



## Brief Report

# The Analogy Between the Tradition Chinese Acupuncture and Phlebotomy in Medieval Bohemia



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### Abstract

The common opinion is that in Europe acupuncture was introduced in China at the end of the XVII century. However there are some publications, which describe the similar treatment method in the Stone Age Europe. From ancient to late middle century theoretical and practical aspects of medieval medicine in Europe were very similar to the Tradition Chinese medicine. So it is possible that historical phlebotomy in Europe (bloodletting) played the same role as the acupuncture in the Chinese therapy and they had one scientific source. In this article we are comparing the modern acupuncture with some Bohemian medical tractates (*Practica medicinalis* by Sigismundus Albicus from 1408–1424, *De sanguinis minucione* by Cristannus de Prachaticz from 1430). We can see the close relationship between localizations and indications of medieval phlebotomy and modern acupuncture points. 40% of the bloodletting points have close localization with the modern acupuncture points and 57% of their indications are common or very similar. The similarity of two methods may be explained in two ways. First is a common scientific source and intensive interaction and crosscultural transmission of knowledge during medical development in China and Europe up to the beginning of the XV century. This possibility indicates also some linguistic coincidences. On the other hand, both methods could have been developed separately based on common clinical empiry and objective neuro-physiological patterns of human body.

## 1. Introduction

The acupuncture is a specific treatment method, which is usually connected with the Tradition Chinese Medicine.

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The common opinion is that in Europe, acupuncture was introduced from China at the end of the XVII century, “when the first medical and literary descriptions of Chinese medicine were published in London and other European capitals.” [1]. It became increasingly prevalent in Europe only from XX century. However, there are some publications, which describe the similar treatment method in the Stone Age Europe [2]. The question “Why did this treatment method disappear in late period, if it was already present in the Stone Age Europe?” is open now.

In Europe, the philosophic concept of medicine, physiological model of human body (the humoral theory of Hippocrates and Galenos), and diagnostic approaches from ancient to Late Medieval Period were very similar to the Tradition Chinese Medicine [3]. The ancient Chinese therapy includes the herbal remedy treatment, exercise, dietary therapy and various forms of acupuncture. The analogical medical methods were used in Europe. In cases of inefficient of diet, exercises, and pharmacological therapy, the last possibility of medieval treatment in Europe was the bloodletting (phlebotomy) *artificialis venarum recta incisio pro sanguinis superflui aut corrupti moderata efusione ... flebotomia est evacuatio universalis corporis humani* [4]. So, the phlebotomy was mentioned almost in all medieval medical tractates [5].

It is possible that bloodletting played the same role as the acupuncture in the Tradition Chinese Medicine, and author’s hypothesis is that historical phlebotomy in Europe and the acupuncture in China have one scientific source.

Acupuncture involves the insertion of needles through skin into specific points along meridians for balancing the flow of life energy—“Qi” [6]. The bloodletting is also an insertion through skin into specific points. We believe that it was always an incision of vein, but in antic, the term *vena* has some meaning: vein, vessel, artery, and others. Before the development of the modern anatomy and microscopy studies, capillary (as we define it today) was unknown, and artery was considered a way for the *spiritus vitalis* with spread from heart to all part of the body: *Et dicuntur arterie vene pulsatiles venientes a corde, per quas spiritus vitales ad membra deferuntur* [7]. Also a trachea passed for an artery (*arteria aspera*) before the beginning of XVII [8]. There are a lot of phlebotomy points which are not connected with an anatomical vein. For example, the popular phlebotomy point *in sumitate nasus* located in the midpoint of the tip of the nose—there is no significant vein there.

For acupuncture as a treatment method, it is more important how we identify the point and which therapy effects are awaited than the method of stimulation of that given point: localization of the acupuncture points and their indications. “Randomized trials of acupuncture typically have some form of sham acupuncture as a control ... Comparison of true and sham acupuncture therefore tests the use of needles in a specific way. That specific way is called acupuncture.” [9].

