

ORIGINAL PAPER

# A clinical history of *Zincum metallicum*: homeopathic pathogenetic trials and case reports



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**In the present study, we investigated the experimental basis for the indications of homeopathic drug *Zincum metallicum*. The current body of knowledge about *Zinc met* has a core composed of pathogenetic and clinical data collected in the 19th century surrounded by layers of clinical observations reported over time. In the description, we prioritized poorly known sources, especially the ones that were never translated from the original German. We also performed quantitative and statistical analysis of repertory data. Through a literature survey and a call to practicing homeopathic doctors from many countries, we were able to put together a relevant case-series that represents homeopathic indications of Zinc. *Homeopathy* (2017) 106, 114–130.**

**Keywords:** *Zincum metallicum*; Homeopathic pathogenetic trials; Case reports

## Introduction

In the present study, we investigated the experimental basis of the current knowledge about the clinical indications of *Zincum metallicum*. As is traditionally held,<sup>1</sup> the sources of the homeopathic materia medica are three: provings (presently known as homeopathic pathogenetic trials – HPTs), toxicology data and clinical observations; to that we might now add the pharmacological actions and physiological effects (when applicable) of substances with potential for therapeutic application. However, we chose to forsake the toxicological, physiological and pharmacological data, because they are easily available in the literature, and restrict our analysis to the information gathered from HPTs and clinical observations.

The first part of the present article describes the results of a review of the literature on the pathogenetic symptoms of *Zinc met*. Next follows a quantitative analysis of *Zinc met*

symptoms in the homeopathic repertory and relevant information on symptoms' likelihood analysis. The last part presents a collection of case reports taken from the published literature or communicated by homeopathic practitioners, which represent a trustworthy picture of clinical indications of *Zinc met*.

## Methods

We first performed a thorough review of the published HPTs of *Zinc met*. For this purpose, we surveyed the literature starting from the first publication – a compilation of HPTs performed by Karl G Franz (1795–1835) in 1827.<sup>2</sup> In analysis we applied definite historiographical criteria to select relevant sources, which are described together with the results, as in every historical study we had to deal with single instances. We compared the information collected by homeopaths to the one published by the conventional doctors of that time, the reason being that zinc entered Western therapeutics in the 18th century, and thus homeopathic and conventional doctors made liberal use of the data as they became available. In the description of the results, we prioritized poorly known sources, particularly the ones never translated from the original German, which are thus now presented for the very first time to an English-speaking readership.

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Next we surveyed the symptoms attributed to *Zinc met* in the homeopathic repertory and performed a quantitative analysis. As an attempt to have a more encompassing picture of the quantitative and statistical data, we obtained from Lex Rutten interesting information on likelihood ratio (LR) analysis.

As concerns the clinical observations of the actions and effects of *Zinc met*, we first performed a literature survey in medical databases Medline/PubMed and LILACS (Latin American and Caribbean Health Sciences Literature, Regional Library of Medicine/Pan American Health Organization/World Health Organization). As the located publications were too few, we made a call via professional associations and e-mail lists of homeopathic doctors, as well as through social networks, for colleagues to contribute with well-documented cases. Once again the results were meager; in any case we were able to put together a relevant case-series that represents quite accurately, albeit certainly in an incomplete manner, the clinical indications of *Zinc met*.

## Results

### Introduction of zinc into German medicine

The first publication on homeopathic zinc is the aforementioned compilation of HPTs performed by Franz.<sup>2</sup> According to him, and also to Trinks and Müller,<sup>3</sup> zinc was not known in antiquity, being first mentioned by Albertus Magnus (1193–1280). In turn the name ‘zinc’ was first used by Basil Valentine (1394–1450), while the first exact description was given by Paracelsus (1493–1541). Zinc was introduced in the common materia medica by the German physician and chemist Hyeronimus D Gaub (1705–1780), in the 18th century, who first learned about zinc flowers (zinc oxide) from a market vendor named Lüdemann, who sold it as an *arcanum* and miraculous cure with the name of *Luna fixata*. Long time and many studies were needed before the medicinal properties of pure zinc became recognized. Franz, however, observes that its mode of action and curative powers had not yet been sufficiently demonstrated in his time, for which reason a large part of the contemporary doctors still doubted many or all the properties attributed to it. The homeopathic doctor Joseph B Buchner (1813–1879),<sup>4</sup> in turn, stated that, as a fact, zinc flowers were mentioned as a medicine by Pliny (1st century AD). While Gaub prepared pure zinc by means of a dry method (precipitation with an alkali) based on the recommendations of the reputed chemists Lorenz FF von Crell (1744–1816) and Jean-Baptiste van Mons (1765–1842), it came to be replaced by another, being the one described in Samuel Hahnemann’s (1755–1843) *Apothekerlexikon* (1793) and Johann F Westrumb’s (1751–1819) *Handbuch der Apothekerkunst* (1797), to wit, manuals for apothecaries.

According to modern authors,<sup>5</sup> zinc ore was used to produce brass since the Bronze Age, and Marco Polo (1254–1324) brought information from Persia to Europe, including the use of zinc sulfate to treat eye inflammations. By 1374 zinc was recognized by the Hindus as a new metal,

and in Europe by Paracelsus later on, however, the isolation of zinc as a pure metal (in nature it only exists as a salt) was achieved by the German chemist Andreas S Marggraf (1709–1782) in 1746.

These data are relevant, because they show that zinc entered conventional and homeopathic medicine practically at the same time, thus representing a quite interesting case study for the analysis of pathogenetic and therapeutic information.

### HPTs of *Zincum metallicum*

Lists of HPTs of *Zinc met* were published by Richard Hughes (1836–1902) and Jaber P Dake in 1900,<sup>6</sup> and by Thomas L Bradford (1847–1918) in 1901<sup>7</sup>; these lists were the basis of our study. We were able to locate most of the quoted references or transcriptions of them, which were subjected to critical analysis; the original sources with the results of critical analysis are described in Table 1.

As Table 1 shows, the core HPT report is the one compiled by Franz in 1827. Franz met S Hahnemann as a medical student in Leipzig, and according to Franz Hartmann (1796–1853) he became the latter’s assistant, being charged of the collection, identification and preparation of medicine sources, and then of arranging the symptoms according to Hahnemann’s scheme, in addition to setting them alphabetically.<sup>8</sup> In time, he also engaged alone in the study of certain remedies. Having been trained by Hahnemann himself, his comments and critical analyses of symptoms certainly provide the modern reader an accurate glimpse of Hahnemann’s ideas at the time. For these reasons and the fact that there is no translation of his HPT compilation from the original in German, it is discussed at length below.

Franz’s report comprises the self-provings performed by himself (potency 1c, in several intakes along 1 and 2 days) and Carl Haubold (1c, one single intake) and reports by Heinrich A von Gersdorff (3c, several intakes along 3 days), Ernst F Rückert (1c; symptoms of a healthy educated woman, one single intake; other provers failed to report any symptom), S Hahnemann (potency unknown), Johann Stapf (potency unknown) and Hartmann (potency unknown) to a total of 316 symptoms. It further includes symptoms arising from external contact with zinc, here comprised those S Hahnemann observed in himself; zinc oxide; zinc acetate (including the series reported by Friedrich Hahnemann and Christian F Langhammer mentioned in Table 1); zinc sulfate; and zinc hydrochloride – most of the data on zinc salts were taken from the conventional medical literature. It should be observed that in the present study we only considered the information on *Zinc met*.

The next series of symptoms are the ones included as updates (*Nachträge*) in Hartlaub and Trinks’ *Pure Materia Medica*.<sup>9</sup> The symptoms listed in volume 1 were reported by Hartlaub and ‘Ng’ (see below); two further symptoms have no indication of source, the same is the case of all the symptoms reported in volume 2. In no case there is identification of provers, potency, dose and frequency of use or chronological order of appearance of symptoms.

