country like ours and pain is unlikely to be considered a major priority area in every set-up.¹⁶

Inadequate knowledge and skills, lack of team approach, fear of false concerns of addiction (particularly for opioid analgesics) and overdosing, lack of time, heavy workloads are among the main care-provider related barriers.^{13,14} Fear of side effects, fear of addiction, and reluctance to take medications are among the major patient-related barriers.

It is undeniable that major change is required to alter the present scenario, and undoubtedly, creating awareness among all the stakeholders is the urgent need of the hour. Educating all concerned people formally and informally can make a striking impact in changing the perception and understanding of the barriers and overcoming them. Our steps need to include: advocacy on the issue at policy level, improvement of the curricula to include appropriate topics in formal teaching of medical and nursing schools, organization of training, workshops and seminars at various levels and use of media campaigns at public level.

Although pain management has always been a part of clinical care, the history of organized attempt to address the issue in Nepal is not long. It started at individual level about three decades ago and at institutional level about two decades ago. Nepal Association for Study of Pain (NASP) was founded three years back with multidisciplinary involvement to shoulder the burden of pain leadership.^{17,18} Expectedly, as a flag bearer, NASP has the responsibility of sharing information and creating awareness of pain matters among the stakeholders while appreciating the contributions from individuals and other professional societies.

It is encouraging that NASP has been recognized by the International Association for Study of Pain (IASP) as its Nepalese country chapter extending the assurance that our international fraternity is standing by our side. Expectedly, as the members of NASP, it is in our hands—as the forefront professionals—to take further initiatives and extend our hands to all concerned for advancing ahead to make pain as a subject widely known and pain services (including specialist care) better available and accessible to the needy patients.

Bringing out this bulletin is an attempt to fulfill the duty of information sharing and publishing scientific work related to pain matters. The bulletin will be published in journal format twice a year—January and July. The details of the submission formats are available in the editorial policy link of the bulletin. The editorial team requests the scientific community to contribute to the bulletin thereby taking part

in expanding the understanding of pain and related issues. In line with Einstein's quote 'nothing happens until something moves', the bulletin has started being published beating our latent inertia.

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ABOUT THE BULLETIN

NASP Bulletin is an official publication of the Nepal Association for the Study of Pain (NASP). This is the first issue of the bulletin that will be 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 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.

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ABOUT NASP

The Nepal Association for the Study of Pain (NASP) was established in the year 2017 (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).

During its three years of existence, NASP has organized over ten educational programs and two annual general meetings. It is soon organizing its first national conference on March 6, 2021. This conference will take place in the virtual platform due to the COVID-19 pandemic. Moreover, NASP has decided to provide a yearly research grant to its members to promote research in the field of pain. Application for the research grant for the year 2021 has been recently opened. Details of the research grant and the application process are available at the association website.

To know more about the association, log in to the website: www.naspain.com. For any query you can write to the secretary at: nasp.org2017@gmail.com

CURRENT EXECUTIVE COMMITTEE OF NASP

 <p>President: Dr. Anil Shrestha</p>	 <p>Vice-president: Dr. Binita Acharya</p>	 <p>Secretary: Dr. Asish Subedi</p>
 <p>Joint secretary: Dr. Dipesh Dhital</p>	 <p>Treasurer: Dr. Jyotsna Rimal</p>	 <p>Joint treasurer: Dr. Bigen Man Shakya</p>
 <p>Member: Prof. Dr. Krishna Pokharel</p>	 <p>Member: Dr. Renu Gurung</p>	 <p>Member: Prof. Dr. Ashish Ghimire</p>
 <p>Member: Prof. Dr. Sindhu Khatiwada</p>	 <p>Member: Dr. Navin Dhakal</p>	 <p>Member: Dr. Parineeta Thapa</p>
	 <p>Member: Dr. Iccha Maharjan</p>	

MESSAGE FROM THE PRESIDENT OF NASP

It is a matter of great pride for us that our NASP is publishing its own newsletter titled "NASP Bulletin". NASP has completed three years of its official establishment and during these three years the association has grown from a mere few enthusiastic members to a full association that has been recognized nationally as well as internationally. To establish it as a country chapter of IASP and inclusion in South Asian Regional of Pain Society (SARPS) were milestones in the path of NASP. NASP is determined to develop the field of pain management in Nepal and has been organizing different CMEs and workshops and also collaborating with different pain societies of the world. To strengthen the research activities on pain, NASP has also started research grant for its member. NASP is also organizing its first conference in March 2021.

I believe that publication is an integral part of academic and research activity and the newsletter is the beginning towards a bigger horizon of research in the field of pain. I hope this will stimulate our members and other enthusiastic health care personnel to write articles about pain to educate our society.

I would like to thank Prof. Dr. Balkrishna Bhattarai for taking the leadership to bring this dream into a reality. I would also like to thank all the members of the editorial committee for their tireless work for this achievement.

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

MESSAGE FROM THE SECRETARY OF NASP

I am delighted to see the publication of the inaugural issue of the Nepal Association for the Study of Pain (NASP) bulletin. With just 3 years since the establishment of NASP organization, the publication of NASP bulletin is one of the many milestones the society has achieved. I am confident that it will be a great platform for anyone working in the field of pain to report their scientific work or share their

experiences. I wish all the success to the editorial team.

Dr. Asish Subedi
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 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.

LIST OF CURRENT LIFE MEMBERS

Till now NASP has 46 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
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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

NASP EVENTS

This was the first scientific event organized by NASP. It was conducted in collaboration with the Department of Anaesthesiology and Critical Care, B.P. Koirala Institute of Health Sciences (BPKIHS), Dharan at the auditorium of BPKIHS, Dharan on 27th October, 2017. It included five presentations on different aspects of pain after surgery. A total of 151 participants attended the program.