With the above statement can we assume that bloodletting is a sort of acupuncture? The bloodletting is described in a lot of medieval phlebotomy tractates, and some of them were published. These tractates mostly focus only on the theoretical aspects of the bloodletting. The theoretical medieval works were writing by calligraphic and correct Latin and were destined for lectures. The practical

part of the medical study was usually taught in a verbal form. There are some physician’s handbooks in archives, but they were written by difficult italics with many abbreviations. The big problem is a difference between the category apparatus of modern medicine and the medieval semantic area. The comprehension of practical treatment is very difficult now [10]. For example, Karel Černý writes that now it is impossible to answer what practical applications were used in the phlebotomy in medieval Europe. This is also caused by having no descriptions of patient’s anamnesis for that time [11]. In addition, the medieval manuscripts about phlebotomy have no exact anatomical coordinates of the points for bloodletting. Some manuscripts about phlebotomy had illustrations for easier finding the bloodletting point. Usually, it is a simple drawing of a man’s body with marked points for bloodletting and short charts. Each chart contains the name of the vein and indication for bloodletting. The quality of the pictures was related with the experience of drawer, frequently he was not a physician. So, on illustrations in medieval tractates, the phlebotomy points are located approximate, usually only by pointing arrow, which may be misleading, and the problem is the validity of these pictures. Some illustrations were lost during copying of manuscripts. For example, *De sanguinis minucione* tractate by Cristannus de Prachaticz from 1430: eight copies of the manuscript exist now in Prague, Vienna, Schlägl, and in Wrocław. All of them mention a picture, which illustrated the original text, but the picture exists not in the manuscripts [12].

Authors have found an unpublished illustration for phlebotomy in medieval manuscript *Practica medicinalis*, it also named *Compendium medicinae, Liber de arte medica, Vetularius*—Fig. 1 [13].

The illustration from *Practica medicinalis* shows the phlebotomy’s points on the human body and some short charts with indications for phlebotomy; it is important that in this manuscript, the picture shows the exact location of the points. Manuscript L9 is a paper book from the beginning of XV century contents various medical tractates [14]. The picture is an illustration for the text of the biggest medical work of these tractates: *Practica medicinalis* by Prague Archbishop Sigismundus Albicus. He was a well-known physician: *Dominus Albicus, medicine doctor, supremus physicus Wenceslai Bohemie regis*. Sigismundus Albicus also taught medicine from 1404 to 1418 at the University of Prague. He left some works on medical subjects. *Practica medicinalis* is the cycles of lectures of internal diseases *a capite ad plantam pedis*, which was used for study of the medicine at the Prague University. The early manuscript of the *Practica medicinalis* from 1408/09 is situated in the library at the Leipzig University. *Sigismundus Albicus* worked on these lectures until 1424; the last version of manuscript was also named *Compendium medicinale*. The Archive of the Prague Castle has one of the later versions of this book [15]. *Practica medicinalis* is not a bloodletting handbook; Sigismundus Albicus left no special work about phlebotomy. But the text describes some phlebotomy points and veins and contents a lot of indications for bloodletting.

Also, author used the text of *De sanguinis minucione* by Cristannus de Prachaticz for the better understanding of the chart’s abbreviations in the picture in *Practica medicinalis*.

