

Homeopathic Medicine Reduces Pain and Hemarthrosis in Moderate and Severe Hemophilia: A Multicentric Study

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Keywords

Hemophilia · Emergency management · Pain · PWH · Hemarthrosis · Similia · Repertorization · Inhibitor

Summary

Background: Hemarthrosis is a common clinical presentation of patients with severe and moderately severe hemophilia. Severe pain, swelling, and loss of function involving knee, ankle, elbow, and shoulder joints are commonly seen. In India, except for paracetamol and some non-steroidal anti-inflammatory drugs (NSAIDs), opiate analgesics are not easily available even in the mainstay of treatment; i.e., factor concentrates are also not available regularly. Hence, there is an unmet need for exploring alternative management strategies in this condition in India. **Objective:** To assess the effect of homeopathic medicines on pain and acute hemarthrosis in hemophilia when factor concentrates are not available and paracetamol in adequate doses proves inadequate. **Patients:** 343 patients with hemophilia (PWH) from Nashik, Mumbai, and Surat presenting with hemarthrosis were prescribed homeopathic medicines in addition to paracetamol and RICE (rest, immobilization, cold application, and elevation). They were assessed using standard techniques. **Results:** 1,679 episodes of hemarthrosis in major joints were encountered between December 2007 and March 2014, in 343 patients. In 1,580 of the 1,679 hemarthrosis episodes (94.1%), bleeding/inflammation was arrested and pain relieved with homeopathic medication. Additional factor concentrate was required in 99 patients (4.48%). The mean pain score improved from 6.88 ± 2.118 to 1.5 ± 0.34 over 6–24 h following the homeopathic medicines ($p < 0.0001$). The swellings were also substantially reduced ($p < 0.001$). The number of joint bleeds per month was reduced significantly under the influence of therapy ($p < 0.0001$), showing the long-term disease-modifying effect of the treatment. **Conclusion:** Homeopathic medicines without factor concentrates appeared to reduce bleeding and pain in PWH presenting with hemarthrosis and could have influenced the long-term frequency of bleeding.

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Schlüsselwörter

Hämophilie · Notfallmanagement · Schmerz · Patienten mit Hämophilie · Hämarthrose · Similia · Repertorisation · Inhibitor

Zusammenfassung

Hintergrund: Hämarthrose ist ein häufiger klinischer Zustand bei Patienten mit schwerer oder mäßig schwerer Hämophilie. Starke Schmerzen, Schwellungen und Funktionsverluste in den Knie-, Fuß-, Ellenbogen- und Schultergelenken treten am häufigsten auf. Außer Paracetamol und einigen nichtsteroidalen antiinflammatorischen Medikamenten (NSAID) sind in Indien schmerzstillende Opiate nicht leicht erhältlich, noch nicht einmal in der Hauptphase der Behandlung, d.h. dass Faktorkonzentrate ebenfalls nicht regulär zur Verfügung stehen. Deshalb gibt es für diesen Zustand in Indien einen ungedeckten Bedarf zur Erforschung alternativer Behandlungsstrategien. **Ziel:** Die Evaluierung des Effekts von homöopathischen Medikamenten auf Schmerzen und akute Hämarthrose bei Hämophilie, wenn Faktorkonzentrate nicht zur Verfügung stehen und Paracetamol in angemessenen Dosierungen sich als unwirksam erweist. **Patienten:** 343 Patienten mit Hämophilie (PWH) aus Nashik, Mumbai und Surat, die sich mit Hämarthrose vorstellten, wurden homöopathische Arzneien verordnet, zusätzlich zu Paracetamol und RICE (rest, immobilization, cold application, and elevation). Sie wurden mit Standardmethoden evaluiert. **Ergebnisse:** 1679 Hämarthroseepisodes in den größeren Gelenken ereigneten sich zwischen Dezember 2007 und März 2014 bei 343 Patienten. Bei 1580 der 1679 Hämarthroseepisodes (94,1%) wurde durch die homöopathische Medizin die Blutung/Entzündung gestoppt und der Schmerz gelindert. Zusätzliches Faktorkonzentrat war bei 99 Patienten notwendig (4,48%). Der mittlere Schmerzscore verbesserte sich von $6,88 \pm 2,118$ auf $1,5 \pm 0,34$ über 6–24 h nach Gabe der homöopathischen Arzneien ($p < 0,0001$). Die Schwellungen gingen ebenfalls bedeutend zurück ($p < 0,001$). Die Zahl der Gelenkblutungen pro Monat war unter dem Einfluss der Therapie signifikant reduziert ($p < 0,0001$), was auf einen langanhaltenden krankheitsmildernden Effekt der Behandlung hinweist. **Schlussfolgerung:** Homöopathische Medikamente ohne Faktorkonzentrat scheinen die Blutungen und Schmerzen bei PWH, die eine Hämarthrose aufweisen, zu reduzieren und könnten die Langzeitfrequenz der Blutungen beeinflusst haben.

