Homeopathic Manganum in the Management of Post Dural Puncture Headache, A Case Series

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ABSTRACT: Post-dural puncture headache (PDPH) is a functional condition caused by disruption of the dural mater with low cerebrospinal fluid pressure, affecting 4% to 11% of the patients who undergo procedures where the spinal canal is purposefully punctured. It has a significant impact on the quality of life of those affected. We present 12 cases diagnosed with PDPH, unresponsive to usual treatment, who were treated with classical homeopathy. Nine of the 12 cases showed complete recovery, while the remaining 3 cases showed partial improvement. The author has stressed on the importance of pathology-based prescriptions, in his teachings and also the importance of appreciating the pathology as emphasized in homeopathic literature. The homeopathic remedy Manganum helped in the improvement of 9 of the 12 cases, with promising results. Further controlled studies are needed to determine the role and mechanism of PDPH resolution via homeopathic Manganum.

KEYWORDS: Homeopathy, post-dural puncture headache, spinal anesthesia

Introduction

Post-dural puncture headache (PDPH), is a positional type of headache, caused due to the unintentional disruption of the dura mater of the spinal meninges during anesthesia or diagnostic spinal puncture of the sub-arachnoid space, leading to cerebrospinal fluid (CSF) leakage and low CSF pressure. The incidence is estimated to be between 4.6% and 11%, depending on the patient group studied. Although the exact mechanism of development remains unknown, it is postulated that the loss of normal cushioning effect provided by the CSF leads to traction effects, precipitating the symptoms. Other likely mechanisms include reflex dilatation of meningeal vessels or changes in the central nervous system causing intracranial hypotension.

PDPH usually develops within 48 hours of the procedure, with about 50% of the cases self-resolving within 7 to 10 days. In certain cases, the headache may continue for months and evolve into chronic headaches. The patient-related risk factors include age, sex, and to some extent, low body mass index are risk factors. In obese patients, due to the high intra-abdominal pressure, the pressure gradient between the subdural and epidural space is lower than in patients with lower body mass index. In women and young patients, the elasticity of the dura mater is higher; therefore, the defect stretching and loss of CSF occur to a greater extent, causing symptoms.

PDPH is characterized by a severe postural headache, either frontal or occipital, limited movement in the cervical spine, accompanied by nausea, hearing loss and visual impairments with all symptoms greatly diminishing when the patients lie horizontally.

PDPH symptoms are known to resolve spontaneously within 2 weeks in more than 65% of cases. In cases with persistent symptoms, conservative management relies on analgesics, oral hydration, rest, and cerebral vasoconstrictors such as caffeine. Experimental treatments including steroids, methylxanthines, and triptans are also used to reduce the intensity of pain. In case of ineffectiveness of the above therapeutic measures, the method of epidural administration of autologous blood, known as epidural blood patch (EBP), remains the gold standard of therapy to reduce the leak of CSF. Although not life-threatening, it can be torurous to patients and significantly reduce the quality of life of the individuals affected by it. Classical homeopathy may offer an effective therapeutic option in such a condition. Literature studies addressing PDPH with homeopathy are scarce. We present a case series of PDPH treated with homeopathy.

Methods

A case series design was adopted after the homeopath, who is also an anesthesiologist, encountered cases of PDPH who accepted to be treated homeopathically. The patients were assessed by clinical interview by the treating physician, about the severity of the headaches during their follow ups. The homeopathic remedies were all sourced from Helios Homeopathy Ltd, UK and all were given in size 3 sucrose-based pills, administering 3 pills on the tongue as 1 dose. No
food or drink was allowed for 30 minutes before and after the dose.

**Case Series**

**Case 1**
On 12 February 2018, a 30-year-old female underwent cesarean section for her first pregnancy at 39 weeks due to placenta previa. The operation was performed under spinal anesthesia (Bupivacaine 10 mg) without any complications. Six hours after the procedure, on trying to sit up, the patient started to experience a severe headache, accompanied by nausea and vomiting, not relieved by vomiting. The patient mentioned that bed surface felt hard, but the headache and its accompanying symptoms disappeared when she lay down. Standard conventional treatment (analgesics and saline infusion) was not useful. The onset of symptoms after the procedure was taken into consideration as the causation, with hematoma formation at the site of scar. Based on these symptoms, homeopathic remedy *Arnica montana* 30CH was given, after which, intensity of the headache slightly reduced, and the accompanying symptoms subsided. As the patient was not completely better, *Hypericum* 30CH was given based on the sensitivity of the patient to pain and possibility of nerve injury from the spinal anesthesia administration. The headache reduced by 40% without much improvement in her general well-being. When the patient was under observation, she required additional analgesics. At the end of the 4-day-period, the headache persisted.