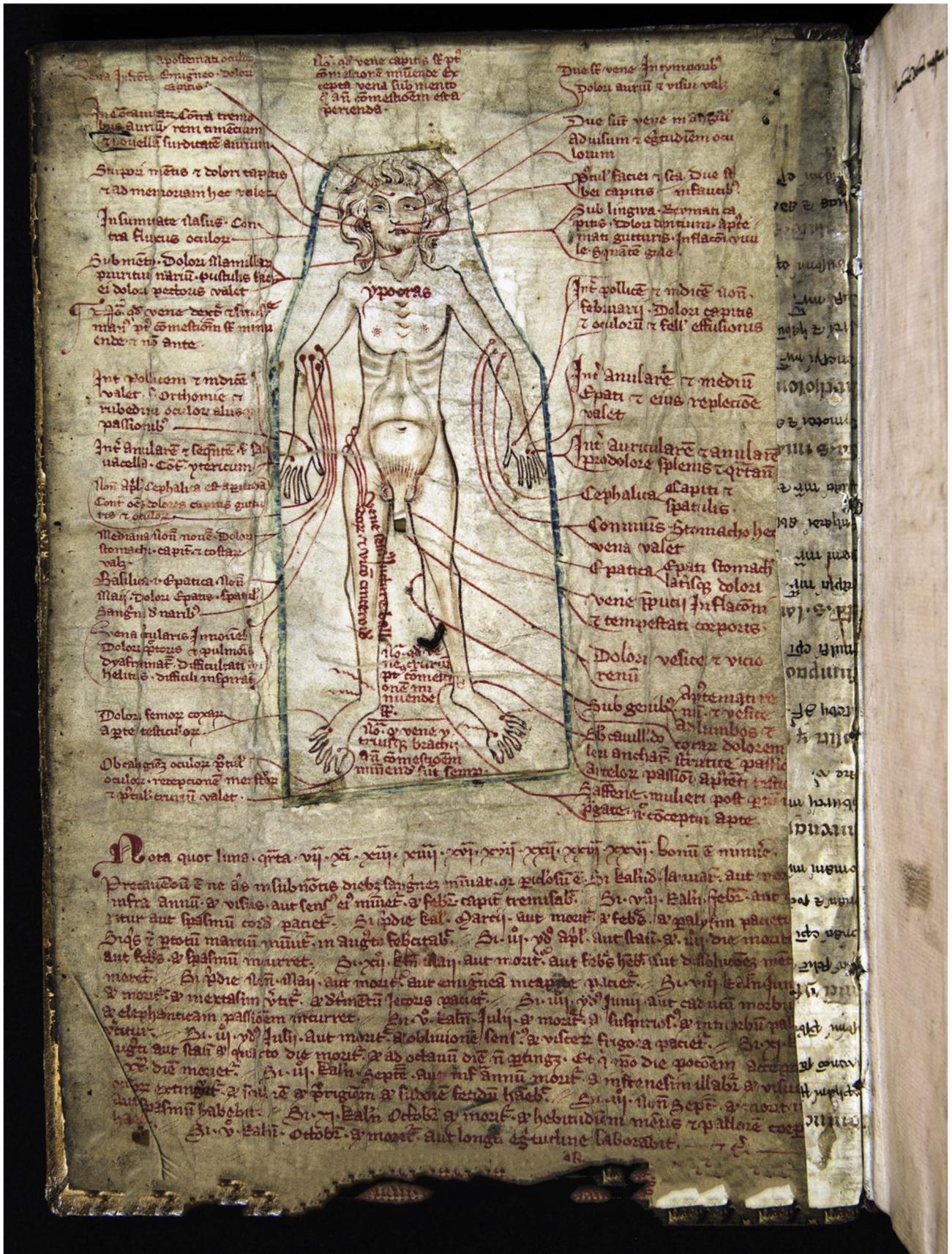


Figure 1 M. Albici Practica medicinalis, The Archive of the Prague Castle: L9, imago viri.

**Table 1** Comparison of localizations and indications of the phlebotomy and acupuncture points.

I The name of the chart of Fig. 1 from <i>Practica medicinalis</i> /the name from <i>De sanguinis minucione</i>	II Indications from the Fig. 1 <i>Practica medicinalis</i>	III Indications from <i>De sanguinis minucione</i>	IV The name of similar acupuncture points with their chief indications [19]
1. Vena in fronta	<i>apostemati oculorum, emigraneo, dolori capitis</i>	<i>in antiquis passionibus faciei sicut in morphea, serpigine et impetigine aut scabie, et in oculorum apostematibus</i>	▲ Ex-HN 3, Yin Tang: headache, dizziness and numbness, diseases of the eye
2. Due sunt vene in tymporibus (= tempora)	<i>dolori aurium et visui valet</i>	<i>propter emigraneam et dolorem capitis et contra dolorem aurium et nimium fluxum oculorum</i>	▲ St 8, Tou Wei: diseases of the eye, headaches on one side
3. Due sunt vene in angulis	<i>ad visum et egritudinem oculorum</i>	<i>in passionibus oculorum humoralium, ut contra fluxum oculorum et maculas et albuginem et nebulam et palpebrarum inversionem</i>	▲ GB 1, Tong Zi Liao: diseases of the eye
4. In sumitate nasi	<i>contra fluxus oculorum</i>	<i>contra nimium fluxum oculorum seu lacrimarum</i>	■ GV 25, Su Liao: diseases of the nose, e.g. rhinitis, epistaxis, and nasal polyps
5. /Vene retro aures	<i>Stupori mentis et dolori capitis et ad memoriam hec valet</i>	<i>ad bonam memoriam et ad mundificandum vultum a pustulis et ab aliis maculis</i>	■ Unclear point
6. In concavitatibus aurium	<i>contra tremorem, tinnitiam (tinnitus) et novellam surditatem aurium</i>	<i>in tremore capitis et contra tinitum aurium et contra novellam surditatem</i>	● There is no similar acupuncture point
7. Due sunt in faucibus/vene palati	<i>pustulis faciei et scabei (scabies) capitis</i>	<i>propter fluxum reumatis facientis dolorem dencium</i>	● There is no similar acupuncture point
8. Sub lingwa	<i>reumati capitis, dolori dencium, apostemati gutturis, inflacioni uvule, squinantem (squintancia, synanche) gule</i>	<i>contra dolorem dencium et gingivarum et squinanciam seu apostemata gutturis et contra omnia vicia oris</i>	■ Ex-HN11, Hai Quan or Ex-HN12 and Ex-HN13: acute inflammation of the mouth cavity (e.g. stomatitis, aphthosa), acute tonsillitis
9. Sub mento	<i>dolori mamillarum (maxillarum), pruritu narium, pustulis faciei, dolori pectoris valet</i>	<i>contra dolores maxillarum et contra prurimum et fetorem narium et pustulas faciei</i>	● There is no similar acupuncture point
10. Cephalica	<i>Nonis Aprilis cephalica est aperienda contra omnes dolores capitis, gutturis et oculorum /capiti et spatulis</i>	-	▲ LI11, Qu Chi: acute inflammations in the region of the head and neck accompanied by temperature and headaches
11. Inter pollicem et indicem	<i>valet orthomie (= orthopnoea) et rubedini oculorum aliisque passionibus (passionibus oculorum)</i>	<i>valet contra dolorem capitis et oculorum ruborem</i>	▲ LI4, He Gu: acute inflammation in the region of the neck and head
12. Mediana	<i>nonis Novembris dolori stomachi, capitis et costarum valet</i>	-	■ LU5, Chi Ze: coughing, difficulty in breathing, infectious diseases of the superior trachea, and infectious diseases of the lung
13. Vena circularis/asselario, funis brachii	<i>in Novembre dolori pectoris et pulmonis, dyaframatis (diaphragma) difficultati anhelitus, difficili inspiracioni</i>	-	■ LU4, Xia Bai: dysfunctions of the lung and the trachea thoracic pain, feeling of the thoracic fullness