This was organized in collaboration with Department of Anaesthesiology, Institute of Medicine, Kathmandu and AUSNEP on 18th November, 2018.



This workshop was conducted on 29th December, 2018 in collaboration with Department of Anaesthesiology and Critical Care, BPKIHS, with the support from Faculty of Pain Medicine, ANZCA. The workshop included series of interactive lectures, brainstorming related to barriers in pain management and overcoming the barriers and groups discussions on different pain related cases. A total of 31 participants that included both doctors and nurses attended the workshop.



The first annual general meeting of NASP was held on 16th March, 2019 in Kathmandu. It was attended by 24 life members of NASP.

This workshop was jointly organized by NASP and Nepal Dental Association at BPKIHS, Dharan on 4th May, 2019. The workshop highlighted the importance of recognizing, assessing, understanding and treating orofacial pain. The workshop also provided an opportunity to discuss simple and challenging orofacial pain cases handled by them routinely along with basic treatment approach through EPM module. A total of 19 dentists and dental specialists attended the workshop.



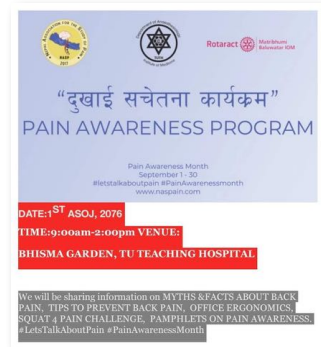


On 14th August, 2019 a CME program was organized at Hotel Royal Singhi, Kamaladi, Kathmandu with two international speakers. Dr. P. Mahendran, pain physician from Stanley Medical College, Chennai, India spoke on “Cancer Pain Management” while Dr. Ajit Shrestha, pain physician from Peninsula Regional Medical Centre, Salisbury, Maryland, USA presented on “Dorsal root ganglion stimulation therapy- a promising modality for chronic pain management.” The CME was moderated by NASP president Dr. Anil Shrestha. 32 pain physicians and anaesthesiologists attended the CME. It was very well received and informative presentation. The CME was very thought stimulating, interactive and elaborative.



NASP organized pain awareness program on 18th September, 2019 to mark the IASP Pain awareness month. One day program was organized in the premises of Tribhuvan University Teaching Hospital (TUTH), Kathmandu with support of Department of Anaesthesiology, Maharajgunj Medical Campus and Rotaract Matribhumi Baluwatar IOM. The program was started with inauguration by the Hospital Director and dignitaries of the NASP and involved societies. The highlights of the program were five education stations on chronic pain in the local language, one education station on office ergonomics, Squat 4 Pain challenge and pamphlet distribution. It was participated enthusiastically by more than 350 participants, 40% of whom were patients

and families visiting the hospital. It was an educative as well as fun filled event. Participants able to squat for more than 90 seconds were awarded with sweets. The day ended in the evening with Certificate Distribution to the volunteers for their hard work from Dr. Anil Shrestha, President, NASP.



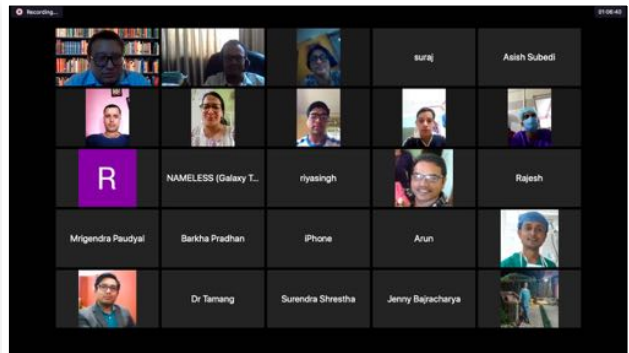
On 16th November, 2019 NASP organized a workshop on ultrasound guided peripheral nerve block in collaboration with Department of Anaesthesiology and Critical Care, BPKIHS, Dharan. 24 participants that including anaesthesiologists and anaesthesia residents from Dharan, Biratnagar, Rajbiraj and Janakpur benefited from the workshop. The resource faculties were from BPKIHS,

Dharan, Birat Medical College, Biratnagar, Institute of Medicine, Kathmandu and an international faculty, Prof. Yumiko Takao from Japan. Various topics related to different ultrasound guided blocks were presented, demonstrated and discussed in this extensive one-day workshop.



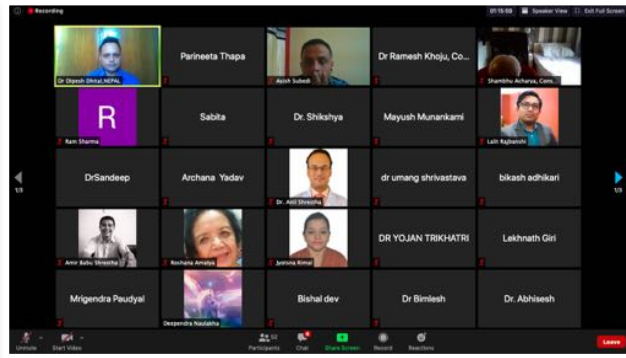
Since physical meetings were not possible with the declaration of COVID-19 pandemic, NASP organized its first webinar on 28th June, 2020 to continue with its educational programs. Dr. Prakash Maden Limbu from BPKIHS, Dharan presented on “Regional anaesthesia in

the era of COVID-19” whereas Dr. Ninadini Shrestha from Institute of Medicine, TUTH, Kathmandu presented on “Regenerative medicine in chronic pain”. About 30 participants from different parts of the country attended the webinar.



After the success of its first webinar, the second webinar of NASP was conducted on 26th September, 2020. Dr. Dipesh Dhital, Consultant Anaesthesiologist and pain physician from B&B Hospital, Kathmandu presented on the topic “Chronic post-surgical pain after cancer surgery”. There

was an active participation by over 50 participants from Nepal and abroad. The presentation was followed by an active discussion and experience sharing by the participants.