**Case 2**
A 46-year-old female underwent hernioplasty for right sided inguinal hernia on 21st February 2018. She also had chronic cholecystitis. The procedure was performed under spinal anesthesia (Bupivacaine 12.5 mg) without any complications. Five hours after the procedure, she had a tearing headache with nausea on trying to sit up straight that reduced when she lied down. The patient was irritable, and the analgesics prescribed did not provide relief. On enquiry, it was found that she could not tolerate contradictions, and had anxiety about business, and was sensitive to draft of air. Homeopathic *Nux vomica* 30CH was prescribed. Headache did not improve significantly. Later, *Manganum* 30CH was prescribed based on the symptoms. Nausea, vomiting, and blurring of vision subsided within 30 minutes of administration of the remedy. Headache had reduced by 40% to 50%. *Hypericum* 30CH was later administered for the headache which did not relieve the pain and later, analgesics were prescribed. On evaluation after 3 days, the headache persisted.

**Case 4**
A 36-year-old female with no history of chronic disease underwent an emergency surgery on August 4th, 2018, for traumatic injury to the tendons of the right foot. She was administered Bupivacaine 12.5 mg intrathecally with good analgesic effect. Five hours after the surgery, following restoration of the motor function of the lower extremities, the patient got up from the supine position. Within 15 minutes, she felt a severe tearing headache with localization in the frontal and temporal regions, accompanied by nausea, blurred vision and stiffness of the neck. The woman was forced to go back to bed. In the horizontal position the headache disappeared completely. On subsequent attempts to get up, the headache would relapse and worsen. The patient was given infusion of crystalloid solutions, non-narcotic analgesics (ibuprofen), and caffeine. In 10 hours of the therapy there was no relief. The patient was then administered *Manganum* 30CH in solution to be taken every 30 minutes. After the second dose, the pain decreased significantly, and after the fourth, it stopped completely. During the next 2 days, the pain did not recur. The patient also noticed significant betterment in the general condition and the surgical wound healed well. She was discharged home with recommendations to repeat *Manganum* in case the headaches return. On clinical examination a month later, she reported that the headaches did not recur.

**Case 5**
A 26-year-old woman with history of varicose veins underwent phlebectomy under spinal anesthesia (Bupivacaine 12.5 mg). Although the course of surgery and anesthesia was completed without any complications, 5.5 hours after the surgery, on trying to sit in the upright position, she developed a headache accompanied with nausea, vomiting, and diplopia. All the symptoms were ameliorated while lying in supine position. She was administered non-narcotic analgesics, caffeine injections, crystalloid solution infusion which did not give considerable relief. She was administered *Manganum* 30 CH, one dose. Within 2.5 hours after *Manganum* 30CH, the headache, nausea, vomiting, and diplopia were completely relieved. There were no relapses thereafter, till her discharge.
Case 6

In 2016, a 34-year-old female underwent cesarean section and had developed PDPH and fatigue, treated conventionally without any noticeable effect. Seven days after the cesarean section, she was discharged with a recommendation to take analgesics. Over the first 2 weeks after the cesarean section, the patient could not take care of the child and lead a normal life due to the severity of headaches. The patient also had lactation disorders, which required the transfer of the child to artificial feeding.

Two years later, in June 2018, the patient underwent a similar cesarean section and was under general anesthesia—Bupivacaine 10 mg with a good analgesic effect. Eight hours after the surgery, on trying to stand up, the patient developed headaches similar to those experienced during her first cesarean section 2 years ago. She was advised to take Manganum 30CH in intervals of 30 minutes. After 2 doses of Manganum 30CH, the headaches immediately stopped and did not recur. Further she did not have any complications and was discharged in good condition on the fifth day after cesarean section. The postoperative wound healed by primary intention and there were no problems with lactation either.

Case 7

In September 2018, a 40-year-old woman with post-traumatic arthrosis of the right knee joint underwent arthroscopy under spinal anesthesia (bupivacaine 15 mg). Surgery and anesthesia took place without complications. Four hours after the operation, the patient developed a severe headache while trying to get out of bed. The headache was accompanied by nausea and tension of the neck muscles. The symptoms were absent when the patient lied down horizontally and did not move. Conventional treatment with non-narcotic analgesics, saline infusion gave no relief. The patient was given homeopathic remedy Manganum 30CH. Immediately after taking Manganum, she felt significant relief, and after 2 hours the headache was completely relieved, and the patient was able to get up. After 3 days, she was discharged without complaints of headache.