(continued on next page)

Table 1 (continued)

I The name of the chart of Fig. 1 from <i>Practica medicinalis</i> /the name from <i>De sanguinis minucione</i>	II Indications from the Fig. 1 <i>Practica medicinalis</i>	III Indications from <i>De sanguinis minucione</i>	IV The name of similar acupuncture points with their chief indications [19]
14. <i>Basilica, id est epatica</i>	<i>nonis Maii dolori epatis, spatulis, sanguini de naribus /stomachi laterisque dolori</i>	<i>et sic valet in pleuresi, quod est apostema costarum, et contra omnes puncturas lateris et nimium fluxum sanguinis de naribus</i>	■ PC3, Qu Ze: pectoral angina, sensation of thoracic bloatedness and palpitations in coronary heart disease, stomach pain, nausea and vomiting in acute gastritis
15. <i>Inter anularem et sequentem, scilicet salvacella (salvatella)</i>	<i>contra ytericum (ictericia)</i>	<i>et quando sanguis peccat ... tunc debet aperiri in dextra manu, quia epar est in dextro latere ... sed in passionibus splenis apperitur in sinistra manu</i>	■ TE 3, Zhong Zhu: one-sided headache, acute inflammation of the eye, e.g. conjunctivitis, keratitis, diseases of the ear e.g. deafness, tinnitus
16. <i>Inter auricularem et anularem</i>	<i>pro dolore splenis et quartanam - (quartana)</i>	-	■ TE 2, Ye Men: one-sided headache, diseases of the ear e.g. deafness, tinnitus/Ex-AH 9, Ba Xie: pains, paraestheses, and restricted movements of the hand
17. <i>Inter anularem et medium</i>	<i>epati et eius replecione (replecioni) valet</i>	-	■ Ex-AH 9, Ba Xie: pains, paraestheses, and restricted movements of the hand
18. <i>/De venis laterum</i>	Vertical text: <i>vene – abbreviation: sem? iuncture balli?/valli?-ceorum?/corum? et vicio emerroidorum.</i>	<i>de venis lateris dextri in passionibus epatis, sed in sinistro latere in passionibus splenis</i>	■ Unclear point
19. <i>Vene prepuccii</i>	<i>inflacioni et tempestati corporis</i>	<i>pro temperamento tocus corporis et presertim contra vicia vesice et tumores contra tumorem testicularum et dolorem eorum</i>	● There is no similar acupuncture point
20. <i>/Vena virilis membri, in parte inferiori</i>	<i>Dolori vesice et vicio renum</i>	<i>contra tumorem testicularum et dolorem eorum</i>	● There is no similar acupuncture point
21. <i>Sub genibus</i>	<i>apostemati renum et vesice, ad lumbos (lumborum) et coxarum dolorem</i>	<i>contra apostemata et dolores renum et lumborum et testicularum et ceterarum parcium predictis adiacencium</i>	■ Unclear point
22. <i>Saffene mulieri/ interior</i>	<i>postpartum n&lt;on &gt; purgate nec conceptui apte</i>	<i>contra retencionem menstruorum et emoroydarum et passiones virge et splenis</i>	▲ KI 6, Zhao Hai: certain gynecological disorders, e.g. irregular menstruation, dysmenorrhea, leucorrhea, and acute inflammation of the small pelvis
23. <i>/supra magnam pedicam et sequentem</i>	<i>Obtaliginem (obthalmia, ophthalmia) oculorum, pustulis oculorum, recepcionem (recepcioni) menstruorum et pustulis crurium valet</i>	<i>contra obtalimam quod est apostema oculorum, et contra pustulas faciei et dolori crurium</i>	■ LR 3, Tai Chong: hypertension, irregular menstruation, urinary incontinence, urinary retention, psychic and psychosomatic disorders, pain, and restricted movement in the lower extremity and the foot