Introduction

Hemophilia is an X-linked genetic bleeding disorder that expresses itself through varied bleeding manifestations ranging from bleeding from minor cuts or wounds to life-threatening intracranial hemorrhage. Hemarthrosis remains one of the most common presentation in this condition, seen in more than 90% of hemophiliacs, and may occur up to 3–4 times a week [1]. Knee, elbow, and ankle joints are frequently involved.

The frequent bleeding into the joints causes hemophilic arthropathy, leading to permanent disability and often chronic pain.

Pain is the most distressing symptom arising from acute hemarthrosis in a person with hemophilia (PWH). The intensity of pain affects the mind in a positive feedback manner. In addition, it adversely affects the activities of daily living. According to a survey with an average of 4 painful joints per week, activities of daily living are limited in 89% of hemophiliacs. The mood is negatively influenced in 85% of PWH [2]. Various psychological presentations arising from pain in PWH may include anger, irritability, fear, anxiety, or, in rare cases, even suicidal thoughts. Thus, in the management of acute hemarthrosis in PWH, reducing pain is one of the important goals of treatment.

While assessing the pain amongst PWH, the character, location, intensity, frequency, and the duration of pain should be noted, and also the aggravating and relieving factors are important information for the documentation and management of PWH, for guiding the treatment [3]. In recent years, various state governments of India have been providing factor concentrates; yet, supply of these concentrates is often erratic and not adequate for regular prophylaxis. Moreover, most of the stronger non-steroidal anti-inflammatory drugs (NSAIDs) cannot be given to PWH for pain relief because of their negative effects on platelet function, which may aggravate the bleeding in a patient with already existing bleeding tendency. In addition, they cause gastric irritation and renal insufficiency. Hence, only paracetamol and various opiates are mainly used, alone or in combination, for pain relief in hemarthrosis cases in Western countries. Modern cyclooxygenase 2 (COX2) inhibitors can be used in this condition, but they are not very strong relievers of pain.

In India, opiates are also not easily available for pain relief, and often paracetamol is not sufficiently powerful to completely control the pain. In addition, in this country, many PWH have associated chronic liver disease due to transfusion-transmitted hepatitis, limiting the total dose of paracetamol that can be used.

Hence, there is a genuine need for an alternative pain-relieving medicine/approach in PWH suffering from recurrent hemarthrosis. In India, homeopathy as an alternative medicine is widely used and accepted [3] by most of the population. Moreover, in developing countries, most of the hemophiliacs cannot afford factor concentrates, even on demand basis, due to financial constraints [4–6].

Hence, the present study evaluated homeopathic medicines for pain relief and arrest of further hemorrhage in acute hemarthrosis cases associated with severe and moderate hemophilia, when used alone or in combination with paracetamol and RICE (rest, immobilization, cold application, and elevation) but without any factor concentrates because of their non-availability or non-affordability.

Patients and Methods

Study Setting

This is a retrospective study following the analysis of case diaries of patients attending hemophilia clinics in Mumbai, Nashik, and Surat. The effects of homeopathic medicines only on major joint bleeds were assessed in the present study. Minor bleeds, muscle bleeds, bleeding in skin and small joints, and life-threatening bleeds were excluded in the present study.