**Table 1** Sources for homeopathic pathogenetic trials of *Zincum metallicum*

Compilation	Author and year	Reference	Comments
B	Franz, 1827	<i>Archiv für homöopathische Heilkunst</i> 6, part 2: 152–197	Analyzed in the present article.
H	Langhammer, 1827	<i>Archiv für homöopathische Heilkunst</i> 6, part 2: 192	Included in Franz's report, but mentioned as an independent source in H; the substance tested was zinc acetate.
H	F Hahnemann	<i>Archiv für homöopathische Heilkunst</i> 6, part 2: 192.	Included in Franz's report, but mentioned as an independent source in H; it describes urethral and vaginal injections, which suggests that the tested substance was not homeopathic zinc.
B	Hartlaub and Trinks, 1828/9	<i>Reine Arzneimittellehre</i> , 1: 339–367; 2: 343–354.	Analyzed in the present article.
B H	S Hahnemann, 1828/1835	<i>Chronic Diseases</i> , 1st and 2nd edition	Analyzed in the present article (2nd ed.).
B H	Werneck, 1831	<i>Medicinisch-chirurgische Zeitung</i> , 3: 317–484	Source not located, transcribed in Buchner, <i>Hygea</i> 14 (1841): 481–493 and H; HPTs performed with zinc oxide in ponderable doses. Buchner also cites a proving performed by a Dr Weynen with animals (p. 494 <i>et seq</i> ). <sup>6</sup>
B H	Michaelis, 1831	<i>Archiv für homöopathische Heilkunst</i> , 10: 123.	HPT performed with zinc in ponderable doses.
B H	Schreter, 1846	<i>Neues Archiv für homöopathische Heilkunst</i> , 3, part 3 (1846): 187–8.	Analyzed in the present article; actual reference is <i>Archiv für die homöopathische Heilkunst</i> vol. 23; the new series started with vol. 21.
B	Jahr, 1848	<i>Symptomen-Kodex</i> , 734–754	Analyzed in the present article.
	Jahr, 1848	<i>New Manual (or Symptomen-Codex)</i> transl. Charles J Hempel and James M Quin, pref. C Hering, part 1, vol. 3, pp. 1018–1037	American translation; its poor quality and gross mistakes preclude its use.
B	Middleton, 1871	<i>Hahnemannian Monthly</i> , 6: 436–7	In an article entitled 'An unconscious proving of zinc', CS Middleton describes the accidental intoxication of a physician and his wife by using galvanized iron pipe for conducting water for drinking and cooking.
B	Smith, 1871	<i>New-England Medical Gazette</i> , p. 133	Full reference is <i>The New-England Medical Gazette: A Monthly Journal of Homoeopathic Medicine, Surgery and the Collateral Sciences</i> , 6 (1871): 332–6; it consists of a report by Dr Heber Smith of poisoning by galvanized iron pipes.
B	Berridge, [1874]	<i>American Journal of Homoeopathic Materia Medica</i> , 8: 125.	Source not located; the symptoms are transcribed in Allen, <sup>10</sup> where the reference cites volume 4, thus, from 1870/1.
B	Allen, 1879	<i>Encyclopedia</i> , vol. 10.	Analyzed in the present article.
B	Hering, 1879	<i>Guiding Symptoms</i> , vol. 10.	Analyzed in the present article.
B H	HL Northrop, LD Lippitt, AW Gregg, EB Finney, DM Landis, WC Seitz, 1888	<i>Transactions of the American Institute of Homeopathy</i> , pp. 159–164	Source not located; HPT is transcribed in H and analyzed in the present article.
H	Smith, 1888	<i>Transactions of the American Institute of Homeopathy</i> , p. 260.	Interestingly, a female physician, Sarah N Smith; the substance tested is zinc acetate.
H	RH Edmonton, CE Grove, CL Rumsey, EB Finney, 1889	<i>Transactions of the Homeopathic Medical Society of Pennsylvania</i> , pp. 202–220	Source not located; HPT is transcribed in H. HL Northrop, also from this group, proved <i>Zincum phosphoricum</i> and repeatedly tested positive for placebo effect, for which reason was not included for analysis.
B	MacFarlan, 1893	<i>Homeopathic Physician</i> , 13: 392; 14: 16.	MacFarlan did not report HPTs, but every now and then described isolated symptoms obtained in provings or clinical observations. So for instance, the mention in <i>Homeopathic Physician</i> (1893) 13:392, is: "Zinc-met. 2c. Mouth and lips very sore; tongue affected, very sore in spots as large as the small finger-nail", among similar single observations of other remedies

B: Bradford<sup>9</sup>; H: Hughes and Dake.<sup>6</sup>

Those two records were included in Hahnemann's description of *Zinc met* in *Chronic Diseases*,<sup>10</sup> to which he further added symptoms compiled by himself, von Gersdorff, Hartmann, Friedrich J Rummell, Johann G Schweikert, and Lesquereux (a "young learned man from Switzerland" according to Hahnemann; no further information could be found about him). In no case indication was made of the identity of provers, potency, dose or rep-

etitions; chronological data are not systematically provided for all the symptoms. This is the only source used by Georg HG Jahr (1800–1875).<sup>11</sup>

In his *Encyclopedia*,<sup>12</sup> Timothy F Allen (1837–1902) did not report results of original HPTs, but made a compilation of provings including zinc oxide, data from intoxications (sources no. 22; 24–40; 44–52; 55–58) and descriptions in the conventional medical literature. As a

result, the number of symptoms increased from 1375 (Hahnemann's *Chronic Diseases*) to 1799. It should be noted that Allen made a mistake and attributed sources no. 13–21 to Franz's record, however, the names do not agree with the ones mentioned by the latter, and thus it is difficult to ascertain the origin and reliability of the reported symptoms. As authentic pathogenetic symptoms Allen added to the aforementioned sources the ones by Gustav A Schreter (1803–1864) (redacted; for the original account, see below), W Cattell and Edward W Berridge (1844–1920). Thus being, Allen's work is no further analyzed in the present article. The same is the case of Constantin Hering's (1800–1880) *Guiding Symptoms*,<sup>13</sup> in which the only pathogenetic sources are Franz, Hahnemann, Werneck and Berridge (see Table 1).

According to Hughes and Dake,<sup>6</sup> the symptoms reported by Schreter correspond to one single female patient or prover; however, our translation from the original German source shows there is explicit indication of at least one symptom reported by a male subject (anal itch, see below)<sup>14</sup>:

- Itch around the nipple, she wants to scratch all the time (day 4).
- A kind of water rises from under the last right molar, upon touching it with the tongue she feels intense stitches there; with this the tonsils become swollen and painful, she feels an hindrance especially when swallowing, she cannot swallow even mucus well (no time indication).
- Burning in the stomach several times in the day (day 3).
- Profuse leucorrhoea (day 1).
- Bad, anxious dreams (day 3).
- Giddy from the morning to noon, she often felt she was going to fall (day 3).
- Confusion of the head (day 5).
- She woke up several times in the night and had anxious dreams with water and drowning (day 1).
- A kind of anxiety in the morning that made her restless (day 8).
- No stools for 3 days, after having taken a laxative (day 10).
- Sharp and burning leucorrhoea in the vulva (day 9).
- Anal itch, he needs to scratch all the time (day 10).
- A kind of severe heaviness in both hypochondria (day 7).
- Several well-digested stools during the day, with abdominal colic (day 7).
- Much saliva accumulates in her mouth (day 13).
- Menstruation appeared on the proper date, but was preceded by violent toothache in a hollow tooth and during the night (day 17).
- Anxious mood, as if something bad had happened to her (the first 8 days).
- Everything seems very difficult to her (the first 8 days).
- She awoke often during the night and could not fall asleep again after 5 a.m. (the first 8 days).
- Like a kind of cramp in the chest, which extends to the stomach and abdomen, from 7 to 8 p.m. (day 14).
- Feeling in the eyes as if she had much wept (day 14).

Cattell used to contribute with a section entitled 'Pathogenetic and Therapeutic Fragments' to *The British Journal of Homoeopathy*, in which he listed pathogenetic and clinically observed symptoms of medicines, without any indication of sources or methods; he merely distinguished ones from the others by placing the latter between brackets.<sup>15</sup>

Finally, Berridge reported the following symptoms only<sup>12</sup>:

- When standing on a height, vertigo as if I should fall to the right (seventh day).
- Eructations.
- On evening of first day an excoriation appeared on upper surface of glans penis near the tip, just to left of mesial line, sore to touch; it healed next day, but the scab remains on it till to-day (eighth day).
- Aching in the lumbar region with a feeling of languor.
- Pain in right *ligamentum patellæ* on pressure or walking, and especially on ascending or descending stairs (when straightening knee on ascending, or bending knee on descending), (second day); ditto, but less (third day).
- Woke on back (second night).
- Sad dreams (second night).

### Franz's pathogenetic report<sup>2</sup>

As mentioned above, Franz's was the first published HPT of *Zinc met*, which he performed with 1c trituration from 1 grain of metal scraped with a whetstone in 99 grains of lactose; he also mentioned symptoms experimented/reported by other authors, as explained in the previous section.

According to Franz, the most important aspect to take into consideration in a HPT is the order in which the symptoms appear, as it indicates the path of the return to health that takes place under the drug's influence. Thus he tells that in his first self-experiment (January 26 1827) the remedy's effect first appeared in the muscles of the esophagus and larynx with a kind of cramp in the limbs, which felt lighter and more mobile. Franz rates those symptoms a kind of curative action, soon to be followed by intense weakness and awkwardness, which he considers to be the primary effect of the remedy; about ¼ to 1 full hour later discomfort appeared in the pit of the stomach and abdomen, which was followed by several bloody stools in the course of the day. Five to 6 h later he felt oppression in the chest together with a mild and transient headache; the day ended with an annoying skin itch. It is interesting to note that Franz gives the order number of all the symptoms mentioned so that they can be checked in the list of pathogenetic symptoms. He observes that Haubold had noticed a similar sequence of symptoms in his self-experimentation: pressure in the pit of the stomach and lower portion of the larynx; growling in the abdomen; transient itch in the skin; chest complaints and icy coldness in the hands.

In his second experiment (March 26 1827), however, Franz tells that the occiput was the first to be affected, then gradually all the other areas until the entire head

ached, especially after eating; the pain next moved to the ear, neck and limbs, being partly felt as painful rheumatism and partly as coldness, and attended by now fleeting, now persistent chest discomfort and general lameness of the trunk; the skin symptoms appeared in the evening. The following day he woke up with earache, chest discomfort and pain in the limbs, with little or no affection of the lower abdomen and flatulence. He concludes that in this case the symptoms agreed with the ones reported by Hartmann: occipital pain; alternation of pain between the temples and the occipital; pain in the knees, shinbone, foot joints and forearms; heaviness and paralysis of the thigh, and finally the skin complaints. Also Rückert reported headache. Unfortunately von Gersdorff had not described the symptoms in their order of succession.

