

## Forensic Science in Ayurveda

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**Abstract:** Ayurveda is a complete science. It is a Upveda of Atharvaveda & not deprived from forensic science. Forensic Science is the integral part of Ayurveda, Maharishi Charak wrote Charak Samhita, which is world first novel of medicine. Acharya Charak distributed whole medical science in different 8 sthanas (sections). He completely dedicated one section on forensic science by the name of Indriya Sthan. This sthan (section) contains total twelve (12) chapters & all chapters are well elaborated by forensic science regarding the prognosis of the patients & the diseases, where Acharya Sushruta, in his scripture Sushruta Samhita, not separately dedicated whole section for forensic science, but he didn't missed it. Acharya sushruta illucidated part of forensic Science in his Sutra Sthan chapter 29, 30, 31&32. As Sushruta samhita mainly deals with surgical techniques. So Acharya Sushruta not spend complete one section for Indriya sthan (Forensic Science in Ayurveda). But the treatment of various poisons, symptoms of poisoner & investigations techniques & its deflection methods are well elaborated in his Kalpasthan.

In Ayurveda, forensic science deals with nature & symptoms of patients & there surroundings. According to that doctors could know the prognosis of the patient as well as disease. Acharya Charak, mentioned various kind of 'Arishta'

**Keywords:** Forensic Science & Ayurveda

### 1. INTRODUCTION

Forensic science is the use of scientific methods or expertise to investigate crimes or examine evidence that might be presented in a court of law. Forensic science comprises a diverse array of disciplines, from fingerprint and DNA analysis to anthropology and wild-life forensics. Though they represent varied disciplines, all forensic scientists face a common set of challenges and other challenges is critical to ensuring that forensic science remains a powerful force in support of justice and public safety.

Thinkers of ancient India had scaled great heights in the field of medicine. They had also advanced very far in the system of administration of justice. India had a very systematically developed medical system during the Samhita period, that is, about fifth century BCE. They had expertise in conducting complicated surgeries and treating medical emergencies including poisoning. During the

same period important law codes were written. Civil and the criminal procedure codes were well defined. There were separate courts for civil litigations and criminal offences. Codes for consumer protection were neatly drawn which are in no way inferior to the present day concepts. The science of medicine and administration of justice had reached such a height that there should be some well-defined regulations to govern the medical profession, including medical practice and manufacture of medicine. Medical ethics is another important aspect in the practice of medicine, and what was its standard during ancient period is also an interesting study.

Forensic science, also known as criminalistics,<sup>[1]</sup> is the application of science to criminal and civil laws. During criminal investigation in particular, it is governed by the legal standards of admissible evidence and criminal procedure. It is a broad field utilizing numerous practices such as the analysis

of DNA, fingerprints, bloodstain patterns, firearms, ballistics, and toxicology.

Forensic scientists collect, preserve, and analyze scientific evidence during the course of an investigation. While some forensic scientists travel to the scene of the crime to collect the evidence themselves, others occupy a laboratory role, performing analysis on objects brought to them by other investigating officers.<sup>[2]</sup> Still others are involved in analysis of financial, banking, or other numerical data for use in financial crime investigation, and can be employed as consultants from private firms, academia, or as government employees.<sup>[3]</sup>

In addition to their laboratory role, forensic scientists testify as expert witnesses in both criminal and civil cases and can work for either the prosecution or the defense. While any field could technically be *forensic*, certain sections have developed over time to encompass the majority of forensically related cases.<sup>[4]</sup>

## 2. ETYMOLOGY

The term forensic stems from the Latin word, *forēnsis* (3rd declension, adjective), meaning "of a forum, place of assembly".<sup>[5]</sup> The history of the term originates in Roman times, when a criminal charge meant presenting the case before a group of public individuals in the forum. Both the person accused of the crime and the accuser would give speeches based on their sides of the story. The case would be decided in favor of the individual with the best argument and delivery. This origin is the source of the two modern usages of the word forensic—as a form of legal evidence; and as a category of public presentation.<sup>[6]</sup>

In modern use, the term *forensics* is often used in place of "forensic science."

The word "science", is derived from the Latin word for 'knowledge' and is today closely tied to the scientific method, a systematic way of acquiring knowledge. Taken together, forensic science means the use of scientific methods and processes for crime solving.

History - Origins of forensic science and early methods -

The ancient world lacked standardized forensic practices, which enabled criminals to escape punishment. Criminal investigations and trials relied heavily on forced confessions and witness testimony. However, ancient sources do contain several accounts of techniques that

foreshadow concepts in forensic science developed centuries later.<sup>[7]</sup>

The first written account of using medicine and entomology to solve criminal cases is attributed to the book of *Xi Yuan Lu* (translated as *Washing Away of Wrongs*<sup>[8][9]</sup>), written in China in 1248 by Song Ci (1186–1249), a director of justice, jail and supervision,<sup>[10]</sup> during the Song dynasty.