Patients

PWH diagnosed with moderate (baseline deficient factor levels 1–5%) or severe hemophilia (baseline deficient factor levels < 1%) from Nashik, Mumbai, or Surat Chapter visiting the homeopathic facility for management were included in the study. Consent was taken from the patient or from the parents if the patient was under 18 years of age. The study was sanctioned by the institutional ethics committee of Motiwaras Homoeopathic Medical College and Hospital, Nashik, Maharashtra, India. Diagnosis and all laboratory studies in these patients were done in the hemostasis laboratory of the National Institute of Immunohaematology, an international hemophilia training center situated at the K.E.M. hospital campus in Mumbai.

Inclusion Criteria

Analyzed were 343 consecutive patients from the Nashik (n = 207), Mumbai (n = 121) and Surat (n = 15) chapters, diagnosed with moderate or severe hemophilia A or B over the period between December 2007 and March 2014. It was made sure that all these patients had tried to get factor concentrates or plasma products along with modern pain relief medicines for hemophilia, i.e., paracetamol and COX2 inhibitor, and that they came for homeopathic treatment only after making sure that no concentrates or blood products were available at that time with the hospital. The analysis of the patient records is shown in figure 1.

Intervention

The treatment with homeopathic medicines was planned at 3 levels.

Level 1

Use of Hamamelis θ as a local hemostat: A gauze piece/clean linen cloth soaked in a solution of 0.6 ml of Hamamelis mother tincture (θ) dissolved in 60 ml of water was advised to be placed over the affected joint as local hemostat.

Drug information: The tincture was prepared from the bark of the twigs and root of *Hamamelis virginica*, commonly known as witch hazel [7–9]. The principal action of this remedy is on the venous system. It acts upon the coats of veins, causing relevant changes to stop passive venous hemorrhages from any part [8, 10, 11]. The drug is indicated in passive hemorrhages when the blood is hypocoagulable and bleeding is slow but continuous, as happens during hemarthrosis in a PWH [1, 6].

During regular visits to the clinic, each patient was provided with Hamamelis mother tincture (30 ml) and some locally acting medicines with proven anti-inflammatory action like *Bryonia alba*, *Ledum pal*, *Rhus tox* [12, 13] (medicated in no. 30 globules). During acute bleeding, patients were advised to use Hamamelis mother tincture even before they reach the physician. The use of locally acting medicine was advised after telephonic communication with the patient in the likely event of delay for consultation. A gauze piece/clean linen soaked in a solution of 0.6 ml of Hamamelis θ in 60 ml of water was advised to be placed over the affected joint. The indicated remedy was prescribed after consultation.

Level II: Administration of Homeopathic Medicines Based on Acute Totality

The selection of the homeopathic medicine during acute bleeding into the joints was based on the symptom similarity. The cause and nature of pain, aggravating and ameliorating modalities concomitant with the symptom, if present, and any altered emotional or behavioral symptoms were taken into account to select a similia.

Level III: Administration of Individualized Homeopathic Medicine

Individualized homeopathic medicines were administered during the non-bleeding phase. The medicine was selected considering mental general symptoms, physical general symptoms (thirst, appetite, desires, aversion, bowel habits, perspiration, etc.), characteristic particulars, miasm, diathesis, etc., and characteristic symptoms, if any.

The selection of the homeopathic medicine was made easier as every PWH maintained their bleeding diaries with details of intervention and the patients were requested to include in that diary some details of their behavior and feeling in their own words, where possible. In addition to the clinical presentation, evaluation of the patient diaries helped to select the medicine. The behavior of the patient was given prime importance while forming the conceptual image. Activity, cooperation and communication were the next important criteria to select the similia. The selected medicines were also verified using RADAR software for the constellation of symptomatology for repertorization, and the final selection of the drug from the list was made by one of the authors (T.K., Afr.S., P.S., Aaf.S., H.S.).

Placebo was continued with improvement in the general condition of the patient. The selection of acute medicine was based on acute totality. In cases where the medicine was changed, the Gibson-Miller remedy relationship was followed [12].

Selection of Potency and Repetition of Doses

The potency and repetition of the medicine was decided by individual susceptibility [14]. The acutely acting medicines were given in 3–5 doses, depending upon the susceptibility; drugs were medicated in no. 30 globules. This was repeated in 6–8-h intervals.