The characteristic action of *Zinc met* according to Franz is as follows:

- Headache, rather tearing and stitching in the lateral parts, which appears or aggravates after lunch; on the contrary, the pain in the occipital and forehead (middle of the brain) is more pressing and dragging; the former is rather secondary or consensual (after complaints of the lower abdomen), the latter rather primary and changes other previous or concomitant complaints (like pain in the limbs, feeling of lameness).
  - Inflammatory complaints of eyes, the eyelids in particular, with pressing, stinging, itching feeling.
  - A kind of pressure in the ears (of rheumatic nature) with tearing stitches and tumours in the external ears.
  - Various types of tearing and dragging toothache.
  - Spasmodic (hysterical?) complaints of the throat.
  - Complaints of the abdomen, burning stomachache, clamping pain in the upper abdomen and hypochondria, pain in the navel, times colic, times flatulence, however, always fixed pain in the right side of the abdomen.
  - Kidney pain.
  - Flatulence.
  - A series of chest complaints (due to rheumatism and suppressed exanthemata? Consumption?); in the middle of the chest and upper and lower parts of the sternum anxiety and oppression; in the left side of the chest, mainly stitches, also a complex pressure and sometimes burning; in the right side of the chest it is more an oppression, not rarely with burning. The number of these symptoms point to a close relationship of zinc to the chest.
  - So-called rheumatic pain in the scapula, neck and especially the upper limbs — muscles, deltoid, less in the forearms, but particularly in the wrists and back of the hand, flexors of the fingers and along the metacarpal joints, fingers, finger joints and tips; a kind of lameness of the hands.
  - And a similar relationship with the lower limbs, from the gluteal region downwards — tearing and dragging pain in the thighs, less in the knees and shinbone; particularly in the foot joints, tearing and sprain pain; in the foot bones, tearing pain; pain in the heels and Achilles tendon and on the back of the feet; stitching pain in the toes, with feeling of lameness, heaviness, lassitude (perhaps paralysis, a kind of hemiplegia).
- Many skin problems, spots (and lichenous ulcers) especially lichen after old and complicated itch (some complaints due to suppression of skin disorders).
  - According to some, in some individuals the left side predominates, in others more the right side (or also a more frequent alternation of sides), as well as the aggravation, and even more the reappearance of previously gone complaints by the use of wine, as I and Mr Reg. v. Gersdorf (sic) observed, are a particular characteristic [of zinc].
  - Also the frequent appearance of its symptoms at noon, after lunch and in the evening partly distinguish it from other homeopathic medicines, partly makes it comparable to others, and more observations and investigations of its relationship with age and gender, as well as its strong relationship with the children's organism will bring more light into this matter.

It is important to highlight here the fact that Franz did not take reports of symptoms at face value, but systematically subjected them to critical analysis and comparison, so as to afford a trustworthy picture of the pathogenetic symptoms of *Zinc met*. By the same token, he did not eschew the information on the direct and secondary effects of zinc available in the conventional medical literature; a summary of these data is presented in [Table 3](#).

#### ***Zincum metallicum* according to Hartlaub and Trinks**

In volume 1 of their *Pure materia medica*,<sup>9</sup> published in 1828/9, Carl GC Hartlaub (1802–1836) and Carl F Trinks (1800–1868) list 456 symptoms, being 20 provided by Hartlaub, 2 unnamed, and the rest by 'Ng', identified as "a honorable doctor and scholarly and exact observer" (see below); in volume 2 of the same work, they report 158 symptoms with no mention of their source. In none of these cases there are data on dilutions and frequency of intake. All these symptoms were included in Hahnemann's description of *Zinc met* in *Chronic Diseases*.<sup>10</sup>

As is known,<sup>1,8</sup> 'Ng' is Cajetan Nanning; nothing could be established about his life and work, except that he was a surgeon from Bohemia and as such he was not entitled to use medications per internal route, whence the citation as 'Ng' (another story tells that no Austrian was allowed to send anything for printing outside the country). Other sources state that in addition to surgeon, Nanning was known as a botanist and insect collector<sup>16,17</sup>; thus we learned he was born in 1769 and died in 1845.

Nanning contributed with more than 11,000 symptoms of about 20 remedies to Hartlaub and Trinks' work and Stapf's *Archiv*, which were later on included by Hahnemann in *Pure Materia Medica* and *Chronic Diseases*, although with some misgivings; thus Nanning is the source of 456 symptoms of *Zinc met* in *Chronic Diseases*. According to the available data, Nanning never proved any remedy on himself, but used the female students at his wife hat-making school as provers. Nanning's symptoms have no indication of prover, dilution, frequency of intake or chronological order of appearance of symptoms.

### Hahnemann's *Chronic Diseases*<sup>10</sup>

On objective grounds, Hahnemann's record of *Zinc met* pathogenetic symptoms is rather questionable, as there is no indication of who the provers were or the dilutions and dose regimen used. In addition, the reasons for highlighting certain symptoms are not explicit, especially in the case of the ones provided by questionable sources like the aforementioned Lesquereux. However, valuable pieces of information are provided in the preface to the actual list of symptoms. First Hahnemann describes how homeopathic zinc should be prepared, which leads one to infer that his HPTs were performed with dilution 18c. Second, he lists conditions actually healed with *Zinc met*, which noticeably do not match the common picture of *Zinc met* conveyed in the homeopathic literature (see below).

### Jahr's *Symptomen-Kodex*<sup>11</sup> and Trinks and Müller's *Handbuch der homöopathischen Arzneimittellehre*<sup>3</sup>

In addition to the sources listed in Table 1, we also consulted Trinks and Müller's *Handbook of Homeopathic Materia Medica* (1847).<sup>3</sup> The initial reason was that their list of clinical indications of *Zinc met* was included in Charles J Hempel's (1811–1879) translation of Jahr's *Symptomen-Kodex*,<sup>18</sup> which Hering rated "the most appropriate way of spreading the homoeopathic system in America", and "with much valuable additions".<sup>19</sup> As one of the countless mistakes made by Hempel, this book was attributed to Alphonse Noack (1805–1888) and Trinks; as a fact, Trinks wrote the first volume with Noack and the second with Clotar Müller, a son of the more famous Moritz Müller (1784–1849), namely, the first director of the homeopathic hospital in Leipzig. In addition, as the subtitle indicates ("according to all older and modern sources on pharmacodynamics and therapeutics") Trinks and Müller's work presents all the information available on zinc/*Zinc met* in their time. It is worth to observe that the third volume, also written by Trinks and Müller consists of a repertory of homeopathic medicines.

The presentation of the data on zinc/*Zinc met* is particularly interesting, as it includes both the conventional indications of zinc and the homeopathic ones of *Zinc met* as emerging from Franz's and Hahnemann's works. The pathogenetic symptoms were taken from the second edition of Hahnemann's *Chronic Diseases* and distributed as follows: 1) general (authors' redaction of the main characteristics of the remedy); 2) skin; 3) sleep; 4) fever; 5) soul – exaltations; depressions; mixtures of exaltations and depressions; 6) head; 7) eyes; 8) ears; 9) nose; 10) face); 11) teeth; 12) mouth; 13) throat; 14) appetite; 15) stomach; 16) abdomen; 17) stools; 18) anus; 19) urinary system; 20) genitals – male; female; 21) nasal mucosa; nostrils; 23) trachea; 24) chest – external; lungs and pleura; 25) back; 26) upper limbs; and 27) lower limbs.

This arrangement of symptoms might seem quite odd to the modern homeopath, but is quite similar to the one used by Jahr (differences in italic)<sup>11</sup>: 1) general (redacted); 2) skin; 3) sleep; 4) fever; 5) *emotions*; 6) *sensorium*; 7)

head; 8) *scalp*; 9) eyes; 10) ears; 11) nose; 12) face; 13) teeth; 14) mouth; 15) throat; 16) appetite *and taste*; 17) *gastric* (redacted); 18) stomach; 19) *hypochondria*; 20) abdomen; 21) stools; 22) *urine*; 23) *male parts*; 24) *female parts*; 25) *trachea and cough*; 26) *chest and respiration*; 27) *back and low back*; 28) upper limbs; and 29) lower limbs.

The description continues with the pathogenetic symptoms of zinc salts (oxide and sulfate) and clinical indications according to the 'old school' (Table 2) and the homeopathic principle (Table 3) as well as cured conditions after homeopathic use (Table 4). The description ends with the recommended antidotes, list of related remedies, duration of action and doses.

### Hughes and Dake's critical *Cyclopaedia*<sup>6</sup>

Among the provings listed by Hughes and Dake, most of which were already discussed, there is a set particularly interesting due to the high quality of the reports. We allude to the HPT apparently conducted by a group of medical students and one doctor and published in the *Transactions of the Homeopathic Medical Society of Pennsylvania*:

- One prover reported not to have had any symptoms at all.
- In another case, only 3 symptoms appeared (congestive headache; sharp stitching pain in the base of the heart; nausea and 'gone' sensation in the stomach) but headache was put into question, as its type was common to the prover. Later doses induced no symptoms.
- The third case begins by a description of the prover at baseline (anthropometric measurements; constitution; pathological predispositions; temperament; pathological history; habitual use of stimulants; pulse in various body positions; respiratory rate; body temperature at various times of the day; usual urine output; and stool pattern). Before the HPT, this prover was subjected to a test with placebo, which was negative. The symptoms are described in chronological order, relative to 2 different provings with 2-day interval, together with the intake times and dilution (3×), and the main/new ones were: severe headache on the coronal suture in the evening, as if the head was separated into two distinct parts, the pain seems to follow the course of the frontal nerve; nocturnal ejaculation that awakens him, twice in a row; constant chilly feeling with dullness of the mind; so sleepy that he had to lie down three times in the afternoon and at times found himself asleep on his chair.
- That same pattern of reporting was used for prover 4, who also tested negative on the placebo test and used *Zinc met* 3×. The only symptom this prover had was diarrhea, but was invalidated by his previous statement of having had similar attacks few days earlier.