Song Ci introduced regulations concerning autopsy reports to court,<sup>[11]</sup> how to protect the evidence in the examining process, and explained why forensic workers must demonstrate impartiality to the public.<sup>[12]</sup> He devised methods for making antiseptic and for promoting the reappearance of hidden injuries to dead bodies and bones (using sunlight and vinegar under a red-oil umbrella),<sup>[13]</sup> for calculating the time of death (allowing for weather and insect activity);<sup>[14]</sup> described how to wash and examine the dead body to ascertain the reason for death.<sup>[15]</sup> At that time the book had described methods for distinguishing between suicide and faked suicide.<sup>[16]</sup>

In one of Song Ci's accounts (*Washing Away of Wrongs*), the case of a person murdered with a sickle was solved by an investigator who instructed each suspect to bring his sickle to one location. (He realized it was a sickle by testing various blades on an animal carcass and comparing the wounds.) Flies, attracted by the smell of blood, eventually gathered on a single sickle. In light of this, the owner of that sickle confessed to the murder. The book also described how to distinguish between a drowning (water in the lungs) and strangulation (broken neck cartilage), and described evidence from examining corpses to determine if a death was caused by murder, suicide or accident.<sup>[17]</sup>

Methods from around the world involved saliva and examination of the mouth and tongue to determine innocence or guilt, as a precursor to the Polygraph test. In ancient India,<sup>[18]</sup> some suspects were made to fill their mouths with dried rice and spit it back out. Similarly, in ancient China, those accused of a crime would have rice powder placed in their mouths.<sup>[19]</sup> In ancient middle-eastern cultures, the accused were made to lick hot metal rods briefly. It is thought that these tests had some validity<sup>[citation needed]</sup> since a guilty person would produce less saliva and thus have a drier mouth;<sup>[20]</sup> the accused would be considered guilty if rice was

sticking to their mouths in abundance or if their tongues were severely burned due to lack of shielding from saliva

### 3. DEVELOPMENT OF FORENSIC SCIENCE

AmbroiseParé's surgical work laid the groundwork for the development of forensic techniques in the following centuries.

In 16th-century Europe, medical practitioners in army and university settings began to gather information on the cause and manner of death. AmbroiseParé, a French army surgeon, systematically studied the effects of violent death on internal organs.<sup>[21][22]</sup> Two Italian surgeons, Fortunato Fidelis and Paolo Zacchia, laid the foundation of modern pathology by studying changes that occurred in the structure of the body as the result of disease.<sup>[23]</sup> In the late 18th century, writings on these topics began to appear. These included *A Treatise on Forensic Medicine and Public Health* by the French physician Francois ImmanueleFodéré<sup>[24]</sup> and *The Complete System of Police Medicine* by the German medical expert Johann Peter Frank.<sup>[25]</sup>

As the rational values of the Enlightenment era increasingly permeated society in the 18th century, criminal investigation became a more evidence-based, rational procedure – the use of torture to force confessions was curtailed, and belief in witchcraft and other powers of the occult largely ceased to influence the court's decisions. Two examples of English forensic science in individual legal proceedings demonstrate the increasing use of logic and procedure in criminal investigations at the time. In 1784, in Lancaster, John Toms was tried and convicted for murdering Edward Culshaw with a pistol. When the dead body of Culshaw was examined, a pistol wad (crushed paper used to secure powder and balls in the muzzle) found in his head wound matched perfectly with a torn newspaper found in Toms's pocket, leading to the conviction.<sup>[26]</sup>

### 4. MEANING AND INTERPRETATION OF 'ARISHTA'

According to the dictionary and *Nighantu* texts, the word *Arishta* is used in the meanings of *Sutikagaar*, *Reetha*, *Nimba*, *Karanj*, *Rason*(Garlic) and *Maha* etc., but in the present context the word *Arishta* is indicative of bad luck, bad omen, It should be understood to be used in the sense of calamity, adversity, loss of life and death. Both the words *Rishta* and

*Arishta* have similar meanings and their meaning is inauspicious.<sup>[27]</sup>

The symptoms which indicate the certain death of the patient are called '*Arishta*' or '*Rishta*'; Like –

'रोगिणोमरणंयस्मादवश्यंभाविलक्ष्यते।  
तल्लक्षणमरिष्टस्याद्दिष्टमप्यभिधीयते॥  
Bhava-prakash

Those *Doshas* which have crossed all medical limits and cannot be calmed by any treatment and have spread to the entire body, the symptoms they produce are called, '*Arishta*'.