Case 8

In November 2018, a 28-year-old woman underwent metal osteosynthesis of the bones, for a non-healing closed fracture of the left shin. The operation was performed under spinal anesthesia (Bupivacaine 12.5 mg spinal). Ten hours after the surgery, the patient tried to sit in bed, when she developed a severe headache with nausea, several episodes of vomiting and tension in the neck muscles. The headache and accompanying symptoms disappeared every time she lied down. Conventional treatment with analgesics and caffeine preparations did not relieve the patient. One dose of Manganum 30CH provided almost instant relief. After 3 hours, all the symptoms had disappeared. There were no complaints of headache during her discharge 3 days later.

Case 9

A 39-year-old woman who suffered from valgus deformity of the right foot underwent a reconstructive surgery of the right foot in December 2018. The surgery was performed under spinal anesthesia (Bupivacaine 15 mg) without any complications. Four hours after the operation, the patient experienced severe headache accompanied by nausea while trying to sit upright. She was prescribed non-narcotic analgesics, caffeine and saline infusion, and noticed a betterment of around 20%. When the symptoms did not subside further, she was given Manganum 30CH, and the headache reduced by 90% in the first 1.5 hours of remedy administration. Further, she also noticed pain relief at the surgical site. In the follow up over the next 2 days, the headache did not recur.

Case 10

In February 2019, a 33-year-old female underwent arthroscopy of the left knee joint for post-traumatic arthrosis. The surgery was performed under spinal anesthesia (Bupivacaine 10 mg). Five hours after the surgery, when the patient got out of bed, she experienced severe headache and nausea, which disappeared as soon as she lied down. Conventional treatments such as non-narcotic analgesics, saline infusions and sumatriptan 50 mg did not relieve her of the headache. The patient was then given Manganum 30CH. Two hours after the remedy, the headache was completely resolved. After 3 days, she was discharged without any complaints of headache.

Case 11

A 37-year-old woman at full-term of a normal pregnancy underwent cesarean section under spinal anesthesia (Bupivacaine 12.5 mg), due to incorrect position of the fetus. There were no complications during the surgery. Six hours after the surgery, when the patient got up to feed the child, she developed severe headaches, accompanied by nausea and vomiting. The complaints ceased on lying down in supine position. She received conventional treatment with saline infusion and non-narcotic analgesics, but the effect of this treatment was insignificant, and the headache relapsed on sitting upright. She was prescribed Manganum 30CH and immediately the intensity of the headache reduced by 60%. Six hours later, the headache resolved completely. On day 4 after the cesarean, she was released with a general betterment of health and no relapse of the headache.

Case 12

On March 19th, 2019, a 34-year-old woman who was in her 40th week of normal pregnancy, opted for cesarean section
due to her age and preference. Under spinal anesthesia (Bupivacaine 12.5mg), she successfully underwent an uncomplicated procedure. Five hours after the surgery, she developed severe headache on assuming upright position, and the headache was accompanied by nausea and stiff neck. She was administered saline infusion and non-narcotic analgesics, and did not find any relief. She was then prescribed Manganum 30CH. The intensity of the pain decreased by 80% after the remedy, and pain at the site of surgery decreased too. Within 5 hours of starting Manganum, the headaches had completely disappeared. On day 4, the woman was released home without complaints of headache with good lactation.

Results
Twelve female patients diagnosed with PDPH, aged 24 to 46 years (average age: 34.25 years) accepted to be treated homeopathically. Table 1 shows the characteristics of the participants.

The main complaint presented in all cases was severe headache that developed after the spinal puncture. The pains were diffuse, pressing, shooting and pulsating, usually spreading along the back of the neck, accompanied by severe nausea. In 2 cases, pain was accompanied by visual impairment. All the patients complained that the symptoms significantly worsened on standing or sitting upright from horizontal position and improved on lying down. The first 3 patients were prescribed homeopathic remedies according to the repertorization of headache symptoms, considering its nature and modalities in each individual case. Arnica, Gelsemium, Hypericum, Nux vomica, and China officinalis were prescribed as per indications in these cases. The headaches reduced only partially with no significant improvement in the general condition of the patient. The next 9 patients were prescribed the remedy Manganum. This was based on the description of the master homeopath, J T Kent of the characteristic of this remedy, “the most amazing part of all is how he gets relief. The patient lies down, and it all passes away. You cannot find that in every medicine. That is rare, strange, and peculiar. And yet, see how general it is, it defines the whole nature of the sick man. . . Manganum is a wonderful remedy for bedridden women who like to lie quietly.” The patients observed complete resolution of symptoms in an average of 2.9 hours after the starting of the remedy Manganum (1.5-6 hours) (Table 1). The general condition improved as well, and no adverse events were observed.