On 10th October, 2020 the second annual general meeting of NASP was conducted virtually as physical meeting was not possible due to COVID-19 pandemic.

A third webinar was conducted by NASP on 28th November, 2020 on the topic “Ketamine infusion for mental health and chronic pain conditions” by Dr. Hari Rijal. There was an active discussion and experience sharing among the participants on ketamine infusion for pain.



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Abstract

Background: The objective of this narrative review is to evaluate the efficacy and safety of prolotherapy with hypertonic dextrose in patients with knee osteoarthritis.

We analyzed various studies that evaluated dextrose interventions in patients with knee osteoarthritis. These trials looked at the effect of intra-articular and / or extra-articular infiltrations of hypertonic dextrose by assessing pain, physical function and adverse reactions.

Conclusions: In terms of pain reduction and function improvement, prolotherapy with hypertonic dextrose was found to be effective. In addition, no side effects or serious adverse reactions were reported in patients treated with hypertonic dextrose. More studies with better methodological quality and low risk of bias are needed to confirm the efficacy and safety of this intervention.

Keywords: dextrose; knee tendinopathy; osteoarthritis; prolotherapy; regenerative medicine

Introduction

Regenerative medicine is a term used to describe engineering or regrowing tissue to re-establish normal function.¹ Prolotherapy is a nonsurgical regenerative injection technique that introduces small amounts of an irritant solution to the site of painful and degenerated tendon insertions, joints and ligaments during several treatment sessions to promote growth of normal cells and tissues. Irritant solutions most often contain dextrose (D-glucose), a natural form of glucose normally found in the body, but may also contain combinations of polidocanol, manganese, zinc, human growth hormone, pumice, ozone, glycerin, or phenol.² In severe cases, autologous cellular solutions may also be used, such as platelet-rich plasma (PRP), bone marrow, or adipose tissue.³

This is a field with rapidly growing development in researches and its clinical applications with promising results. Its resurrection of an idea that noxious stimuli applied to injured tissue can induce healing, which is traceable to 500 BC in Rome², where soldiers with joint dislocations were treated with hot needle therapy. In the twentieth century, prolotherapy was formalized by Dr. George Hackett in the 1950s.²

This review focuses on the basic science and clinical evidence of prolotherapy using hypertonic dextrose solutions. The term dextrose is interchangeable with glucose because dextrose is the dexter (right-handed) form of glucose found in animals and humans. For this discussion, the term dextrose will be used.

The most common prolotherapy agent used in clinical practice is dextrose, with concentrations ranging from 12.5% to 25%.⁴ Dextrose is considered to be an ideal proliferant because it is water soluble, a normal constituent of blood chemistry, and can be injected safely into multiple areas and in large quantity. Hypertonic dextrose solutions act by dehydrating cells at the injection site, leading to

local tissue trauma, which in turn attracts granulocytes and macrophages and promotes healing. The mechanism of action behind prolotherapy is not completely understood. However, current theory holds that the injected dextrose mimics the natural healing process of the body by initiating a local inflammatory response, which triggers the release of growth factors and collagen deposition (Fig. 1). This is accomplished when induced cytokines mediate chemomodulation, which leads to proliferation and strengthening of new connective tissue, joint stability, and a reduction in pain and dysfunction.⁵

Human studies on cartilage and other soft tissue proliferation

Rabago and colleagues⁷ reported no changes in cartilage volume on blinded pretreatment and post-treatment MRI knee scans obtained at 1 year between dextrose-injected participants with symptomatic knee osteoarthritis and those who received saline injections or exercise prescription. Direct arthroscopic visualization of the joint surface, however, is superior to MRI evaluation⁸, and a recent study by Topol and colleagues used pretreatment and post-treatment video-arthroscopy documentation, to compare pre and post-treatment denuded femoral cortex surfaces for evidence of cartilage growth. This was by methylene blue stain for chondrocyte growth, with biopsy of new areas of methylene blue uptake after treatment to evaluate for cartilage type (I 5 fibrocartilage and II 5 hyaline like cartilage) by quantitative polarized light microscopy (QPLM) and immunohistologic staining with photographic documentation of the biopsy defect area. Biopsies were obtained from areas of new uptake of methylene blue with photographic documentation of the biopsy defect area; QPLM and immunohistologic stains showed a mixture of fibrocartilage and hyaline-like cartilage in the biopsies. Although the study was limited by

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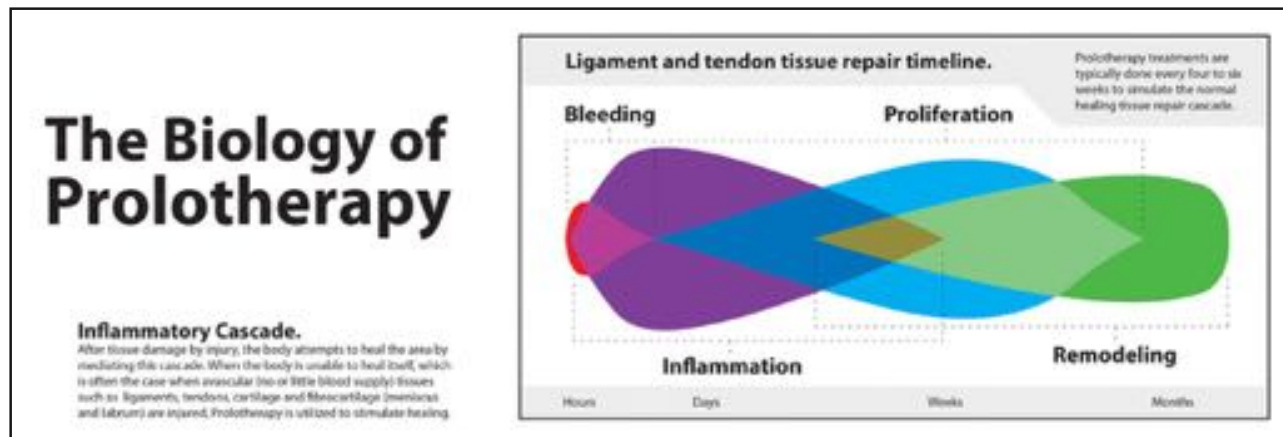