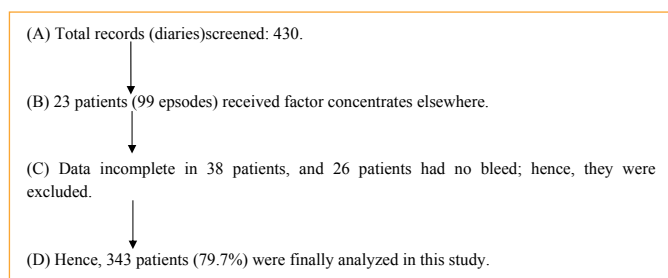


Fig. 1. Flow chart of the analysis.

Fig. 2. Wong-Baker faces along with the visual analogue scale for pain severity (wongbakerfaces.org).

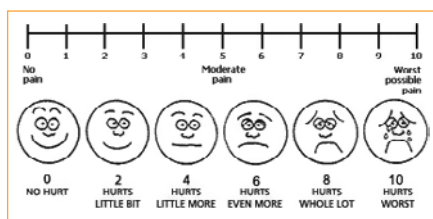


Table 1. Number of patients (all male) and their age and joint bleeds studied before and 6 months following homeopathic medicines

Center	Patients, n	Age, years (mean ± SD)	Joint bleeds per month ^a (mean ± SD)	Joint bleeds per month ^b (mean ± SD)	p*
Nashik	207	16 ± 7.2	6.6 ± 3.5	2.8 ± 2.3	< 0.0001
Mumbai	121	14.2 ± 5.6	8.3 ± 3.8	3.4 ± 2.6	< 0.0001
Surat	15	17.1 ± 5.8	6.1 ± 3.2	2.2 ± 2.8	< 0.0014
Total	343	15.6 ± 6.7	6.9 ± 3.6	2.9 ± 2.4	< 0.0001

^aIn 6 months pre homeopathic therapy.
^bAt 6 months post homeopathic therapy assessed from 3 months after treatment.
 SD = Standard deviation.
 *Student's t-test.

Each PWH was advised to continue the RICE (rest, ice, compression, elevation) therapy along with the medication, whereas Hamamelis θ was used as local application with water. The patients were generally already on some amount of paracetamol when they visited the doctor, and in India the dose never exceeded 500 mg to 1 g 6-hourly, for fear of liver toxicity as many of these patients have compromised liver function due to chronic hepatitis virus infection [15]. Physiotherapy was instituted as soon as pain was relieved, under supervision of an expert physiotherapist (A.N.). Individualized medicines based on constitutional parameters were continued at long intervals, i.e., 200C/1M (a dilution in centesimal scale, i.e., 200 means a dilution of 100 to the power of 200 and 1M means 100 to the power of 1000) once every 4–6 weeks.

Assessment of the Progress

The assessment was done considering the pain score [16] (fig. 2), temperature, redness, and swelling over the affected joint. The joint circumference in its maximal dimension was measured and an ink mark was left on the spot for repeat measurements. If the repeat measurements at 6, 12, 18, and 24 h showed continued increases by more than 1 cm at any point, this suggested continuation of bleeding and inflammation. When combined with other symptoms and if it was found that at the end of 12 h swelling had not reduced and symptoms had not improved by more than 50% on a visual analog scale (VAS), it was considered that the treatment had failed. If the measurement was stationary or decreased along with relief of the symptoms, the management continued. The assessments of the patients were done by allopathic doctors (R.K. and S.K.) without knowledge of the medication. The trained volunteers educated the hemophiliac on the use of local application of Hamamelis θ to manage bleeding episodes until the time a consultation is made. The number of joint bleeds per month was assessed as 6-month average preceding the initiation of homeopathic medicine and was also assessed in the following 6 months, 3–4 months after starting the medicines.

Statistical Analysis

Standard statistical tests of significance were applied, i.e., Student's t-test, the χ^2 test for trend, and analysis of variance (ANOVA) for significance. Any p-value less than 0.05 was considered as significant.