Table 1 (continued)

I The name of the chart of Fig. 1 from <i>Practica medicinalis</i> /the name from <i>De sanguinis minucione</i>	II Indications from the Fig. 1 <i>Practica medicinalis</i>	III Indications from <i>De sanguinis minucione</i>	IV The name of similar acupuncture points with their chief indications [19]
24. <i>Sub cavilla/exterior</i>	<i>dolori ancharum, straticae (sciatica) passio&lt;ni&gt;, artelorum (= articuli) passioni, apostemati testic&lt;ulorum&gt;</i>	<i>contra sciaticam et podagram ... scia est os rotundum ... sciatica passio est species arthetice et podagra est gutta pedum</i>	■ BL 62, Shen Mai: headache, dizziness, dazed state, sleeping disorders, epilepsy, psychic and psychosomatic dysfunction, and pains in the heel
25. <i>Vena, que est inter minimam pedicam et sequentem</i>	<i>dolori femorum, coxarum apostemate testicularum</i>	<i>contra retentionem menstruorum et contra apostemata testicularum et dolorem costarum, femorum et lumborum</i>	■ GB43, Xia Xi: hypertension, diseases of the ear, e.g. deafness, tinnitus, diseases of the gall bladder/Ex-LF 10, Ba Feng: paraestheses and restricted movement of the lower extremity redness, swelling, and pain on the dorsum of the foot and toes

*De sanguinis minucione* was written in 1430 in Bohemia. During 1405-1437, Cristannus de Prachaticz was a head of the Prague University a few times [16]. In *Practica medicinalis*, Sigismundus Albicus recommended to use the special tables for the time of the bloodletting by Cristannus de Prachaticz: *Tamen si necesse fuerit inspiciatis cartham magistri Cristanni de minucionibus*. This recommendation exists in all known copies of *Practica medicinalis*. Authorship of tracts of Sigismundus Albicus and Cristannus de Prachaticz are tangled frequently between themselves [17].

The above mentioned picture from *Practica medicinalis* (Fig. 1) can be found on the inside of the first cover of the book. The folium with the picture was pasted on the cover, possibly it was transferred from other manuscript. The texts of the picture's charts were written with the Gothic Bastarda script, which was used from end of XIII to early XV centuries. The script is not similar to other text in the manuscript. It is possible that the picture was transcribed from earlier copies of the tractate or even from the original of *Practica medicinalis* [18].

The Fig. 1 has 35 charts, 4 from them are the instructions for the order to open the venues and the central chart on the chest of figure is note: *Ypocras—Hippocrates*, which relates the picture with the founder of European medicine. Other charts show the points of the body to be bled for different indications for 25 phlebotomy points (number from 1 to 25 in Table 1). Five points are present twice on the right and left side of the figure.

The table N 1 presents the comparison of the localizations and indications of the phlebotomy and modern acupuncture points. Column I contains the number and the name of the phlebotomy points from the picture Ms. L9 (Fig. 1) and from the tractate by Cristannus de Prachaticz. Columns II and III present the indications for phlebotomy, and column IV presents names of the similar acupuncture points with their chief indications from modern atlas of acupuncture [19].

## 2. The rules for localization

Author divided the 25 phlebotomy points of the picture into the following groups based on comparison with the modern acupuncture points:

Identical—the point of phlebotomy could be identified as being located directly on traditional acupuncture points on this picture.

Close—the point of phlebotomy could be identified as being located close to traditional acupuncture points. There is only one acupuncture point in this location, but it may be located better on this picture.