While the number of symptoms elicited by *Zinc met* in this group is very small, they can be considered highly reliable in the face of all the cares taken to ensure their authenticity. That same group had published the previous year, in *Transactions of the American Institute of Homeopathy*, another HPT conducted with dilution 2×; in that case the proving

**Table 2** Indications of zinc in 19th century conventional medicine according to Franz<sup>2</sup> and Trinks and Müller<sup>3</sup>

Source*	Indication
Rademacher	<b>Rheumatism</b>
Hancke; Dittrich; Zwerina; Hecker; Wunderlich; Pilz; Rademacher; Hufeland, Thuessink, Sprengel; Lützenberger; Thuessink; Rademacher; Ludwig	Arthritis Primary and/or secondary syphilis
Rademacher; Brera; Werneck; Baumels, de la Roche, Theden, Gaubius, Muzel, Hurlebusch, Bell, Percival, Guthrie, Home, Stark, Osiander, Lichtenstein, Seidler and various Swedish doctors, Aldrige <i>Dublin Hosp Gaz</i> 1845 (zinc sulfate); Goadsir, Odier, Pott. Gaubius; Beireus, Herz, Richter, White, Stark, von Hoven, Alexander, Haud, Hufeland; Gaubius, Voigt; Voigt; Schwartze	Smallpox, when the eruption lingers on and is followed by nervous attacks Neonatal erysipela with cramps Bullous erysipela Idiopathic head blisters [herpes zoster] with violent fever and delirium Nervous state after scarlet fever <b>Chronic skin diseases</b> Hypersomnia in acute brain diseases Intermittent fever <i>Febris intermittens perniciosa choleric</i> in the Salerno area Convulsions and convulsive states in internal and external parts. All kinds of chronic tonic convulsions. Epilepsy, probably a specific.
Voigt; Beireis, Crell; Mönch; Hork; Lichtenstein, Desaiice; Lützenberger	Hysterical convulsions. Hereditary hysterical convulsions. <b>Saint Vitus' dance (Sydenham's chorea)</b> Teething convulsions in children. Chronic convulsive conditions of children Nocturnal screaming and startling in children, with grinding of teeth and twisting of the eyes Convulsions in the late stages of hydrocephalus Generalized tetanus Epilepsy by worms, fright and in the course of smallpox. <b>Convulsions and spasms after fright and emotions</b> Periodic convulsions Convulsions in a typhus epidemic with unconsciousness, torpor, cold and viscid perspiration
Roböl; Eilner; Rademacher	<b>Spasms and convulsions after suppressed acute and chronic exanthemata</b> Fits of laughter Insanity, chatters about fantastic things, in constant fear of being jailed, with abdominal complaints
Creel, Brodie (zinc sulfate); Rademacher; Rademacher; Meglin; Rademacher; Dehne, Gaubius, Joseph Frank	<b>Paralysis of the limbs.</b> Cerebral fever, begins by violent headache, then insanity or hypersomnia Pain in the head and eyes. <b>Very painful ophthalmia.</b> Egyptian eye inflammation Nervous facial pain Violent toothache. Hiccup. Hysterical hiccup. Very violent and long-lasting gulping. Spasmodic suffocation in old drinkers. Stomach cramps. Colic.
Kerksig, Frick, Roböl; Zwerina (muriatic zinc); Starcke; Brückmann; Gaubius, Theden, Tode, Dobson, Leith, Hufeland, Jahn, Constant; Kohlmann, Jahn, Withers, Wolff; Sachsc, Kreysig; Baldinger; Rademacher; Rademacher	Gonorrhoea <b>Ill consequences of lochia and menstruation suppression</b> Aphonia by onanism <b>Whooping cough.</b> Dry whooping cough. <b>Spasmodic asthma</b> Angina pectoris. Cardiac spasm. Palpitations with difficult speech and difficult deglutition Backache Purely nervous hip pain

\* The sources' references are quoted by the authors cited, however, we thought it unnecessary to indicate them here. However, the mentions illustrate how carefully and thoroughly the early homeopaths sought for relevant information in all the available sources and recorded it. **Bold:** classic indications of homeopathic remedy *Zinc*.

technique was not as stringent as the one described above. The main symptoms (eventually reported by more than one prover) were: congestion of the head amounting to headache (frontal, temples); arterial pulsations in the head; intense perspiration; nausea and vomiting; colicky pains in the abdomen; diarrhea; poor sleep with many and vivid dreams; non-refreshing sleep; muscle twitching; angina-like pain; dullness of mind (uses wrong words, lack of concentration, lost in his own room, misses letters when writing). These symptoms correspond to the ones described in previous HPTs and thus have confirmatory value.

#### ***Zincum metallicum* according to the classic homeopaths**

All the classic homeopaths discussed *Zinc met* in their published works.<sup>20–29</sup> While none of them included additional pathogenetic symptoms, they all agree on the characteristic picture of the remedy, which does not systematically derive from HPTs, but from pathophysiological theoretical considerations and probably also clinical observations:

- Main site of action: nervous system, with stimulating and strengthening action; “the word ‘fag’ covers a large part

of zinc action”,<sup>30</sup> nerve- or brain-fag, muscle-fag; brain-fag by over-study, night-watching, fatigue; depressed intellectual functions; physical exhaustion with nervousness and extreme sensitiveness, excitability, the patient is easily excited by the least provocation; hypersensitiveness in one part and lack of feeling in another.

- Spasms; muscle twitching; chorea; general trembling (followed by paralysis if untreated).
- Restlessness; characteristic incessant, violent fidgety feeling in the feet or lower limbs, must move them constantly (to notice, not characteristic of the patient, but appearing concomitantly to some illness); although the fidgety feet are the most characteristic, they are not the only automatic movements (mouth, arms, hands and general restlessness).
- Lack of vitality: eruptions do not develop in eruptive diseases; suppressed eruptions; inability to produce discharges, the patient’s state improves when discharges appear (expectoration in asthma; amenorrhoea; urine).
- Pain as if between the skin and flesh. Tearing pains.
- **Aggravation:** becoming heated; wine and stimulants; afternoon and evening.
- **Amelioration:** discharges and appearance of eruptions.
- **Mind:**
  - Fretful, excitable, easily offended; hypersensitive to noise; easily startled with persistent trembling; other people talking and noise are unbearable; music of brass instruments is unbearable.
  - Becomes stupid and thoughtless; forgetful, with general lethargy and stupidity, with tendency to spasms; melancholia. Suicidal tendency or fear that one is to be arrested on account of a crime is a marked indication in mental alienation. Lack of thoughts as if the spirit was numb. Memory very weak and easy forgetfulness; difficult understanding.
  - Thoughts of death as if she were to die soon.
  - Fear of thieves.
  - Easily excited to anger and very despondent after having got angry. He wishes to get hold of someone on whom vent his anger. Noon, irritability and disposed to the get angry or be frightened.
  - Good mood in the evening.
- **Nervous system:** meningitis (tubercular), especially after suppressed eruptions, always with hyperesthesia of the external senses; seizures — epileptic in children, from suppression of discharges or skin eruptions; spinal irritation.
- **Headache:** neuralgic, the result of brain fag, sometimes with blurring of one half of the vision, photophobia, vertigo, etc.; headache is always aggravated by stimulants; feeling of heaviness (top of the head, occiput); violent headaches in overtaxed schoolchildren; very valuable remedy in hydrocephalus, “many brilliant cures are reported”.<sup>31</sup>
- **Eyes:** conjunctivitis.
- **Respiratory system:** spasmodic cough, whooping cough; bronchitis, with profuse frothy expectoration; asthma; intercostal neuralgia.

- **Gastrointestinal system:** general derangement, aggravated by alcohol; atonic dyspepsia, feeling as if the stomach were collapsed (‘goneness’); flatulent colic; liver enlargement; summer diarrhea of children; involuntary stools.
- **Urinary system:** nephroptosis; involuntary urine; hysterical retention of urine, bladder paralysis.
- **Vascular system:** varicose veins, particularly in the lower limbs, and more especially subacute or chronic.
- **Genital system:** “strong action on the generative sphere, it excites both sexes and causes seminal losses and prostaticorrhoea of the male, and nymphomania and masturbation in the female.”<sup>32</sup>
  - *Male:* seminal emissions with hypochondriasis, general irritability and depression; neuralgia of testicles.
  - *Female:* irregular menstruation; premenstrual neuralgia of left ovary, ameliorates by onset of menstruation; vulvar itch; unnatural sexual excitation; all the genital symptoms are associated with general restlessness, depression, tendency to coldness, spinal tenderness and especially the restless feet of *Zinc met.*
- **Back:** low-back pain extending to the hips and thighs.
- **Musculoskeletal system:** sciatica, with restless feet.
- **Skin:** formication of feet and legs, as from bugs crawling over the skin; eczema; bluish hue; tendency to chilblains and sensitiveness to frostbite.

These indications were succinctly summarized as ‘red-lines’ by JW Hutchinson as follows:<sup>33</sup>

- Relief comes from the appearance of discharges or eruptions.
- Valuable in various neuroses arising from profound disturbances of the nerve centers of the brain and spinal cord, especially cerebral exhaustion.
- Nervous, fidgety moving of the feet, especially after retiring and during sleep.
- Headaches from drinking even small quantities of wine.