Results

Data were collected from 343 PWH from Nashik (n = 207), Mumbai (n = 121), and Surat (n = 15) centers. The PWH were between 7 and 38 years of age (table 1), including 248 PWH with severe deficiency of factor VIII, 41 PWH with moderate deficiency, 39 PWH with severe deficiency of factor IX, and 15 PWH with moderate deficiency (table 2); 12 PWH with factor VIII deficiency

Table 2. Severity of hemophilia studied at different centers

Hemophilia type	Moderate (factor level 1–5)	Severe (factor level < 1%)	Total
Hemophilia A	41	248	289
Hemophilia B	15	39	54
Total	56	287	343

Table 3. Number of bleedings in the various joints studied in this paper

Joint	Left	Right	Total
Knee	371 (3 inhibitor positive)	504 (4 inhibitor positive)	875 (52%)
Ankle	120 (3 inhibitor positive)	161	281 (17%)
Elbow	215	211 (2 inhibitor positive)	426 (25%)
Shoulder	41	56	97 (6%)
Total	747 (44%)	932 (56%)	1,679 (100%)

Table 4. Changes in joint swelling over time measured over the maximum dimension^a

Joint (n)	6 h	24 h	p*
Knee (875)	-2.6 ± 0.51	-3.1 ± 0.69	< 0.0001
Ankle (281)	-0.92 ± 0.31	-1.1 ± 0.32	< 0.0001
Elbow (426)	-1.8 ± 0.61	-1.9 ± 0.5	< 0.01
Shoulder (97)	-2.8 ± 0.21	-2.7 ± 0.31	< 0.01

23 patients who received factor concentrates elsewhere did not measure the changes in joint swelling, but swelling seemed to resolve by 24–48 h.

^aChanges expressed in centimeters (mean ± SD).

*Statistical significance by Student's t-test.

were also inhibitor positive. The commonest affected joint was the knee joint (52%), followed by the elbow (25%), the ankle (17%), and the shoulder (6%) (table 3).

The severity of pain was assessed by the Wong-Baker pain rating scale [15] (fig. 2). A higher percent of pain score was observed as 34.1%, 34.5%, and 15.4% of events for pain scores 6, 8, and 10, respectively, before administration of homeopathic medicines in all mentioned joints (N = 1,679). The mean pain score for pre-homeopathic treatment was 6.88, with a standard deviation (SD) of 2.118.

Over the period between December 2007 and March 2014, 1,679 episodes of hemarthrosis in 343 PWH were encountered. This included hemarthrosis of knee joints (n = 875), shoulder joints (n = 97), elbow joints (n = 426), ankle joints (n = 281), and wrist joints (n = 28); 12 patients had inhibitor (1.5–8.6 BU/ml). From the inhibitor-positive patients, 7 presented with hemarthrosis of the knee, 3 with ankle bleeds, and 2 with elbow joint bleeds, and as there was no bypass product available, they were treated with homeopathic medicines. All of them responded with significant pain relief (8.1 ± 1.8 at presentation and 2.5 ± 1.1 at 24 h after treatment; p < 0.01).

In 23 patients, 99 episodes could not be managed with homeopathic medicines and required factor concentrate infusion (5.40%) given elsewhere. These were the bleeding episodes where swelling of the joints did not subside and no other sign of improvement like reduction in the intensity of pain or mental disturbance was ob-

served within the next 6–12 h. The progression of improvement over 24 h is presented in terms of reduction of joint swelling from the maximum joint girth in centimeters (table 4). The minimum time required to manage the hemarthrosis was 6 h, and improvement continued over 24 h (tables 5 and 6). Follow-up of the patients showed significant improvement in the number of joint bleeds per month (p < 0.0001).

The following homeopathic medicines were prescribed as per the symptom similarity and were repeated in 3–5 doses in lower triturations. Arsenic album, Belladonna, Apis mellifica, Calc carb, Calc flour, Bryonia, Rhus tox, Sepia, Sulphur, Silicea, Veratrum album, Tuberculinum, Medorrhinum, Thuja, Sticta pulmonaria, Stelleria media, Ledum pal, Lachesis, Lycopodium, Phosphorus, Pulsatilla, etc. were the medicines used in acute bleeding episodes (fig. 3). These medicines were prescribed in 30C or 200C potency at 2,173 occasions. Thus, 497 episodes required a change in medicine. The medicines were changed when pain relief did not start within the first few hours (1–2 h) of the initiation of treatment.