Discussion
The development and mastery of neuraxial anesthesia methods have always been inextricably linked with the struggle to reduce the frequency of PDPH. Despite tangible progress in the development of drugs and lesser invasive needles to tackle the frequency, it is not possible to eliminate PDPH.

In the series presented, the first 3 cases were prescribed based on the nature of the headache and the totality of symptoms of each individual case. This provided some amount of relief without considerable benefit in the overall condition of the patients. Manganum was prescribed in the subsequent 9 cases, and it provided not just amelioration of the symptoms but complete resolution within a short span of time, without any relapse. The author has earlier stressed on the importance of pathology based prescriptions, in his teachings, as a prescription strategy. Kent has emphasized on the importance of appreciating the pathology as well. In the given cases, lying down not only reduced the symptoms but also ameliorated the general condition of the entire being. While commonly found in PDPH, this symptom appears as characteristic keynote in the provings of the homeopathic remedy Manganum which when applied, brought about the desirable effect. Reviews on treatment of PDPH show that the conventional treatment while promising, leaves a lot to be desired, especially in terms of efficacy and ease of use. There is a dearth of guidelines for the treatment of PDPH, leading to variety of conservative management, the evidence for their efficacy being too weak for recommendation. Epidural Blood Patch seems to be the most effective treatment for severe headaches so far, an invasive technique with its own complications and tendency to failure. In the above cases, the headache was severe and incapacitating the patients. In such cases, caffeine and conventional analgesics provided no relief within the usual expected period. With homeopathy, the resolution was seen in an average of 2.9 hours, which indicates a greater likelihood of the resolution being an effect of the homeopathic Manganum.

However, it is currently difficult to assess the mechanism of the remedial effect in bringing about resolution of this condition. Further, it will be of greater value if in future a comparative study be undertaken regarding the percentage of patients that respond to conventional treatment and that with homeopathy. The time required for such response and the efficacy need to be compared to establish the role of homeopathy in such cases.

Although the response to Manganum in PDPH was impressive in this case series, the number of cases is small and lacks power. Larger, sufficiently powered, and controlled studies are required to establish the role of homeopathic Manganum in PDPH treatment.

Conclusion
In the cases presented above, PDPH patients responded favorably to the homeopathic remedy Manganum, prescribed on the common symptom running through them, viz, amelioration of all complaints on lying down. At the end of treatment, the patients remained free of symptoms without the need of adjuvant therapies. There were no adverse events either. Considering that this characteristic symptom is common in PDPH, there is a need to scientifically investigate whether homeopathic manganum may be an effective alternative in PDPH cases.
Table 1. Patient characteristics.

| CASE NO | AGE  | DIAGNOSIS WITH PROCEDURE INVOLVED AND ANESTHESIA ADMINISTERED | TIME PERIOD AFTER ANESTHESIA FOR DEVELOPMENT OF PDPH (IN HOURS) | REMEDIES ADMINISTERED | PERIOD TAKEN FOR RESOLUTION (HOURS) | FOLLOW UP PERIOD (DAYS) | OUTCOME |
|---------|------|---------------------------------------------------------------|-------------------------------------------------------------|-----------------------|-------------------------------------|------------------------|---------|
| 1       | 30   | Pregnancy 39-week, Cesarean section—spinal (Bupivacaine 10mg) | 6                                                           | Arnica montana followed by Hypericum                          | 16                    | 4                      | Partial effect |
| 2       | 51   | Inguinal hernia, Herniotomy—spinal (Bupivacaine 12.5 mg)     | 5                                                           | Nux vomica followed by China officinalis                    | 21                    | 4                      | Partial effect |
| 3       | 21   | Abscess Bartholin’s Gland, Lancing of abscess—spinal (Bupivacaine 10 mg) | 5                                                       | Gelsemium followed by Hypericum                               | 22                    | 3                      | Partial effect |
| 4       | 36   | Injury to the tendon of the foot, Plastic surgery—spinal (Bupivacaine 12.5 mg) | 5                                                        | Manganum                                                       | 2                     | 3                      | Resolved     |
| 5       | 26   | Varicose veins of lower limbs, Phlebectomy—spinal (Bupivacaine 12.5 mg) | 6                                                        | Manganum                                                       | 2.5                   | 5                      | Resolved     |
| 6       | 36   | Pregnancy 40-week, Cesarean section—general (Bupivacaine 10 mg) | 8                                                          | Manganum                                                       | 2                     | 5                      | Resolved     |
| 7       | 40   | Knee arthrosis, Arthroscopy—spinal (Bupivacaine 15 mg)       | 4                                                          | Manganum                                                       | 2                     | 3                      | Resolved     |
| 8       | 28   | Fracture of tibia, Osteosynthesis—spinal (Bupivacaine 12.5 mg) | 10                                                        | Manganum                                                       | 3                     | 7                      | Resolved     |
| 9       | 39   | Varicose veins of lower limbs, Phlebectomy—spinal (Bupivacaine 15 mg) | 4                                                          | Manganum                                                       | 1.5                   | 2                      | Resolved     |
| 10      | 33   | Knee arthrosis, Arthroscopy—spinal (Bupivacaine 10 mg)       | 5                                                          | Manganum                                                       | 2                     | 3                      | Resolved     |
| 11      | 37   | Pregnancy 40-week, Cesarean section—spinal (Bupivacaine 12.5 mg) | 6                                                        | Manganum                                                       | 6                     | 4                      | Resolved     |
| 12      | 34   | Pregnancy 40-week, Cesarean section—spinal (Bupivacaine 12.5 mg) | 5                                                          | Manganum                                                       | 5                     | 4                      | Resolved     |