#### Repertory symptoms: quantitative approach

*Zinc met* is included in 8056 rubrics of repertory *Synthesis Treasure Edition*,<sup>34</sup> 3051 rubrics containing up to 15 remedies, and in 616 as single remedy. While no symptom has score 4, there are 243 with score 3, being 67 in rubrics with up to 15 remedies and 14 as single remedy. These data indicate that *Zinc met* has a quite large and characteristic scope of action, which makes it difficult to understand why it seems to be so seldom used in clinical practice.

#### Symptoms’ LR

LR is the frequency (prevalence) of a symptom in the population that responded well to a certain medicine divided by the frequency of the same symptom in the remainder of the treated population.<sup>35,36</sup> In other words, as Rutten explains,<sup>37</sup> we might expect the prevalence of a given symptom, for instance, ‘restless feet’, to be higher among the population who responded well to *Zinc met* than among the rest of the population. Reciprocally, we

**Table 3** Homeopathic indications of *Zincum metallicum* based on the pathogenetic symptoms recorded by Franz and Hahnemann<sup>2,10</sup>

Aggravation by wine and <i>Nux vomica</i> , especially of nocturnal restless and constipation	Aggravation in the afternoon and evening, sitting and resting; also by motion and outdoors, but less	Pain changes of place in all the limbs
Sore pain	Right side or alternation of sides	Susceptibility to open air
Jerking and twitching in different muscles. Chorea (?). Tremor in all the limbs	Convulsions (by fright?)	Intense tiredness and weakness
Chlorosis (?)	Numbness	Feeling of cold in the bones
Night itch	Complaints after suppressed eruptions	Miliaria in the bend of the elbow and knee
Chronic skin rashes	Lichen. Ulcerous lichen. Lichen after chronic and complicated itchy complaints	Ganglion
Skin cracks	Takes too long to fall asleep due to intense spirit activity	Sleepiness after eating
Excessive night sleep	Frightening dreams	Talking and screaming during sleep
Non-refreshing sleep	Tendency to perspiration during the day. Night sweats	Melancholy. Gloominess.
Hypochondria and hysteria (?)	Thoughts about death, as if she were to die	Avoids occupation, unwilling to work and walk
Sullenness and peevishness, choleric	Irritability	Mood swings
Paralytic state of the brain. Loss of thought and torpor of the mind. Difficulty to make conceptions and relate ideas. Much forgetfulness and weakness of memory. Continuous confusion of the head	Hemiplegia. Paralysis of the limbs (?)	Vertigo
Various types of headache. Headache, tearing and stitching pain in the lateral parts, appears and aggravates after lunch, oppression and dragging in the forehead and occiput. Sore pain in the head.	Roaring in the head.	Pain in the scalp as by an abscess. Baldness
Dryness of the eyes. Itch, stinging and burning in the eyes. Inflammatory illnesses of the lids and eyes, with oppressive, stitching and itchy sensations. Various types of eye inflammation	Paralysis of the lids	Amaurotic amblyopia (?) Amaurosis and contracted pupils
Pressure in the ears with tearing stitches and swelling in the ear	Otorrhea	Tinnitus
Deafness (?)	Toothache while chewing. Pulling and tearing toothache. Excoriating toothache	Loose teeth
Excoriating pain in the gums. Bleeding of the gums upon the least contact	Increased salivation with metallic taste	Blisters on the tongue
Weakness of the larynx	Pharyngeal spasm (?). Spasmodic complaints of the esophagus	Salty taste in the mouth.
Ravenous appetite	Failed eructation.	Taste of blood in the mouth
Stomach complaints. Stomachache with ill feeling after eating bread. Stomach spasm (?).	Sour eructation	Hiccup
Heartburn and stomachache	Melena (?)	Liver and spleen complaints (?)
Fixed pain in the right side of the abdomen. Oppressive, stitching and clamping pain in the upper abdomen and hypochondria. Tension in both sides of the abdomen. Spasmodic pain in the navel (?). Colic	Flatulence (?). Breathlessness from flatulence after meals (?)	Inguinal hernia
Constipation.	Insufficient, hard and dry stools.	Anal itch
Involuntary evacuation	Soft and liquid stools	Retention of urine when he wants to urinate.
Kidney pain. Kidney and bladder stones (?)	Hematuria (?)	Involuntary urination when walking
Prolonged nocturnal erections.	Too frequent menstruation. Painful menstruation.	Leucorrhoea
Premature ejaculation in coitus. Too frequent pollutions (?)	Abdominal distension during menstruation	
Excoriating pain in a wart.	Hipogalactia (?)	Snorting
Cough. Convulsive whooping cough (?)	Anxiety and oppression in the middle of the chest and upper and lower parts of the sternum. Tension in the sternum. Stitches, complex oppression, tension in the sternum	Pneumonia and pleurisy (?)
Spasmodic asthma (?)	Palpitations. Palpitations with anxiety. Irregular, spasmodic heart motions	Breathing arrested by heartbeats; breathing arrested by interruption of heartbeats.
Spinal cord problems	Low-back pain. Backache	Oppressive and tearing pain in the upper and lower limbs

Paralysis of the upper and lower limbs	Rheumatic pain in the scapula, neck and upper limbs. Rheumatic pain in the muscles of the upper arm, deltoid, forearms, wrists, back of the hand, finger flexors, along the metacarpal joints, fingers, finger joints and finger tips	Chronic dragging pain in the arms
Feeling of dryness in the hands	Numbness of the hands, early, upon waking up	Rheumatic pain the muscles of the lower limbs; tearing and oppressive pain in the thighs, foot joints, foot bones; pain in the heel and Achilles tendon and in the back of the foot Painful frostbite in the feet
Severe exhaustion and feeling of lameness in the muscles of the lower limbs	Stitching pain in the toes	

might expect patients who respond well to *Zinc met* to exhibit ‘restless feet’ more frequently than other patients, and thus that the odds for *Zinc met* to work well increase when the patient has ‘restless feet’. In this way the symptom ‘restless feet’ becomes a prognostic factor for a curative effect of *Zinc met*. Rutten et al.<sup>36</sup> assessed 6 repertory rubrics after prospective assessment of a population of patients. In a personal communication, Rutten told us that 2 of these symptoms (‘fear of death’ and ‘sensitive to injustice’) had a statistically significant LR = 6.1 (95% confidence interval – CI: 1.18–35.67) among *Zinc met* patients. However, Rutten warns that this outcome has to be handled with caution because only 1 out mere 4 *Zinc met* patients had these symptoms – even though ‘fear of death’ is mentioned in Clarke’s materia medica.

#### *Zincum metallicum* in the medical literature

There is one single mention to *Zinc met* in the literature included in Medline/PubMed, being dated to 1994.<sup>38</sup> The authors state that according to the medical literature zinc plays a part in the immune response and thus they decided to study it parallel to immunoglobulin (Ig) levels in chronic

progressive hepatitis, liver cirrhosis (LC), dermatitis and bronchial asthma. The study reported in this paper was a preliminary investigation of 30 patients with LC in which the zinc and Ig levels were measured. All the patients presented considerable decrease of the serum zinc concentration and increase of IgM and IgG at baseline. The patients treated with *Zinc met* 5cH for 30 days exhibited considerable improvement of their clinical state, while IgG, IgM and serum zinc resumed their normal values. It was impossible for us to establish whether this preliminary study had any follow up.

A search in database LILACS/BIREME/PAHO/WHO resulted in another article that reports the results of a study conducted in Cuba with 60 patients with intermittent claudication by progressive arterial occlusive disease of the lower limbs, who although met the criteria for surgical treatment had contraindications for surgery.<sup>39</sup> The participants were allocated (authors do not state how) to receive homeopathic (n = 30) or conventional pharmacological treatment (n = 30); homeopathic treatment consisted in *Arnica montana* 30cH 5 drops every 4 h, *Hypericum* 30cH 5 drops every 4 h 15 min after *Arn*, and *Zinc met*

**Table 4** Conditions cured with homeopathic *Zincum*<sup>5,\*</sup>

Chronic rheumatic complaints	Colic in Asiatic cholera
Convulsions in children after suppression of tinea	Hydropic complaints, especially in the presence of kidney pain or discomfort
Obstinate skin eruptions	Lepra americana?
Lichenous, raw, itchy spots with gum bleeding and bad mouth breath	Dry lichen all over the body
A kind of scaly eruption like fish scales	Impending and early cerebral paralysis in scarlet fever, manifesting as involuntary stools and urination, icy cold skin, fast pulse, shivering and lame state of the limbs, sopor and loss of consciousness, or also sopor alternating with violent delirium
Impending and early cerebral palsy in the last stage of Hydrocephalus acutus in the teething period and malnutrition	Head gout: oppressive tearing in the occiput, stitches in the right ear, tearing and stitches in the ears and teeth
Internal and external nasal ulcers in the soft and hard parts, with much sensitiveness, loss of smell, continuous dryness of the nostrils and intense lachrymation	Prosopalgia nervosa
Obstinate constipation	Reduced menstruation
Fever with severe stitches on the side, endless short cough, deep respiration triggers the most violent stitches in the right side of the chest; expectoration of though mucus with streaks of blood, glowing heat, hard, full, frequent pulse, violent thirst, vivid red face, circumscribed redness of the face	Pneumonia on the 8th day; egophony, bronchial rales, stitches on the right side and trachea, improved by external pressure, respiration and continual cough; nasal breathing, lying down quiet; with motion and speaking violent disseminated tearing from the occiput to the forehead; skin glowing and dry; limbs as if dead and cold, frequent, full pulse (Zinc 18, the following day breathing and the trachea were free, cough less frequent and loose, pulse 60, skin normal, fully healed)
Mucous congestion in the chest	Pressing pain in both sides, causing shortness of breath, convulsions at the end of the attack and severe vomiting, causing white expectoration
Convulsive asthma	Paresis of both arms after violent pain in the hands and feet and colic in the lower part of the abdomen
Ischias nervosa [sciatica]	Tumour in the Achilles tendon over the heel, hindering motion

\* The corresponding references are quoted by the authors cited, however, we thought it unnecessary to indicate them here.