Discussion

The study conducted at the Tata Institute of Social Sciences, Mumbai, in collaboration with the King Edward Memorial Hospital, Mumbai, reported the use of homeopathic medicines by 43.5% of hemophiliacs [5]. In our previous study, individualized homeopathic medicines were found to reduce the frequency of bleeding in PWH, thereby reducing factor dependency, improving adaptation with the environment, and lowering the risk of developing transfusion-related viral infections and factor inhibitor [6, 17]. In the present study, the homeopathic medicines prescribed as per the principle of homeopathy were found to arrest the bleeding; they provided significant pain relief and probably reduced the long-term tendency of frequent joint bleeds in a significant number of patients. However, this was not the primary objective of the study. The finding needs further exploration to see whether the natural history of this disease is modified under the influence of the homeopathic medicines in the same way as when allopathic doctors use disease-modifying drugs for rheumatoid arthritis [18].

Table 5. Visual analogue scale (range 0–10; 10 = maximum pain on the Wong-Baker scale for pain) in hemarthrosis of hemophilia cases

Time	Knee (n = 875)	Ankle (n = 281)	Elbow (n = 426)	Shoulder (n = 97)
Pre treatment	6.1 ± 2.1	6.7 ± 2.3	6.3 ± 1.8	8.4 ± 2.3
Post treatment (6 h)	3.2 ± 1.1	4.1 ± 1.8	3.8 ± 2.4	3.7 ± 1.8
Post treatment (12 h)	2.2 ± 1.7	2.6 ± 2.1	2.1 ± 1.7	3.7 ± 1.8
Post treatment (24 h)	1.5 ± 0.28	01.2 ± 0.3	1.1 ± 0.13	1.7 ± 0.2
Not relieved	52 (5.9%)	14 (4.9%)	29 (6.8%)	4 (3.9%)

From 23 (99 episodes) patients who received factor concentrates and RICE and paracetamol, pain was relieved in most of the patients by 6–12 h of time.
One-way ANOVA in all groups, $p < 0.0001$.

Table 6. Comparison of pain scores at 24 h pre and post homeopathic treatment

Wong-Baker pain rating scale	Pre homoeopathy treatment		Post homoeopathy treatment	
	Frequency	Percent	Frequency	Percent
0	26	1.5	1,041	62
2	42	2.4	425	25.3
4	201	12.0	114	6.7
6	569	34.1	35	2.3
8	582	34.5	40	2.3
10	259	15.4	24	1.4
Total	1,679	100.0	1,679	100.0

χ^2 for trend: post homoeopathy treatment, $p < 0.007$.

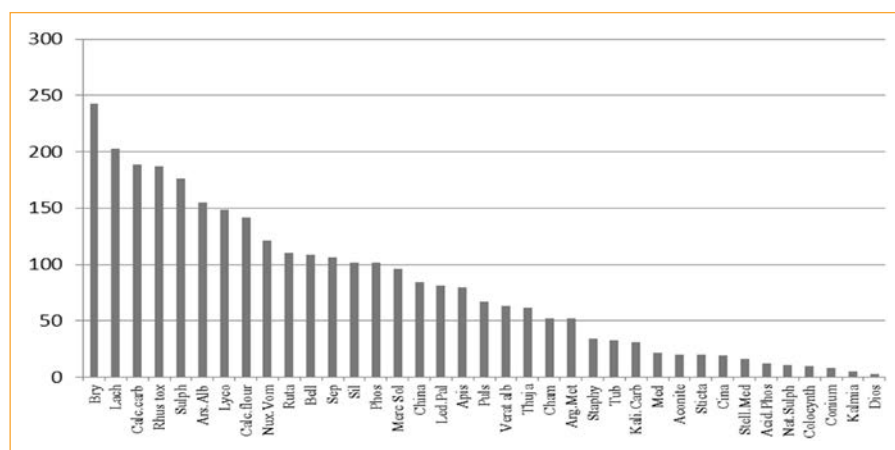


Fig. 3. List of homeopathy medicines prescribed in acute hemarthrosis management.

In India, allopathic physicians are handicapped by the general non-availability of factor concentrates in a regular manner. Opiate analgesics are also generally not available; only paracetamol and selected NSAIDs are available to improve pain relief in acute hemarthrosis in hemophilia, where pain can be excruciating. Paracetamol often proves wanting in such a situation. There are many NSAIDs for pain relief, but most of them are contraindicated in hemophilia patients because of their additional inhibitory function on platelet function and their tendency to cause gastritis, ulcer, and renal function impairment upon long-term regular use.