Figure 1. The biology of prolotherapy. Prolotherapy induces the three stages of healing and restoration: in ammation, proliferation, and tissue remodeling. Reused from: Steilen D, Hauser R, Woldin B, Sawyer S. Chronic Neck Pain: Making the Connection Between Capsular Ligament Laxity and Cervical Instability. *The Open Orthopaedics Journal*. 2014;8:326–345, under the terms of a CC-BY 2.5 license. ⁶

the small sample size of participants and the lack of a control group, it suggests that dextrose may stimulate or mediate chondrogenesis. Several studies have followed clinical and radiographic changes similar to this.

Human studies on ligament or tendon proliferation

Rabago and colleagues⁹ demonstrated clinical benefit from dextrose injection in lateral epicondylitis in the absence of demonstrable MRI changes at 16 weeks. Bertrand and colleagues¹⁰ used a systematic ultrasound rotator cuff tendinopathy grading method¹¹ to evaluate pretreatment and post-treatment images and showed no significant differences at 9 months despite significant post-prolotherapy clinical improvement. Two other second-look ultrasound studies have also indicated improvement in tendinosis, but these studies were not controlled, and standardization of ultrasound imaging is always challenging for clinical studies.¹²

Human studies on a potential sensorineural mechanism

A direct sensorineural effect of dextrose injection has been proposed based on the observation that analgesia results from subcutaneous perineural injection of dextrose along tender peripheral nerves in some chronic pain patients.¹³ Hypothesizing a potential analgesic effect of 5% dextrose water, Maniquis-Smigel and colleagues¹⁴ conducted a double-blind randomized controlled trial of the effect of epidural injection of 5% dextrose water versus normal saline in 35 participants with chronic nonsurgical low back pain and buttock or leg pain. A significant analgesic effect was seen in those who received 5% dextrose water in comparison to those who received normal saline from 15 minutes to 48 hours ($p < 0.05$). The speed of analgesia onset after epidural¹⁴ or subcutaneous¹³ injection of dextrose suggests a potential direct effect of dextrose on peripheral nerves.

Reeves and Hassanein¹⁵ compared dextrose prolotherapy to blinded lidocaine injections in a two-arm blinded trial using an intra-articular only injection protocol. Participants with chronic knee pain and Kellgren-Lawrence (KL) stages II–IV radiographic knee osteoarthritis received injections at 0 months, 2 months, and 4 months, with optional open-label dextrose injection after 6 months. Primary measures were 0 to 10 NRS for walking pain and goniometrically

measured knee range of motion. Participants had statistically similar baseline characteristics. Range-of-motion gains favored the DPT group at 6 months. The two groups did not have a statistically significant difference in walking pain.

The role of dextrose prolotherapy in knee osteoarthritis is supported by level I evidence in the form of a systemic review and meta-analysis published in 2016.¹⁶ A standardized mean difference was used to evaluate the effect size. Four RCTs were included in the review.^{8,15,17,18} Effects were assessed at 3 months using 0 to 10 VAS pain levels and Western Ontario and McMaster Universities Arthritis Index (WOMAC), 0–100 points. Analysis of pooled data indicated that peri-articular and intra-articular hypertonic dextrose knee injections in three to five sessions have a statistically significant and clinically relevant effect in the improvement of WOMAC composite score, functional subscale and pain subscale at 12 to 16 weeks compared with formal at-home exercise. Benefits higher than the minimal clinically important difference (MCID) were sustained to 1 year.

Duration of therapeutic effect

In relation to the length of the Hypertonic Dextrose Prolotherapy (HDP) effects when treating knee osteoarthritis, we found that nine studies^{7, 19–26} evaluated results with a follow-up of 2–3 months and all of them reported that the beneficial effect did not end. Two studies^{7,18} evaluated the HDP effects at 12 months and they also observed that the beneficial effect lasted the whole year. Two case series by Rabago et al.^{26,27} also described this favorable effect duration; one of them monitored the patients for 2.5 years and reported that the beneficial effect persisted. Clearly, the benefits of using HDP in individuals with knee osteoarthritis are long term, for one year or even longer. Studies with long term follow-ups are needed to confirm this observation.

Dosage

The dosages utilized varied considerably. Patients received 1 to 5 doses of HDP, with a mode of 3 doses.²⁸ The frequency of HDP applications was between once every two months to once a week, with one monthly application as the most commonly used. The concentration of dextrose used in intra-articular applications varied from 10 to 25%, the most frequent was 25%, the volume used

per application was of 2 to 8 ml, with a mode of 6 ml. For extra-articular applications, 15% was the most common concentration, applied in tendon and ligament insertions, pain points and points corresponding to the emerging knee superficial sensory nerves. The recommended dosage was between 2 to 6 sessions of prolotherapy to achieve the maximum therapeutic benefit, at monthly intervals using dextrose concentrations of 25% for intra-articular treatment and 15% for extra-joint applications.²⁸

Action mechanisms

The action mechanisms of HDP are still unclear. It has been proposed that hypertonic dextrose can activate inflammatory processes and induce growth factors release in exposed tissues. In animal models hypertonic dextrose increases fibroblast proliferation, collagen production and extracellular matrix in treated ligaments and tendons, and it also generates a trophic effect in articular cartilage.²⁹ Reeves et al.³⁰ reported a decrease in ligamentous laxity in patients with anterior cruciate ligament involvement when treated with hypertonic dextrose. These mechanisms facilitate tissue repair, which could explain the medium and long-term analgesic effects of HDP.