**Author Contributions**
EI was the primary anaesthesiologist who conducted the treatment and gathered the data. The manuscript writing and referencing were done by AB and SM. GV is the supervisor and guarantor of the work.

**Consent for Publication**
Patients have provided oral consent for treatment and publication.

**Ethics**
Not applicable.

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**Supplemental Material**
Supplemental material for this article is available online.

**REFERENCES**
1. Kwak KH. Postdural puncture headache. *Korean J Anesthesiol*. 2017;70:136-143.
2. Weinrich J, von Heymann C, Henkelmann A, et al. Postpunktioneller Kopfschmerz nach rückenmarknahen Anästhesieverfahren: Inzidenz und Risikofaktoren. *Anaesthesist*. 2020;69:878-885.
3. Kim JE, Kim SH, Han RJW, Kang MH, Kim JH. Postdural puncture headache related to procedure: incidence and risk factors after neuraxial anesthesia and spinal procedures. *Pain Med*. 2021;22:1420-1425.

4. Arevalo-Rodriguez I, Muñoz L, Godoy-Casasbuenas N, et al. Needle gauge and tip designs for preventing post-dural puncture headache (PDPH). *Cochrane Database Syst Rev*. 2017;4:CD010807.

5. Lybecker H, Djernes M, Schmidt JF. Postdural puncture headache (PDPH): onset, duration, severity, and associated symptoms. An analysis of 75 consecutive patients with PDPH. *Acta Anaesthesiol Scand*. 1995;39:605-612.

6. Bakshi SG, Gehdoo RSP. Incidence and management of post-dural puncture headache following spinal anaesthesia and accidental dural puncture from a non-obstetric hospital: a retrospective analysis. *Indian J Anaesth*. 2018;62:881-886.

7. Mayer DC, Spielman FJ. Postdural puncture headache. *Decis Mak Anesthesiol*. 2021;602-605.

8. Hasoon J, Urits I, Al-Junah R, et al. Long-term outcomes of post-dural puncture headache treated with epidural blood patch: A Pilot Study. *Psychopharmac Bull*. 2020;50:25-32.

9. Patel R, Urits I, Othubu V, et al. A comprehensive update on the treatment and management of postdural puncture headache. *Curr Pain Headache Rep*. 2020;24:24.

10. Shaidh DM. Headache and homeopathic management. *Int J Homoeopath Sci*. 2021;5:280-282.

11. Kent J. *Lectures on Homeopathic Materia Medica. 14th Impression*. B Jain Publishers; 2002.

12. Harrington BE. Postdural puncture headache and the development of the epidural blood patch. *Regional Anesth Pain Med*. 2004;29:136-163.

13. Vithoulkas G. E-Learning program by George Vithoulkas - Strategies in prescribing. Accessed January 13, 2022. https://www.vithoulkas.edu.gr/postgraduate-courses/strategies-in-prescribing

14. Kent J. The value of symptoms. In: Jain B, ed. *Lectures on Homeopathic Philosophy*. 7th ed. B Jain Publishers; 2008;203-208.