'नियतमरणख्यापकंलिङ्गमरिष्टम्।

मधुकोष

The signs indicating certain death are called, '*Arishta*'

### 5. USEFULNESS AND IMPORTANCE OF ARISHTA KNOWLEDGE

A doctor who has proper knowledge of *Arishta* symptoms is adept in the practical knowledge of the disease and deserves respect. When a person's age decreases, the entire process of medical science becomes ineffective for him. Treating such an emaciated person leads to loss of fame, insult, condemnation, financial loss and ostracism.

Therefore, it is a serious responsibility of a skilled doctor to gain proficiency in the knowledge of ill symptoms and not to treat a patient with ill symptoms. The entire result of Ayurveda is established in the knowledge of life and the one who knows it is called a Ayurveda specialist. Gaining knowledge of life is extremely important and useful.

Therefore, knowledge of the value of life should be acquired on the basis of both nature and deformity. With the same intention, Acharya Charak in *Indriya- Sthan* 12/90, has said that the physician should be constantly alert and know the bad symptoms properly. Specialist doctor in recognition of ill symptoms will never fail in his practice.<sup>[28]</sup>

*Arishtas* regarding diet & medicine of the patient & his messengers are also well explained in Ayurveda.

“ इतीदमुक्तंप्रकृतंयथातथंतदन्ववेक्ष्यंसततंभिषग्विदा।  
तथाहिसिद्धिचयशश्वशाश्वतंसिद्धकर्मात्मभेधनानिच  
॥”

In Ayurved factors to be examined in respect of fatal symptoms, factors related to constitution normal & abnormal complexions, prognosis based on colours of the body parts i.e. nails, eyes, voice. Resemblance between flower and fatal symptoms, Ayurveda assumes that fatal symptoms preceding death are sure. Different fatal smells indicating death within a month, 6 months or in a year, Inferences of departed taste are also a bad indicator for life.

There are 5 types of sensations & all these five sensory organs indicated *Arishtas* when a person's is near to death, by various abnormalities for this elaboration *Acharya Charak* spends complete two chapters, 1. *Parimarshneeyamindriya*(परिमर्शनीयमिन्द्रिय), 2. *Indriyaneekmindriya*(इन्द्रियानीकमिन्द्रिय).

Disease-wise proto type also well described in *Charak Samhita*. *Arishtas* regarding its types & prognosis of dreams are also there which help to indicate a future or prognosis.<sup>[29]</sup>

#### 6. VARIOUS TYPES OF ARISHTAS

Anomalies of physical character, Anomalies of sensation, Psychological anomalies to dreams, Relating to habits, Pathos relating to diseases, Relating to premonitory symptoms, Symptomatic, Anomalies of luster, Anomalies of shadow, Thoughts relating to messenger, Thoughts relating to omens, Signs indicating sure death within a definite period, Indicating sudden death, Indicating death within 3 days, Indicating death within 6 days, Indicating death within 15 days, Indicating death within a month, Indicating death within 1 month, Indicating death within 6 months, Indicating death within a year.

#### 7. POISONOUS FOOD

Even if the poisonous food is chewed, there is no salivation, it is digested late, even if it is freshly cooked, it is cold and lumpy like stale food. Without the natural color, bad odour, bad taste of the food, it becomes gummy and bluish spots are found on it like a peacock's feather.

Unmixed wet foods and decoction become clear or black in color. When you see your reflection in it, it looks crazy, distorted. Poisonous decoction becomes frothy, bifurcated, multi-colored streaked surface with fibrous or bubbly appearance. Salty food is more frothy. Lines are blue in meat juice, red in milk, brown in curd, black in liquor, blue-yellow in buttermilk, purple in *Mastu*, black in *Kanji*, *kapil* colored in liquid medicine, water like in *ghee*, green in

honey and reddish pink in oil and oil smells like fat.<sup>[30]</sup>

#### 8. POISONOUS FOOD- AGNI PARIKSHA

Servants who panic at the king's command or commit some other crime may behave similarly to those who use poison. Therefore, it is not possible to give an exact decision about the use of poison only from that, so an *agni-pariksha* should be done. When poisoned food is thrown into the fire, its flame moves once to the left or to the right. The flame emits a dull, dim, iridescent rainbow-like color and makes a crackling sound. Also, there is a strange smell like burning corpse. Its fumes cause symptoms such as nausea, excitement, headache, chills, darkening of eyes, fainting etc. He should perform *Nasya* or *Anjana-vidhi* on it by mixing the powder of *Jatamansi*, *Kustha* and *Lamajjak* with honey, or smoke the leaves of *Apamarga*, *Bavding*, *Bala*, *Atibala*, *Chitrak*, *Medashingi*, *Lavang* (Clove) and *Jasmine* mixed with *ghee* and *jaggery*.