Other mechanisms of action have been proposed to explain the rapid analgesic effect of HDP, involving neurogenic mechanisms such as hyper-polarization of nerve fibers by opening potassium channels or stimulation of the glycine inhibitory receptor, which reduces the nociceptive transmission.

Adverse reactions and / or side effects

Many studies reported that there were no side effects or adverse reactions in patients who received HDP.^{28,30} Two studies^{15,18} reported minimal adverse reactions in both HDP treated groups and control groups, including mild to moderate pain, inflammation and self-limiting hematomas. No serious complications such as infections or allergic reactions were observed in any of the studies.

Limitations

The number of studies included in this review is small, and each study itself included a low number of treated patients. Most of the studies included in this narrative review have low methodological quality in their design and present a high risk of bias, which weakens the evidence provided. The dosage used varied considerably among studies, as well as the concentrations of dextrose. Although all studies evaluated the same pathology, the application sites and frequency of application also varied significantly, which may have influenced our results. Similarly, the evaluation and analysis of the results were heterogeneous; even though the use of HDP could help decrease the degenerative process in cartilage, only few studies included radiological follow-up.

Conclusions

Prolotherapy is a practical and efficacious therapeutic strategy to treat ligamentous laxity and related musculoskeletal and arthritic conditions. Interest in prolotherapy has peaked over the past two decades among both physicians and patients, due to the increasing number of published treatment outcome studies showing

its efficacy in treating many conditions with few adverse effects, including osteoarthritis⁷, joint pain and laxity¹⁵, chronic low back pain^{16,17}, refractory lateral epicondylitis¹⁸, painful overuse tendinopathy¹⁵ and refractory tendinopathies. Hypertonic dextrose is the most commonly used prolotherapy solution, with favorable outcomes shown in multiple clinical trials. It is inexpensive, readily available, and reported to be safe.

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CASE SERIES

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Abstract

Burning mouth syndrome (BMS) is characterized as the sensation of burning in the tongue or any other area of the oral mucosa without identifiable medical or dental cause. Its pathophysiology is poorly understood and may be caused by its association with various factors, particularly with antihypertensive or psychotropic medicines. Peripheral alterations may be related to the density or reactive capacity of the oral mucosal membrane receptors- these being largely influenced by BMS-related risk factors such as stress, anxiety, the female gender, climacterium and advanced age. Although burning mouth syndrome is a relatively common intraoral disorder in the dental field, the physicians rarely recognize it. Curiously, among the different types of antihypertensive drugs, burning mouth syndrome was found to be associated with calcium channel blockers and angiotensin receptor blockers.

Keywords: angiotensin receptor blocker; antihypertensive; burning mouth syndroms; calcium channel blocker

Introduction

International Association for Study of Pain (IASP) has identified Burning Mouth Syndrome (BMS) as a "distinct nosological entity" characterized by "burning oral sensation or pain, unremitting while in the absence of objective clinical changes in the oral mucosa".¹

Based on etiology and the presence of signs and symptoms different authors have classified BMS in different ways. Scala et al¹ classified it as primary (idiopathic), the organic causes of which is not identified and secondary, that is determined by local, systemic or psychological factors. Lamey Lewis², in 1989, classified it as, Type I: symptoms not present during awakening but worsen during day (35%), Type II: symptoms are continuous throughout the day (55%), Type III: symptoms are intermittent in a day.

However, International Classification of Headache Disorders (ICHD) has given distinct diagnostic criteria for the clinical diagnosis of BMS, which includes¹

- A. Oral pain fulfilling criteria B and C
- B. Recurring daily for > 2 hour per day for > 3months
- C. Pain has both of following criterias:
 - Burning quality
 - Felt superficially in oral mucosa
- D. Oral mucosa is of normal appearance and clinical examination including sensory testing is normal.
- E. Not better accounted by any other ICHD 3 diagnosis.

Talking about pathophysiology, neurological factors may be a possible cause of BMS. Increased levels of Nerve Growth Factor (NGF) and TRPV1 channels are involved in hyperalgesia. Alterations of the chorda tympani leading to lingual nerve hyper function results in hyperalgesia.³ This neuropathology can be secondary to various risk factors like hormonal alterations, psychological issues, various systemic diseases, medications and deficiency of various micronutrients like vitamin B12, iron and folic acid.

Here, we present a retrospective evaluation of ten clinically diagnosed cases of BMS from May to November 2019.

Case description

Ten females of age 35-57 years reported to dental OPD at Mechi Zonal Hospital, Bhadrapur, Jhapa with complain of burning sensation in oral cavity ranging from three to eight months with numeric rating scale falling in the range of 7-8 (severe burning). Seven of ten females were post-menopausal, two had regular menstrual cycle and one was in peri-menopausal phase. Most of them reported burning sensation in tip of the tongue, lower lip and anterior palate and few in the buccal and labial mucosa. On examination of oral cavity no definable oral mucosal lesions was present. There was no alteration of taste sensation or sleep disturbance in any patient. Interestingly seven of the ten patients had medical history of systemic hypertension from one to four years. They were taking amlodipine or a combination of amlodipine and losartan for the same. Hormonal disturbances and micronutrient deficiencies were ruled out (all patient had serum iron, folic acid and vitamin B12 and estrogen level within normal level). A clinical diagnosis of burning mouth syndrome (possibly secondary to antihypertensives) was made. Patients were treated using alpha lipoic acid 600mg/day with different formulations of anticonvulsants, tricyclic antidepressants and topical anesthetics and antifungals. There was significant reduction in numeric rating scale to 0-3 (mild/ no burning) after treatment.