Immediate infusion of factor concentrates is considered to be the best analgesic in hemophilia patients, as this stops the bleeding and relieves the pain. The contribution of paracetamol and RICE in pain relief has not been adequately tested without any factor replacement and there is very little data on the natural history of pain in hemophilia patients with acute hemarthrosis [19, 20].

In Western societies, the easy availability of factor concentrates and prophylactic treatment of severe hemophilia with concentrates have made joint bleeding in this condition rare and a thing of the past. However, the same cannot be said about the management of hemophilia in developing countries. The present study showed substantial pain-relieving activity of homeopathic medicines in hemophilia patients, and this can also be judiciously applied in developed countries for minimizing the usage of opiates, with its own side effects and drawbacks. Patients with inhibitors are usually difficult to manage, even in affluent Western countries and as shown by the small number of patients with inhibitors in the ‘current study’ in whom the medicine was effective in arresting the continuous bleeding and pain of hemarthrosis. In our previous study, also 23/31 patients with inhibitor stopped bleeding on homeopathic medications [16], showing that the results of homeopathic medicines have some consistency of response as these patients do not

respond to anything but substantial bypass concentrates at extremely high cost.

The 'present study' has used a VAS for pain relief in the same way as an important study in hemophilia has used the scale in PWH with inhibitor presenting with hemarthrosis [21].

There are some limitations to this study: (i) Being a retrospective study, it carries all the negative connotations associated with a retrospective study. However, it is the custom in many parts of the world for hemophilia patients to maintain a bleeding diary, and with some additions to it, i.e., the patient's likes, dislikes, feelings, aggravations, and relief as a subjective description, it adds to the richness of this retrospective study with PWH, in contrast to the retrospective studies in many other diseases. Moreover, this diary, in addition to the elicited history, becomes a very strong tool for homeopathic physicians to select constitutional remedies. (ii) Although we have taken care to exclude patients who received factor concentrates or had minor hemorrhages, muscle bleeds, or cerebral bleeds from the study for the sake of studying the consistency of response, we could not exclude patients taking paracetamol and RICE as a pain-relieving medicine/maneuver. However, patients came to us already on paracetamol and RICE, and the VAS of pain clearly showed that they were having moderate to severe pain even on this medicine and/or procedure. Relief from pain after 6–24 h of homeopathic medicines clearly showed that homeopathic medicines could have made the difference, but questions arise as to (iii) which of the homeopathic medicines made the difference. Is it the locally applied Hamamelis or one of the several medicines given as acute pain reliever, like Arnica, Aconite, Belladonna, Rhus tox, Bryonia, etc., or the additional constitutionals that also helped. We need a different kind of study to dissect and quantify these effects on pain relief and hemorrhage. (iv) Being largely an observational study, its objectivity may be questioned; however, for hemarthrosis, measuring joint swellings and the limitation of movements was clearly objective enough. However, for pain, observational parameters were the only ones available to us, and a continuous VAS for pain does provide reasonable reproducible evidence, as shown in our data and as vouched by others [21].

There are also some strengths in the 'present study': (i) In the 'present study', evaluations were done by seasoned allopathic doctors who were unaware of the nature of the homeopathic medicines given. (ii) Several homeopathic physicians at 3 centers took part in the study, and their prescribing habits in one of our previous studies showed good correlation in selecting medicines [6, 17]. (iii) Finally, a large number of patients were evaluated and they attained relief, including also some inhibitor-positive patients. (iv) As factor concentrates are becoming widely available over the course of time, such studies would be difficult to do from an ethical standpoint in any part of the world.

Authors' Contributions

T.K. and Afr.S. were the prescribing physician at Nashik Haemophilia Centre. P.S. and H.S. were prescribing physicians at the Mumbai center, and Afi.S. was prescribing physician at the Surat Haemophilia Centres. S.K. and R.K. assessed the patients; A.N. provided physiotherapy wherever required. O.K. collected and compiled the data and also worked as communication consultant. K.G. wrote the final draft of the manuscript.

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Disclosure Statement

The authors declare that they have no conflicts of interest.

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