30cH 5 drops before retiring in the evening. Those medications were selected based on the “*symptoms genius prevalent in the group according to the criteria applied by an expert panel*”; those criteria are not mentioned, as neither is the duration of treatment. The results showed that claudication improved in both groups, more in the one treated with homeopathy, but statistical analysis was not performed. On those grounds and the fact that the participants used three drugs, nothing can be inferred as to the effect and indications of *Zinc met*.

As mentioned above, we asked homeopathic practitioners to contribute with reports of clinical cases treated with *Zinc met*. Thus we were able to locate one published case report in an article discussing the influence of lifestyles on homeopathic treatment.<sup>40</sup> An ambitious and hard-working 34-year-old man consulted for tiredness, stiffness and pain in the nape and upper back area starting 2–3 years earlier; one month before consultation the symptoms worsened, being attended by vertigo with nausea and vomiting and pain in the right upper limb, causing insomnia. Magnetic resonance imaging (MRI) evidenced several abnormalities; relevant laboratory results: erythrocyte sedimentation rate 95 mm 1st hour and C-reactive protein 22.9 (normal: < 5.0) mg/L. *Zinc met* was selected based on a keynote mentioned in Lippe’s *Keynotes and red line symptoms*: ‘Nape of the neck feels weary from writing or any exertion’, which was confirmed in works by other authors (Hering, Allen). The second symptom used was ‘Vertigo with nausea’ taken from repertory *Essential Synthesis* and confirmed in Allen’s *Encyclopedia*. *Zinc met* 6cH was prescribed three times per day for 3 days; the patient was further oriented to wear a hard cervical collar, which he did for 6 months, and to slow his work rhythm down. Nausea and vomiting disappeared the next day and the neck pain and stiffness gradually over 1 month. MRI performed 1 year later showed reversal of several abnormalities, while others remained and also new ones appeared. Since the full picture of symptoms is not characteristic of *Zinc met*, the patient wore a cervical collar for 6 months, reduced his work rhythm thus decreasing the spine overload, and not all the MRI abnormalities reverted, but new ones appeared, it is difficult to conclude on the actual effect of *Zinc met*.

One further published case is that of a girl of 6 with eczema on the palms refractory to (non-described) treatments.<sup>41</sup> *Zinc met* 30cH and 200cH on 2 consecutive days was prescribed based on the following repertory symptoms: aversion to sugar; easily intoxicated by alcohol; dreams with robbers; anxious dreams, wakes frequently, with violent palpitation and screaming; restlessness in children; somnambulism; and skin, eruptions, fissured. The patient was followed up only once, fourth months later, when the eczema was found to have disappeared. This case cannot be considered an illustrative example, as eczema (atopic dermatitis) is widely known to progress in flares, and symptom “easily intoxicated by alcohol” was an unjustified deduction from the fact the mother was an alcoholic in remission.

### Case series

The first seven cases were taken from the classic homeopathic literature, being the first, of typhoid, reported by Eugene B Nash (1838–1917).<sup>27</sup> Cases 2–6, of suppressed gonorrhoea, headache with eye symptoms, cataract, meningitis during scarlet fever, and typhoid, respectively, are transcriptions from other authors made by John H Clarke (1853–1931).<sup>28</sup> In case 7, James T Kent (1849–1916) illustrates the well-known symptom, ‘restless feet’.<sup>29</sup>

**Case 1.** A young lady about 20 years of age complained, a week before I was called, of weakness, or feeling of general prostration; headache, and loss of appetite, but the greatest complaint was of prostration. She was a student and her mother, who was an excellent nurse, attributed all her sickness to overwork at school, and tried to rest and “*nurse her up*.” But she continued to grow worse. I prescribed for her *Gelsemium* and followed it with *Bryonia* according to indications, and she ran through a mild course of two weeks longer, and seemed convalescing quite satisfactorily. Being left in a room alone, while sleeping and perspiring, she threw off her clothes, caught cold and relapsed. Of course the “*last state of that patient was worse than the first*.” The bowels became enormously distended profuse hæmorrhage occurred, which was finally controlled by *Alumen*, a low form of delirium came on, the prostration became extreme notwithstanding the hæmorrhage was checked, until the following picture obtained — staring eyes rolled upward into the head, head retracted; complete unconsciousness, lying on back and sliding down in bed, twitching, or rather intense, *violent trembling all over, so that she shook the bed*. I had nurses hold her hands night and day, she shook and trembled so; hippocratic face, extremities deathly cold to knees and elbows, pulse so weak and quick I could not count it, and intermittent; in short, all signs of impending paralysis of the brain. The case seemed hopeless, but I put ten drops of *Zincum metallicum* in two drams of cold water, and worked one-half of it between her set teeth, a little at a time, and an hour after the other half. In about 1 h after the last dose she turned her eyes down and faintly said, *milk*. Through a bent tube she swallowed a half glass of *milk*, the first nourishment she had received in 24 h. She got no more medicine for 4 days, and improved steadily all the time. She afterward received a dose of *Nux vomica* and progressed rapidly to a perfect recovery. So *Zinc met* 200th can, like other metals, perform miracles when *indicated*.

**Case 2.** Man, 40 years old, had gonorrhoea suppressed by local treatment 3 months previously. A week before Holcombe saw him first he was unable to pass water, and had to resort to the catheter. Since then could pass urine, but passed almost pure blood with it. Could only urinate when sitting down with knees spread apart. Great soreness of perinæum; on sitting down had to sit sideways on chair. *Zinc met* CM one dose. Five days later perinæal soreness gone, could urinate freely in any position, and had a profuse whitish discharge from the urethra.

**Case 3.** [...] a “*pale yet vigorous lady of forty*” who for 2 years had had a headache recurring periodically every 10–14 days without warning. Simultaneously with the headache was a *weakness of vision*, she seemed looking through a fog, and could not distinguish even large objects. The pain, which lasted two or 3 days, now increasing, now diminishing, was a pressure on vertex and forehead from without inward. Face pale, appetite deficient, head muddled, mood cross and peevish. In forenoon the pain was bearable, in afternoon <, and still < evening, when reflex nausea, and even vomiting, occurred. The amblyopia went *pari passu* with the severity of the pain, and disappeared as the pain left off. Pupils rather contracted, eyes otherwise normal. *Zinc met* 3 was given morning and evening. The pains diminished immediately and were gone in 24 h. The remedy was taken in the evening daily for a week. There was no relapse.

**Case 4.** Right eye partially affected, and left practically useless for vision, with bruised, sore, smarting, burning, itching, and stinging sensation; at intervals, suddenly, sensation as if pepper had been thrown into it, causing scalding lachrymation and spasm of the lids. These spells were < in evening. Burning dryness as if a stick under lid scratching eyeball. Flickering before left eye; blue and green rings; green halo round gas-jet at times. Slight irritation of conjunctiva and tendency of lids to adhere. < By warmth, on warm days, by artificial light. Patient nervous, tremulous, impatient, < by mental emotion. Choreic jerkings of individual muscles. *Zinc met* 200, given occasionally, steadily improved the case. In 6 months right eye was quite clear, and the left steadily gaining. Eleven years later vision was practically perfect, though some small streaks could still be found in the left lens.

**Case 5.** Entirely motionless; extremities icy cold, body cold, skin all over body bluish red, *except the parts about the eyes, forehead and chin, which were white*. *Zinc met* was given, and the child gradually recovered.

**Case 6.** In a case of typhoid (16th day) in a man, in whom mental symptoms had set in: “*Muddled feeling in the head, an incapacity to relate anything connectedly, and a sort of half-smiling loquacity*,” and later: Staring look, almost hippocentric appearance, *pale as wax*; carphologia, subsultus tendinum, constant trembling of the hands — *Zinc met* 2 saved the patient.

**Case 7.** A girl about 12 years of age had no congruity of symptoms and I could not find the remedy. The mother said the child mortified her by keeping one foot constantly going in church. On asking why she did this, she replied that if she stopped she would lose her urine. *Zinc met* cured the whole patient.

The next 15 cases were reported by author GJ. For over 20 years, Jurj has recorded objective signs of homeopathic medicines, which are then compared among cases and carefully verified as a function of the patients’

clinical outcomes.<sup>42,43</sup> The data corresponding to *Zinc met* are presented in full detail (verified symptoms and photographs) as [Supplementary material](#). Here we only observe that presence of oily, almost waxy skin on the forehead with dilated pores was constant in all 15 cases and can be taken as a confirmation keynote of *Zinc met*.