Discussion

The manifestations of BMS are described as a burning feeling, pain, discomfort, and rawness or irritation of the lips, tongue, or oral cavity; as well as other associated symptoms such as unusual sensations, taste alteration, appetite loss, and general fatigue. The role of antihypertensives in causing burning sensation of oral cavity cannot be overlooked. Amlodipine causes pricking,

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tingling, itching, burning and “pins and needle” sensation in oral mucosa. Metallic taste and burning sensation disappears when losartan is stopped and reappears when it is restarted. The possible reason behind these antihypertensives causing burning sensation is that these medications cause sensory receptor dysfunction leading to trigeminal hyperalgesia and hence phantom sensations.⁴⁻⁷

The adverse effect in the form of burning has been reported to be attributed to the chemical structure of the drugs, although this relationship is the matter of some debate. A conflict exists between BMS's association with a wide variety of drugs and the observation of large differences among medications of the same class, indicating that BMS is not likely to be related to a pharmacological effect. Thus, evidence for this relationship is still equivocal.⁷ If the patient takes these anti-hypertensives, drug cessation may be the best way to treat symptoms after consulting a physician for hypertension management. Various vitamins, minerals, saliva substitutes, and hormone replacement therapy have been attempted with little success. As BMS was highly associated with anxiety disorders, the mainstay in the BMS treatment includes benzodiazepines, antidepressants, and anticonvulsants.^{5, 7}

However, retrospective nature, heterogeneity of sample, heterogenous nature of disease, lack of proper assessment of taste alteration and stress factor are the limitations of this observation. Identification of the underlying cause is the goal for treatment of BMS. The determination of the exact etiology can be achieved after other potential ones are ruled out. Thus, basically, BMS is a diagnosis of exclusion.

Conclusion

There are very few reported cases of burning mouth due to anti-hypertensives. Present clinical observation could just be an association by chance. It is interesting to search for markers of these drugs to determine its prevalence and relationship to the clinical manifestation of BMS. A prospective long term follow-up study would help us to come up with concrete results and a definite conclusion.

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CASE REPORT

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Abstract

Tooth (dental) hypersensitivity is an unpleasant painful condition with wide variety of etiology and affecting normal life by affecting oral intake of food. Various treatment modalities have been in use with varying level of success. Based on the action of magnesium in treatment of pain, we used magnesium phosphoricum as an alternative method for treatment of tooth sensitivity. A patient with a history of tooth sensitivity was prescribed magnesium phosphoricum 6X two tablets once daily for 3 days. Verbal rating scale was recorded pre and post medication use. Immediate reduction of hypersensitivity was observed on the following day and on subsequent follow up. Thus, the long lasting effect and complete absence of sensitivity shows possible use of this drug for treatment of teeth sensitivity.

Keywords: dental hypersensitivity; magnesium phosphoricum; receptors, N-Methyl-D-Aspartate

Introduction

Tooth hypersensitivity also called dentinal hypersensitivity, is an unpleasant symptom which occurs because of dentin exposure as a result of attrition, erosion, abfraction, and gingival recession. Dentinal hypersensitivity is characterized by short, sharp pain arising from exposed dentin in response to external stimuli, which cannot be ascribed to any other form of dental defect or disease.¹ Dentinal hypersensitivity is triggered by thermal, chemical, and mechanical stimuli such as acidic foods, sweets and sometimes salty foods. Mechanical stimulus such as tooth brush bristles during brushing, nicking the sensitive area with a finger nail, and cold stimuli also cause pain and hypersensitivity.²

The most accepted theory for pain in dentinal hypersensitivity was proposed by Brannstrom, known as hydrodynamic theory. This theory states that stimuli causes displacement of the fluids within the dentinal tubules which indirectly stimulates the extremities of the pulp nerves causing pain sensation.³

An ideal desensitizing technique or material, as stated by Lutin et al, should be painless, must not irritate the pulp, be easily applied, be permanently effective, be quick acting, be consistently effective, produce no discoloration.⁴

Various treatment modalities have been used for treating tooth sensitivity. Desensitizing dentifrices or mouth washes with active compounds such as sodium fluoride, potassium nitrate, strontium chloride, stannous fluoride etc. have been used as home measure for treatment of tooth sensitivity. Clinical application of sodium fluoride, strontium chloride, cavity varnishes, restorative resins, LASER, cyanoacrylate, and iontophoresis have been used with variable level of success.²

Magnesium is the fourth most abundant cation in the body. Begon and colleague assessed the effect of magnesium non-competitive N-methyl-D-aspartate receptor (NMDA) receptor antagonists, MK-801, on mechanical hyperalgesia in animal models and found magnesium reversed the

hyperalgesia.⁵ Thus, it was suggested that magnesium could be an alternative for the treatment of neuropathic pain. In homeopathy treatment also, magnesium phosphoricum is used for relieving pain.⁶ Magnesium phosphoricum 6x used in homeopathy has been considered as a safe drug.⁷ It has been used as antispasmodic and for prevention of central sensitization and in the attenuation of established pain hypersensitivity.⁸

Here, we present a case report of tooth hypersensitivity relieved with use of magnesium phosphoricum 6x.

Case report

Mrs Shrestha, aged 52, a house wife by occupation, visited the Department of Oral Medicine with a chief complaint of sensitivity in the lower left back teeth for the last 2 years.

She reported using desensitizing toothpaste and mouthwash since 2 years with no improvement in her condition. The teeth of concern were 36, 37 and 38. On clinical examination, no visible abnormality was detected. On obtaining intraoral radiograph, stage one periodontitis was detected with respect to tooth 38.

On tactile testing for tooth sensitivity using a dental explorer, which was run around the surface in sweeping motion, sensitivity was detected in buccal surfaces of 36, 37 and 38. Air blast using an air syringe, which was directed on the selected tooth surface for one second each, reciprocated the sensitivity. Verbal rating scale (VRS) score was recorded which was 6 in a scale of 0 to 10.