Far—it is possible to find two or three acupuncture points in this area of the picture.

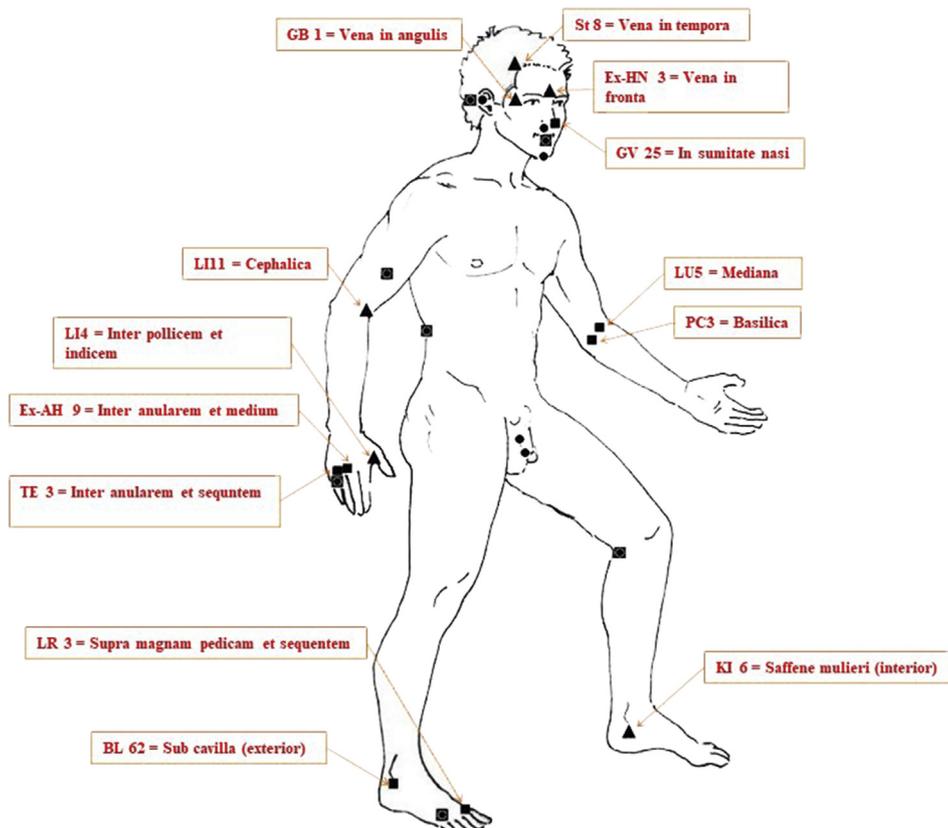
Unclear—the phlebotomy point is not present in the picture (for example it is located on the back).

Zero—there is not the acupuncture point in this area of the picture in the modern Chinese acupuncture.

The similarity between localization of phlebotomy and acupuncture points presents Fig. 2 and the Table 2.

We can see the close relationship between localizations of medieval phlebotomy and modern acupuncture points in the Table 2. 40% of the bloodletting points are practically identical with the modern acupuncture points. The similarity could be even more significant because it is well known that there were some acupuncture points on penis in ancient China (two points from the last column "Zero" in the Table 2, see also N 19 and 20 in the Table 1). Now in the modern acupuncture, these points are absent. Then, the point N 6, *in concavities aurium* (on the ear); N 7, *vena palati*; and N 9, *sub mento*, have no similarity for modern Chinese acupuncture.

Some difficulties were related to three points with unclear localization: N 5, 18, and 21 in the Table 1. About both points N 5, *vene retro aures*, it is known only that these points lied behind the ear. Cristannus de Prachaticz's tractate said *Item due vene retro aures ex utraque parte valent incidi ad bonam memoriam et ad mundificandum vultum a*



**Figure 2** Comparison of localization and indication of phlebotomy and acupuncture points. ▲ identical or close localization of phlebotomy and acupuncture points and their indications, ■ identical or close localization of phlebotomy and acupuncture points, ● far or unclear localization of phlebotomy and acupuncture points, ● there is no analogical acupuncture point.

**Table 2** Results for localization (n = 25 charts).

Identical	Close	Far	Unclear	Zero
10	3	4	3	5

*pustulis et ab aliis maculis* [20]. M. Albicus named these points *vene passule id est retro aures* [21].