**Case 8.** Boy, 2 years old; diagnosed with atopic dermatitis (AD) at age 2 months old. AD manifested as an itchy red rash, itch was worse night in bed; flares recurred every 3 months. All the signs and symptoms were typical of AD including the distribution of lesions (bends of large joints). Choice of *Zinc met* was oriented by the following factors: 1) presence of vesicular eruption on the tongue; 2) oily skin on the forehead, which is unusual for children this age. Interestingly, the child’s father had successfully used *Zinc met* as constitutional remedy. The first prescription had been *Phosphorus* with no effect. The child was prescribed *Zinc met* 200cH, which induced long-term improvement.

**Case 9.** Woman, 23 years old; polycystic ovarian syndrome, recurrent sciatica and acne. Premenstrual pain in the lumbar area felt as burning or itching, extending along the sciatic nerve, aggravated by sitting down and disappearing at the onset of menstruation; menstrual flow with dark clots. She further complained of leucorrhoea before menstruation. On physical examination: folliculitis; excessive growth of hair on the back; oily skin with dilated pores; acne on the face; abundant desquamation on the scalp and ears; redness and scaly eruption were more accentuated on the hairline. Following *Zinc met* 200cH every 3–4 days for three months all the premenstrual complaints improved, including leucorrhoea, and the menstrual cycle became regular.

**Case 10.** Woman, 53 years old; autoimmune chronic thyroiditis, presently with hypothyroidism treated with levothyroxine, and metabolic syndrome. She was easily affected by sad stories, complained of weakness and irritability, feeling of mental confusion on waking up, restlessness and weakness of memory; wept for no reason and had mood swings. On physical examination: oily skin on the face with very dilated pores, the skin was puffy and exhibited small subcutaneous nodules; angular cheilitis; the skin all over the body, but especially on the back, upper and lower limbs, exhibited a papular, non-itchy eruption, diagnosed as lichen planus after biopsy. Adjuvant homeopathic treatment was started with *Zinc met* 30× twice per day for 2 weeks, then once per day until the disappearance of lichen, which occurred 8 weeks later.

**Case 11.** Woman, 35 years old; anxiety and depression. Complained of restlessness, agitation and haste (while eating, drinking and speaking); felt very tired in the morning, after 10 min up she wanted to go back to bed; nervous irritability, felt as if “*the head bursts*”; in the evening she was so tired that could not hold the head up and fell asleep while speaking; contracted muscles; sighed often. It seemed to her she had no energy to live. On physical examination: oily skin on the forehead with dilated pores; red

and brown spots on the face; cracked lips, especially the lower lip. She took *Zinc met* 200cH twice per week; after the first dose she reported overall feeling of well being, weariness was all but gone; treatment lasted 3 months and all the complaints improved.

**Case 12.** Man, 36 years old; migraine. Headache started 6 months earlier, it appeared every 2–3 days upon waking up and aggravated after work. He associated the occurrence of headache with stress at work, being tired and waking up abruptly. He felt the pain first on the right side of the forehead, then it extended to the left side and all across the head to the occipital area; became worse after 5 p.m. and by lack of sleep (he had small children who woke up often at night) and ameliorated by rest, staying quiet and in the dark. He described the pain as a steady drawing pressure. On physical examination: oily skin on the forehead; patellar hyperreflexia. He was prescribed *Zinc met* 200cH every 3–4 days. Two months later, the frequency of headache had decreased to once per week and 6 months after the onset of treatment it had improved by 90%. Later attacks were checked by taking one dose of *Zinc met* upon appearance of very first signs of migraine. He remains stable after 5-year follow up.

**Case 13.** Woman, 52 years old; migraine. Migraine started at age 25, it appeared seldom and had premenstrual aggravation; then it became increasingly more frequent, and lately every 10–14 days. She felt the pain on the forehead, worse on a very small spot above the eyes, with feeling of drawing pressure. Pain aggravated by heat, light, the smallest amount of alcohol (wine) and motion, and ameliorated by cold applications and outdoors. On physical examination: oily forehead with dilated pores and subcutaneous micronodules.

**Case 14.** Woman, 33 years old; multiple sclerosis (MS). MS started as a feeling of instability while walking, she had to hold to the walls for support, dizziness and tiredness. Feeling of numbness in the legs in the morning. Feeling of instability in the right hand when moving it. Headache in the occipital area felt like a drawing pain, aggravated indoors and when tired; premenstrual weakness, when she also had diffuse headache. Sleep was restless, had difficulty to fall asleep and woke often during the night; felt restless before falling asleep and the legs were restless during the night, the feet in particular. In addition, she had pain and weakness in the lumbar area extending down along the lower limbs, worse when walking and tired; feeling of weakness in the sacrum. In her personal history, she had endometriosis, which was treated with surgery 5 years earlier; areas of endometriosis were found scattered across the pelvis. On physical examination: wide-based gait; lost balance upon closing the eyes while walking; had difficulty for toe walking; general hyperreflexia; oily forehead with dilated pores, but the skin was dry in depth; tongue with white cheesy coating and trembling. She was prescribed *Zinc met* 30cH daily. Two months later, the feeling of tired-

ness had improved, sleep was quiet and she walked normally; headache had improved by 50%. After 3-year follow up using *Zinc met* 30cH every 3–4 days she has no symptoms of MS and sleep is quiet.

**Case 15.** Woman, 32 years old; migraine and hair loss. Migraine started about 12 years earlier; pain located on the forehead and aggravated before menstruation; it was associated with severe weakness, she had to stay in bed, and nausea; intolerance to noise and light, photophobia worse in the sunlight, but more especially in the evening, when she had to cover her eyes. Attacks began by progressive weariness, next the pain became accentuated, attended by nausea and vomiting of a yellow matter; she had to stay quiet, because motion aggravated nausea. On physical examination: hair loss, worse after delivering a baby; the hair was thin and brittle; the skin on the forehead was dry in depth, but oily on the surface with dilated pores. Following treatment with *Zinc met* 1M the complaints improved 50% in 2 months and 80–90% in 6 months; the hair became fully normal in quality.

**Case 16.** Woman, 28 years old; infection with *Demodex folliculorum*. Infection began 2 years earlier following a period of much stress at the job. The face reddened up easily, and a glowing red rash on the cheeks and chin appeared, which she felt very hot; the symptoms aggravated by emotions, rage, exertion and heat, but more especially by alcohol. On physical examination: skin on the face as oily as wax, especially on the forehead; dilated pores; skin on the cheeks glowing red with dilated pores and scars of juvenile acne; folliculitis forming sparse well-defined pustules with fluid purulent content. Treatment with *Zinc met* 200cH daily for one month and then every 3–4 days induced full disappearance of the symptoms in about 6 weeks.

**Case 17.** Woman, 38 years old; acne rosacea. Complaints were similar to [Case 9](#), but the eruption was papular and itchy and included indurations and brown-red spots that changed in color; on closer look, the lesion had a red basis, reddish papules and spots, with nodular aspect; it was very itchy and aggravated by heat, emotions, rage and being tired; oily, waxy skin on the forehead with dilated pores and small nodules. The patient was prescribed *Zinc* 30× daily for 2 weeks and then *Zinc met* 200cH every 3–4 days; all the symptoms permanently disappeared after 3 months of treatment.

**Case 18.** Woman, 45 years old; acne rosacea. Disease appeared 4 years earlier after working the night shift in a dusty environment. Flares began by 2 or 3 painful papules and feeling of burning; the papules merged and extended forming itchy plaques with red spots that then became pustules; the pustules contained bloody purulent secretion; eruption began on the chin and then extended all over the face. After 3 months of treatment with *Zinc met* 30cH daily for one month and then *Zinc met* 200cH all the lesions fully

disappeared.

**Case 19.** Woman, 40 years old; started homeopathic treatment 15 years ago for psoriasis; she also had polycystic ovarian syndrome. Psoriasis appeared at a time when the patient was very nervous and exhausted because she risked being fired from her job. The menstrual cycle was irregular, lasting 40–45 days and complained of abdominal pain in the premenstrual period. Sleep was very restless; the bed sheets ended in a ball. On physical examination: psoriasis affecting palms, soles and scalp; lesions were very deep, made cracks on the skin, being characterized by hyperkeratosis, large scales and crusts, which bled upon cracking; on the scalp lesions exhibited thick crusts and abundant white scales on the retroauricular area. The skin on the forehead was oily, waxy, on the surface, but dry in depth, with dilated pores. She was prescribed *Zinc met* 1MK once per month. Following the first dose she had a homeopathic aggravation, the lesions increased and extended over the skin along 6 weeks, followed by gradual improvement until the ones across the body fully disappeared on month 4 and the ones on the scalp on month 6. In the past 15 years the eruption threatened to come back twice (after she delivered a baby and when the girl started kindergarten) with immediate response to *Zinc met* 1MK.

**Case 20.** Woman, 29 years old; scalp psoriasis. During a period of intense stress at the job with much restlessness and a state of hypersensitivity, psoriasis appeared as hyperkeratotic plaques and large scales on the occipital region and hairline. The skin on the forehead was oily, with dilated pores and micronodules. Following treatment with *Zinc met* 200cH the eruption regressed to become a simple seborrheic dermatitis 3 months later, to then also disappear. No lesions reappeared after 3-year follow up.

**Case 21.** Woman, 32 years old; pruritus sine materia. The complaints started 3 years earlier during the winter and fully disappeared after taking *Zinc* 200cH. The itch reappeared again in the winter, which she described as unbearable upon retiring in the evening, being preceded by feeling of formication under the skin; itch only improved by rubbing vinegar. She felt the itch mostly on the chest and abdomen, there was no eruption, but scratch marks, worse in the night impeding sleep; the skin became extremely rough. The single objective sign was the characteristic oily, waxy skin on the forehead with dilated pores. She was prescribed *Zinc met* 200cH to take every evening; the response was immediate and the complaints fully disappeared in 8 days. For the last 3 years she has preventively taken one single dose of *Zinc met* 200cH at the beginning of the winter and the itch never recurred.