Patient was prescribed magnesium phosphoricum 6X (SBL, India) two tablets once daily for 3 days. She was advised to dissolve tablets in the mouth and swish in the sensitive area for 1 minute and swallow. The VRS score recorded on day 2 reduced to 1. To observe the long term effect of magnesium phosphoricum, VRS score was recorded at day 7 and 21, which were 3 and 0 respectively.

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Discussion

The use of magnesium phosphoricum in dentistry is quite new. However, it has been used in homeopathy treatment for a long time for many conditions.⁶ Study by Taneja et al evaluated the teething process of children using a set of homeopathy drugs.⁹

Teeth are richly innervated structures. In healthy intact teeth, intense cold can activate these nerves resulting in a sensation of sharp pain. When dentine is exposed, teeth can become markedly more sensitive to normally innocuous stimuli such as air currents, temperature changes and probing with a sharp instrument.¹⁰

Aggressive oral hygiene practices and healthy diets rich in acidic fruits accelerate tooth structure loss. Dental cleanings and periodontal procedures can also result in dentine exposure and can leave teeth sensitive. Due to these reasons tooth sensitivity is a common problem in our society.

Nerve fibers are found in deep areas of the tubules and superficial pulp tissue. Sensation of pain may be experienced when various stimuli activate these nerve fibers. Air blasts when applied to exposed dentine, evaporation of dentine fluid occurs. This causes fluid shifts in the dentine tubules. These fluid movements mechanically activate nerve endings located in deeper areas. Probing dentine with a sharp instrument indents the surface slightly and probe tip if moved, the dentine surface rebounds causing a localized outward fluid shift in the tubules.¹¹

Magnesium has been shown to be beneficial in pain control caused by central sensitization, neuropathic pain, persistent hypersensitivity, post herpetic neuralgia, diabetic neuropathy, tension headache, etc. It's anti nociceptive effect has been suggested to be due to the blocking of NMDA and prevention of central sensitization.⁷ The rapid decrease in VRS in this case shows the possible mechanism of central sensitization involved in tooth sensitivity. Long term effects of this drug on tooth sensitivity and further study with larger sample can establish the effectiveness and lead a revolutionary approach to treatment of tooth sensitivity. Rapid reduction of tooth sensitivity with just a few dosage of homeopathy drug as found in our case could be researched in further prospective studies for validation of this new approach.

Conclusion

Almost immediate reduction in dentinal hypersensitivity with the use of magnesium phosphoricum was confirmed in this case. The long lasting effect and complete absence of sensitivity shows possible use of this drug for complete relief of sensitivity.

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NEWS AND LITERATURES FROM THE WORLD ON PAIN

In 1979 International Association for the Study of Pain (IASP) had defined pain as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.” However, with the greater understanding of pain many experts had felt a need to reevaluate the definition of pain. Thus, in 2018, IASP formed a 14-member task force to evaluate the existing definition and recommend whether it should be revised or not. After two years of analysis and discussion the task force ultimately recommended a new definition of pain along with notes, which was unanimously accepted by the IASP Council in early 2020. The following is the new definition of pain, along with the accompanying notes.

Revised IASP definition of pain (2020)

Pain: An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage.

Notes:

• Pain is always a personal experience that is influenced to varying degrees by biological, psychological, and social factors.

- Pain and nociception are different phenomena. Pain cannot be inferred solely from activity in sensory neurons.
- Through their life experiences, individuals learn the concept of pain.
- A person’s report of an experience as pain should be respected.*
- Although pain usually serves an adaptive role, it may have adverse effects on function and social and psychological well-being.
- Verbal description is only one of several behaviors to express pain; inability to communicate does not negate the possibility that a human or a nonhuman animal experiences pain.

Reference:

1. Raja SN, Carr DB, Cohen M, et al. The revised International Association for the Study of Pain definition of pain: concepts, challenges, and compromises. *Pain*. 2020;161(9):1976-1982. doi:10.1097/j.pain.0000000000001939

Each year, IASP focuses on a different aspect of pain and explores the global implications. Various freely accessible fact sheets in different languages, webinars, curricula, etc. are released throughout the year. For the year 2021, IASP has selected “Back pain” as the theme. The 2021 Global Year Task Force has put forth their aims and objectives as follows-

"Aims:

The aim of this year is to help clinicians, scientists and the public understand the nature of back pain and the utility of available treatment modalities. We aim to raise awareness of special considerations in different populations, including children and older adults. Ultimately, the Global Year Task Force aims to provide useful, practical and relevant resources to assist a worldwide community in approaching the prevention and treatment of back pain."

Objectives

1. To identify barriers and propose solutions for improving the prevention, investigation and treatment of back pain.
2. To summarise the most effective and cost-effective modalities for the successful management of back pain, particularly in resource-poor communities.

3. To integrate the use of tools for stratifying people with back pain into management

pathways with the provision of person-centred care.

4. To facilitate further research, management, education and advocacy needed to reduce

the global burden of back pain.”

IASP has already released its media kit including logos and sharable graphics to help share this year’s theme. It will soon be releasing various fact sheets prepared by top experts on various aspects of back pain.

For more information on the global year, please follow the following link:

<https://www.iasp-pain.org/GlobalYear>

<http://s3.amazonaws.com/rdcms-iasp/files/production/public/2021%20Global%20Year%20Aims%20and%20Objectives%20for%20web.pdf>



On August 7, 2020, the USFDA approved oliceridine, a novel centrally acting μ -opioid receptor agonist for managing moderate to severe acute pain in clinical settings for adults who require intravenous opioid analgesic and for whom alternative treatments are inadequate. Unlike conventional opioids, oliceridine stimulates G protein signaling with significantly less β -arrestin activation. This results in less risk of respiratory depression and gastrointestinal adverse effects.