The following point (or points) with obscure localization is *de venis laterum* (it is the vertical chart N 18). The chart of the picture is impossible for understanding because it has unread abbreviation. The indications for number 18 are also unclear. This chart might be unclear in the picture because this point was absolved in that time, and it is not used practically for bloodletting in Bohemia: *Et quia hec vene nobiscum non solent aperiri, igitur eas pertranseo* [22].

The point N 21 *sub genibus* was also absolved in that time in Bohemia: *hec minucio similiter non est in usu* [23].

The point N 8, *sub lingwa*, has also a disputable localization. It is the point of the inferior side of the tongue. Six manuscripts describe two points here: *Item due vene sub lingwa valent ambe contra dolorem dencium et gingivarum et squinanciam seu apostemata gutturis et contra omnia vicia oris* [24]. Two variants of Cristannus de Prachaticz manuscript describe only one point according with the picture. There are three acupuncture points on the inferior side of the tongue: Ex-HN12 and Ex-HN13 (near for the vein of the inferior side of the tongue, to the left and right of the

frenulum). Other possibility is Ex-HN11 at the midpoint of the frenulum of the tongue. Author assessed the phlebotomy point *sub lingwa* as “far” because their possible localization was near for Ex-HN12 and Ex-HN13 (near the veins).

In the picture there are three phlebotomy points in the cubital fold.

First is *cefalika*, its “meridian” travels from frontal part of head along the temporal area, neck, and lateral aspect of the upper arm, reaches the elbow and continues along the lateral aspect of the forearm. It finishes on the dorsum of the hand in the adductor pollicis muscle. Cristannus de Prachaticz wrote *cephalica est vena procedens ab humeris ad curvaturam brachii in parte superiori et ulterius procedens pervenit ad manum inter pollicem et indicem. Et dicitur a cephas, quod est capud, et ycos custos, quasi custos capitis* [25]. Practical *cefalika* runs in identical way with The Large Intestine Channel System of Chinese acupuncture. Usually, the incision of the skin during phlebotomy of *cefalica* was produced on the lateral end of the elbow crease in point N 10 (see Table 1). It is identical with LI 11. The last point of meridian *cefalika* is N 11, it is identical with LI4.

The point N 12 *mediana* is situated *in curvatura brachii in medio*, near *v. mediana cubiti*. The other names of this vein in Bohemian medical tractates were *universalis, cordiaca, cordis, coralis, meson, medians, communis, purpurea* [26]. In the picture, the point was drawn in the both cubital folds (*mediana* and *communis*). It has the identical position with acupuncture point LU5.

The point N 14 *basilica* lies also *in curvatura brachii*. The point marked *epatica* on the left hand in the picture because it is named also *epatica*: ... *dicitur etiam epatica* [27]. The point N 14 is not far from the acupuncture points: PC3, ulnar to the biceps brachii tendon, where also lies *v. basilica*. Atlas of acupuncture has a caution for needling in this area: "Brachial artery/vein, palpate for the pulse before needling" [28].

There were two "meridians" on the low extremities in phlebotomy. First was *vena saphena magna* (other names were: *inferior, domestica, venae virgineae, virginum, or virginalis, vena menstruorum seu mulierum*). *Vena saphena magna* started from the point N23 in the picture between the first and second metatarsal bones on the dorsum of the foot. Sigismundus Albicus wrote *Saphena magna, que est in utroque pede supra magnam pedicam et sequentem* [29]. The point is similar to LR3. Then *vena saphena magna* runs the medial aspect of the leg. It used for women health problems [30]. The exact localization of the next point N 22 of *vena saphena magna* is unclear in the picture. Cristannus de Prachaticz localized it to inferior of the medial malleolus: *sub cavilla pedis seu sub talo* [31]. So, author has chosen the acupuncture points for this region: KI6 (in the depression inferior to the inferior border of the medial malleolus).

The second meridian is *vena saphena parva* (other names: *exterior, silvestris, sciatica, or sub cavilla*). It run ascends the lateral aspect of the leg to the popliteal region [32]. Their point N 24 is also unclear in the picture, but Cristannus de Prachaticz localized it to *sub exteriori talo pedis*. Their indications were: *contra sciaticam et podagram* [31]. The similar acupuncture point is BL62 (in the joint space between the talus and calcaneus).

### 3. The rules for indications

The detail analysis of medieval medical terminology including the indications for phlebotomy is not an aim of the article. In this study, author compared the indications for phlebotomy with modern acupuncture using 47 symptoms. The symptoms were chosen from the charts of Fig. 1 and the text of *De sanguinis minucione* by Cristannus de Prachaticz. Author has taken the indications only for 13 points with "identical" and "close" localization. The comparison was leading with the next rules:

Identical—there is exact indication for this point in the modern Chinese acupuncture. For example: *dolor capitis* = headache.