**Case 22.** Woman, 36 years old; anxiety and restless legs. Restless legs and trembling during sleep, she woke up often during the night; had a feeling of formication as if something was moving under the skin, and numbness, especially at night; she had difficulty to fall asleep due to the discomfort in the legs. She worked standing up 12–16 h per day.

On physical examination: oily skin on the forehead and dilated pores; eruption of red spots on the forehead, hairline, face and nose; general hyperreflexia. She was prescribed *Zinc met* 15× three times per day; her sleep improved 3–4 days later and became fully quiet and refreshing in the course of 3 weeks.

The next two cases, reported by author SW, exhibit strikingly similar features that match the clinical descriptions of *Zinc met*: both are of boys, 6 and 7 years old, who were usually sweet, but also had attacks of violent rage that did not last long; they were restless; and had some degree of delayed development (infantile behavior; delayed sphincter control; dyslalia in [Case 23](#); delayed teething in [Case 24](#)). The opposition between the ‘minus’ symptoms (delayed development, shyness, sweetness) and ‘plus’ symptoms (restlessness, violent anger) is evocative of the weakness/excitability duality described in the materia medica.

**Case 23.** Boy, 6 years old, was always treated with homeopathy; came for regular pediatric follow up. Constipation with large, hard and dry stools; history of anal fissure, he voluntarily held the stools so they involuntarily slid through the margins. Nocturnal terror, he woke up screaming and did not recognize anyone. He was a sweet little boy, liked physical activity, sports; liked to jump. Extremely fearful: of insects, animals in general, darkness. Attacks of rage, he became very violent, hit people around; but they did not last long. Treated by a speech therapist for dyslalia (said ‘L’ instead of ‘R’). He was prescribed *Zinc met* 30cH; follow up by e-mail, because the family lives far away; he is doing well (better stools, no more nocturnal terror or episodes of anger) and had no need of medical consultations.

**Case 24.** 7 years old; consulted for regular pediatric follow up. Delayed primary teething and now the permanent teeth were not erupting (he had not yet lost any deciduous tooth). Very restless. He was explosive, with violent anger, reddened up, screamed, trembled from rage; but the attacks did not last long; otherwise he was sweet. On physical examination: lips very red, dry and cracked; very dry skin; angular cheilitis. He was prescribed *Zinc met* 30cH single dose. No complaints for the following 2 years.

**Cases 25 and 26**, reported by A Nunes, São Paulo, Brazil, and N Bidani, New Delhi, India, are fully based on standard analysis of repertory symptoms:

**Case 25.** Woman, 57 years old. An elementary school teacher, after 17 years in the same job she was suddenly fired 6 years earlier, she was devastated and migraine began; 3 years later also sciatica appeared. She was a good-humored and sweet woman, rather restless. The symptoms pointing to *Zinc met* were: weakness, worse after mental exertion; easy tiredness; restlessness, must move the feet constantly; headache after mental exhaustion; cough and sneezing after drinking wine; sensitiveness on the spine, pain on the spine and sciatica; and mental symptoms improve with menstruation. She took two single doses of *Zinc met* in the past 6 years

(12cH and 30cH) and improved from all the complaints.

**Case 26.** Man, 42 years old, schizotypal/paranoid personality disorder. Complained of feeling of crawling under the skin that compelled him to scratch. His personality had been changing for the past 2 years, until he had an episode of hallucination (he was delivering gifts sent by God), which he could neither remember nor explain. As a result he lost his self-confidence in that he was able to perform his job, for which reason he began double-checking his actions and also the locks at home. At the same time he started hearing voices telling him with dirty words that he made mistakes. Finally he developed the idea he had LC, and that he could feel the liver rotting, despite all tests were normal. The symptoms leading to the prescription of *Zinc met* were: ailments from mortification; delusions hearing voices from within speaking in abusive and filthy language; delusion he has an incurable disease; delusion she is accused; delusion he is persecuted; suspicious, people are talking about him; persistent thoughts; history of suppressed eruptions; aversion to fish; skin, formication; skin, formication, ameliorates scratching; sensation of worms under the skin. He was prescribed *Zinc met* 1M one single dose; the symptoms (crawling under the skin, self-perception, hearing voices) improved 40 days later; 6 months later he had a relapse, characterized by intense restlessness, automatic behaviors and sleeplessness; said he felt lost inside himself. A second single dose of *Zinc met* 1M was prescribed, which elicited immediate improvement. For the last 2 years the patient remained well, no further medication was needed; the crawling under the skin disappeared, restlessness and sleeplessness improved and relates appropriately to other people.

Finally, [case 27](#), reported by H Avesani, from Córdoba, Argentina, is quite remarkable, as it concerns a baby who was diagnosed with hydrocephalus in uterus; *Zinc met* was given to the mother before delivery based on the homeopathic indication described above. Here we provide a preliminary description, Avesani intends to make a full report of the case when the child is older.

**Case 27.** Hydrocephalus was diagnosed by about week 21 of pregnancy, with significant poor progression over time; the right lateral ventricle reached 41 mm of diameter and the left lateral ventricle 30 mm by week 33; parafalcine herniation; dilatation of the 3rd ventricle; possible aqueductal stenosis; callosal dysgenesis; and severe cortical atrophy. The team of doctors and diagnostic imaging specialists that assisted the mother declared the neurological status was incompatible with life, for which reason suggested termination of pregnancy, which was not carried out due to the blurry legal situation of therapeutic abortion in Argentina. *Zinc met* was prescribed on the occasion of the initial diagnosis of hydrocephalus, first in potency 5cH twice per day for 2 months and then 30cH once per day until birth. The baby was born on April 2015 by cesarean section (due to macrocephalus; head circumference: 42 cm) on pregnancy week 36; 1/5 min Apgar score 9/9;

sucking reflex present, the baby was breastfed since birth and never needed tube feeding; on the second day of life she was placed a valveless ventriculoperitoneal shunt, which she has to this day (age 6 months old). The baby did not exhibit any complication, had normal psychomotor development; she has not yet had an MRI scan.

The question that naturally arises in this case is whether one can attribute the infant's extraordinary clinical and neurological progression to the prescription of *Zinc met*. To be sure, one cannot make any assertion with any degree of certainty; however, the suspicion of effectiveness is quite strong when one takes the data provided by both conventional and homeopathic 19th-century doctors into account, and that homeopathic treatment was the only intervention performed before the baby was born.

## Discussion

The first fact we could establish from our literature review is that the knowledge about the indications of *Zinc met* originates in two HPT compilations, the one performed by Franz in 1827,<sup>2</sup> and the other by Hartlaub and Trinks in 1828/9.<sup>9</sup> With few additions, these are the core sources for Hahnemann's own description,<sup>10</sup> which was then reproduced by several authors over time. Along that process countless additions were made so that the number of pathogenetic symptoms attributed to *Zinc met* grew from 316 to 8056. It is worth to notice that the early homeopaths did not eschew the information available in conventional medical sources, but much the opposite they integrated it with the one derived from HPTs and clinical observations. This is the origin of many, and highly relevant indications of *Zinc met*.

The last HPTs were performed in the United States at the end of the 19th century. The later literature consists of more articulated descriptions made by classical homeopathic authors, such as Nash, Clarke, Kent and William Boericke (1849–1929), among others. Those authors combined the pathogenetic data with clinical observations and eventually also attempted pathophysiological explanations. In any case, the elaborations they made led to the commonly known picture of *Zinc met*.

Repertory analysis showed that *Zinc met* has a quite large and characteristic scope of action, which makes it difficult to understand why it seems to be so seldom used in clinical practice. In symptoms' likelihood analysis, from 6 symptoms analyzed in a general population of patients, 2 had statistically significant LR in *Zinc met* responding cases. However, these results need to be addressed cautiously, as they correspond to just 1 patient out of a mere 4. In a personal communication, Rutten explained that from the point of view of prospective prognostic research, to assess the LR of *Zinc met* symptoms one should check 6 to 10 symptoms in all consecutive new patients, probably requiring more than 6000 evaluated prescriptions to have a sufficient number of *Zinc met* cases. The second best method, according to him, is retrospective analysis of *Zinc met* cases with comparison of the prevalence of *Zinc met* symptoms between the target population

and a control group (overall population or remainder of treated patients). Thus being, while this line of research seems promising,<sup>44</sup> we cannot go further in this regard with the data currently available.

The main limitation of the present study derives from the lack of a broad-access database of well-documented, high-quality cases treated with homeopathy, which would have much facilitated our work and made the results more encompassing. Several open-access databases do not apply quality standards; others list a scientific committee, but access to them is difficult; we located at least one database (BRECHA – abbreviation for Argentinian Database for Reporting and Study of Homeopathic Cases, <http://www.casos-homeopaticos.org.ar>) that set extremely high quality and peer-review standards, but has not yet entered in operation and seemingly will only include cases reported in Spanish.

Similarly, there are no channels for the global homeopathic community to communicate so as to design collaborative initiatives. We hope the present article will also serve to call the attention of the global community of homeopathic physicians, more particularly representative associations, to these shortcomings so as to establish more effective paths of communication and collaboration.

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## Conflict of interest

The authors declare they have no conflict of interest.

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### Supplementary material

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