Reference:

1. Markham, A. Oliceridine: First Approval. *Drugs* 80, 1739–1744 (2020). <https://doi.org/10.1007/s40265-020-01414-9>

Platelet-rich plasma (PRP) injection is fast gaining in popularity for management of various chronic pain conditions. However, no consensus or guideline is available on its use. The objective of this consensus was to develop guidelines for PRP injections in knee osteoarthritis according to the French National Authority for Health recommendations. Fifteen physicians from different French-speaking countries (10 rheumatologists, 4 specialists in rehabilitation and sports medicine and 1 radiologist) were selected for their expertise in the areas of PRP and osteoarthritis. After various literature search and using the method recommended by the French National Authority for Health inspired by the Delphi consensus process, 25 recommendations were finally retained and evaluated. Those recommendations were classified as appropriate or not appropriate, with strong or relative agreement, or uncertain if a consensus was not achieved. The following are the main recommendations provided by the consensus statement-

- (1) Intra-articular injections of PRP are an effective symptomatic treatment for early to moderate knee osteoarthritis. This recommendation was considered appropriate with a relative agreement. Level of evidence 1A.
- (2) A PRP treatment sequence in knee osteoarthritis may include 1–3 injections. This recommendation was considered appropriate with a strong agreement. Level of evidence 1A.
- (3) Leucocytes-poor PRP should be preferred in knee osteoarthritis. This recommendation was considered appropriate with a relative agreement. Level of evidence 5.
- (4) Intra-articular PRP knee injections should be performed under ultrasound or fuoroscopic guidance. This recommendation was considered uncertain with no consensus. Level of evidence 5.
- (5) PRP should not be mixed with an anesthetic or intra-articular corticosteroid. This recommendation was considered appropriate with a relative agreement. Level of evidence 5

(6) Intra-articular injections of PRP in knee osteoarthritis should be proposed as second-line therapy, after failure of non-pharmacological and pharmacological (oral and topic) symptomatic treatment. This recommendation was considered appropriate with a relative agreement. Level of evidence 5

The authors have concluded with a note that although a strong or relative agreement from the experts was obtained for most of the recommendations, level of evidence was very low (Level 5) for many of the recommendations. The recommendations were mainly based on the clinical experience of the experts.

Reference:

1. Eymard, F., Ornetti, P., Maillet, J. et al. Intra-articular injections of platelet-rich plasma in symptomatic knee osteoarthritis: a consensus statement from French-speaking experts. *Knee Surg Sports Traumatol Arthrosc* (2020). <https://doi.org/10.1007/s00167-020-06102-5>.

The American College of Physicians (ACP) and American Academy of Family Physicians (AAFP) have jointly developed a guideline based on current best evidence on nonpharmacologic and pharmacologic management of acute pain from non-low back, musculoskeletal injuries in adults in the outpatient setting. The main recommendations of this guideline are as follows-

- It is recommended that topical NSAIDs, with or without menthol gel, should be used as first line therapy for adults with acute pain from non-low back, musculoskeletal injuries.
- It is suggested that patients with acute pain from non-low back, musculoskeletal injuries should be treated with oral NSAIDs to reduce or relieve symptoms, including pain, and to improve physical function, or with oral acetaminophen to reduce pain oral.
- It is suggested that clinicians treat patients with acute pain from non-low back, musculoskeletal injuries with specific acupuncture to reduce pain and improve physical function, or with transcutaneous electrical nerve stimulation to reduce pain

Psychological and psychosocial factors might play a role in development of chronic postsurgical pain. A knowledge about such predictors will help in identifying patients at risk of poor outcome. A recently published systematic review and meta-analysis aims to assess the effect of such predictors. From a sample of 8322 records, 83 articles were included in the narrative synthesis and 41 studies were used to perform the meta-analyses. The narrative synthesis showed that evidence about the effect of psychological predictors is heterogeneous, with few predictors, such as optimism, state anxiety and psychological distress, consistently associated with chronic postsurgical pain. The meta-analyses showed that state anxiety, trait anxiety, mental health, depression,

Ultrasound is fast growing as an important tool in chronic pain management. It not only avoids radiation exposure, but also allows real time visualization of drug delivery, ensures accurate location of drug injection, thus improves efficacy and outcome and decreases chances of complications like nerve injury. Ultrasound application in interventional pain medicine has made tremendous growth in recent years. Ultrasound not only avoids radiation exposure but also allows real-time visualization of the drug delivery and avoids damage to the surrounding structures. Besides this important implication in interventional pain management, ultrasound can help in confirming the

- The guideline suggests against clinicians treating patients with acute pain from non-low back, musculoskeletal injuries with opioids, including tramadol

The treatment of patients with low back pain is not covered by this guideline.

Reference:

1. Qaseem A, McLean RM, O'Gurek D, Batur P, Lin K, Kansagara DL. Nonpharmacologic and Pharmacologic Management of Acute Pain From Non-Low Back, Musculoskeletal Injuries in Adults: A Clinical Guideline From the American College of Physicians and American Academy of Family Physicians. *Ann Intern Med.* 2020;173(9):739-748. doi:10.7326/M19-3602

catastrophizing and, to a lesser extent, kinesiophobia and self-efficacy have a weak but significant association with chronic postsurgical pain. The study concludes that psychological predictors have a significant association with chronic postsurgical pain and that state anxiety is the most explicative one.

Reference:

1. Giusti EM, Lacerenza M, Manzoni GM, Castelnuovo G. Psychological and psychosocial predictors of chronic postsurgical pain: a systematic review and meta-analysis. *Pain.* 2021 Jan;162(1):10-30. doi: 10.1097/j.pain.0000000000001999. PMID: 32694386.

diagnosis of different musculoskeletal pain conditions, entrapment neuropathy, etc in the pain clinic. All these are well discussed in this recently published review, making it an important read to pain practitioners.

Reference:

1. Sahoo RK, Peng PW. Role of ultrasound in chronic pain management. *Indian J Pain* 2020;34:151-9.

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.

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