Close—the symptom of the phlebotomy may be a part of the syndrome in the modern Chinese acupuncture or vice versa. The location of the symptom is close or identical. For example: *emigranea* = headache. Vice versa: *reuma capitis* = acute inflammations of the mouth cavity [33].

Far—(a) the symptoms of the phlebotomy may be a part of the syndrome in the modern Chinese acupuncture, but the location of the symptoms is different or unclear, for example, *fluxus oculorum* = diseases of the nose, e.g. rhinitis,

epistaxis, nasal polyps, and (b) the symptom of the phlebotomy is not clear, but the location of the symptoms is identical, for example, *effusion fellis* = pain in abdominal regions.

Zero—the symptom of the phlebotomy differs from the indications of the acupuncture point.

One of the indications of the point *sub mento* (chart N 9) is *dolor mamillarum*. But the text of *De sanguinis minucione* presents other variant. There are eight copies of the tractate by Cristannus de Prachaticz. The *dolores mamillarum* is in six of them, two copies have *dolores maxillarum*: *Item vena sub mento minuitur contra dolores maxillarum et contra prurium et fetorem narium et pustulas faciei* [34]. It may be a mistake of a late copyist or two different medical terms. Author included both variants in the list of indications.

The similarity between indications of phlebotomy and acupuncture presents Fig. 2 and the Table 3.

57 % of symptoms are common or very similar in modern acupuncture and phlebotomy points. Six phlebotomy points from 25 have the identical or close localization and indications for an acupuncture point.

### 4. Discussion

It is possible that in the reality analogy between the Tradition Chinese Acupuncture and the Phlebotomy in Medieval Europe is even closer. For example, the last points N 25, *vene, que est inter minimam pedicam et sequentem*, was used for the hip pain in phlebotomy. This point has no relation with indications from the modern Atlases of Acupuncture, but it is well-known that in acupuncture practice, it may be used for the pain of hip joint and femur.

The classical Chinese acupuncture utilizes some of the acupuncture points more extensively than others according to Five Elements theory. It is interesting to note that the most of the extremities points of phlebotomy (10 out of 13) are the part of the Five Shu points system. There is a probability that the phlebotomy was a special system of treatment similar to Five Shu points system.

Point number 11, *inter pollicem et indicem*, is a similar for the acupuncture point LI4. It is "the most commonly used point in clinical practice" and names He Gu—"the command point for the head and mouth" [35]. In phlebotomy, the same point is very important, and it has a similar name: *custos capitis* [25]. Based on the quote, we can assume that like in modern acupuncture, there were meridians which connected phlebotomy points. So phlebotomy points N 10, *cephalica*, and N 11, *custos capitis*, are connected with one meridian, such as LI11 and LI4 are connected with The Large Intestine Channel System.

The phlebotomy may also be developed in identical direction as acupuncture was developed in China. The text of *De sanguinis minucione* mentions that the technique of phlebotomy would be progressed for more gentle instruments for prevention of insurances of nerves, muscles, or artery, *in Ytalia, ut dicitur, habetur quedam lanceolla, que est ferrum subtile in fine preacutum per modum lanceole* [36].

In this article, we are comparing the modern acupuncture with the picture from 600 years old European medical tractates. The Tradition Chinese Acupuncture had developed and improved during these 600 years. We can assume that 600 years ago, the Chinese acupuncture and medieval European phlebotomy would be even more similar.

**Table 3** Results for indications (for points with "identical" and "close" localization, n = 13).

Identical	Close	Far	Zero	Unclear
9	18	4	14	2

The similarity of two methods may be explained in two ways. First is a common scientific source and intensive interaction and cross-cultural transmission of knowledge during medical development in China and Europe up to the beginning of the XV century. This possibility indicates also some linguistic coincidences. Even one of the Chinese names of acupuncture (“iron and fire”) may be related with the Hippocrates aphorism:

*Quae medicamenta non sanat, ferrum sanat.*

*quae ferrum non sanat, ignis sanat.*

*quae vero ignis non sanat, insanabilia reputari oportet* [37].

On the other hand, both methods could have been developed separately based on common clinical empire and objective neurophysiological patterns of human body. Both possibilities demand future investigations.

## Disclosure statement

The author has neither financial interests nor conflicts of interest to declare in relation to the material in the manuscript.

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