Just as a poisonous substance causes a crackling sound in a fire, so too does a food mixed with oil and salt. Therefore, for differentiation, food examination should also be tested by birds for detection of poisonous food, i.e. –

- Crow's voice becomes weak, muffled due to eating poisonous food,
- Flies do not sit on such food and die as soon as they sit,
- A *Chakor* bird's eyes turn red when it sees such food,
- The Cuckoo's voice becomes faint,
- The Goose slows down,
- Weevils start humming,
- Crouch behaves like drunk,
- Roosters, parrots, crow are shouting, etc.

#### What are the Symptoms of Poisonous food Taken Person?

“ सपीतंगूहधूमाभंपुरीषंयोऽतिसार्यते।  
फेनमुद्रमतेचापिविषपीतं तमादिशेत् ॥”

Which has a diarrhoea like house-soot-character and foamy vomiting at the mouth, should be known to have ingested certain poisonous food.

#### Poisoner Symptoms

“ इङ्गितज्ञोमनुष्याणांवाक्चेष्टामुखकृतैः।

जानीयाद्विषदातारमेभिलिङ्गैश्चबुद्धिमान् ॥  
 नददात्युत्तरं पृष्टे विवक्षुर्मोहमेति च ।  
 अपार्थबहुसंकीर्णभाषते चापि मूढवत् ॥  
 हसत्यकस्मात्स्फोटपत्यङ्गुलीर्विलिखेन्महीम् ।  
 वेपथुश्चास्य भवति त्रस्तश्चान्योन्यमीक्षते ॥  
 विवर्णवक्रो ध्यामश्च नखैः किञ्चिच्छिनत्यपि ।  
 आलभेतासनदीनः करेण च शिरोरुहम् ॥  
 वर्तते विपरीतंच विषदाता विचेतनः ॥”  
 सु. क. 1

The physician should identify the poisoner by the symptoms mentioned by him about the person's speech, movement and face reading etc. When the man was asked any question, he did not answer, when he began to speak, he had no idea what to say; As soon as he begins to speak, he speaks gibberish, much and indistinctly; he suddenly starts laughing for no reason; he suddenly starts laughing for no reason; frequently breaks fingers; Finger nails begin to draw lines on the ground and begin to cut the graze with fear; frequently rolls his eyes at people in fear; his face falls down and his body turns black and starts gnawing on sticks of grass with his nails; repeatedly runs hands through the hair on the head; sits frequently tossing and turning, and his mind is restless.

## 9. TOXICITY TEST

### 1) Panch-Bhautik Examination

All the substances that exist in this universe are *Panch-bhautik*, this is the Ayurveda principle.

सर्वद्रव्यपांचभौतिकमस्मिन् अर्थे ।

Since the five physical elements are the same between the nature (*Sushti*) and man, it is possible to use the five physical elements of the nature to nourish the human being and to cure the diseases caused to him. If any plant or mineral substance is to be examined in five physical terms, then only sense organs are required for it. Toxic substances can also be tested in the same way.

The *Prithvi* and *Jal* have important qualities of hard, specific shape and soft but moldable shape respectively. Generally, all the parts of the plant such as root, trunk, branches, leaves, flowers, seeds are prominent in this *Mahabhutapradhaan* plant and often these plants are rich in delicious juice.

*TejMahabhutapradhan* poison often has a bright color. This color can be red, blue, yellow, purple. If there is a mixture of *Prithvi* and *Tej* there is also a strong smell.

*Tejmahabhutapradhan* poisonous plants are usually not able to bear the strong heat of the sun, not very large, trunks, etc. The expansion is not very large and has a preference for sour and salty juices.

*VayaviyMahabhutpradhan* poison is pale in color, rough to the touch. This type of plant is spindly and tall. It does not bear much fruit and flowers and often has an astringent juice. *Vayu* and *AgniPradhana* plants have a preference for pungent juices. The poison of *AkashiyMahabhut* priority is very brittle, without any special color. Such a plant usually has an astringent, bitter taste. While doing the physical examination of toxic substances (vegetable or mineral), they should not be analyzed. Otherwise, there is a possibility of death due to toxins entering the stomach. A *botanist of Traditional Chinese Medicine* used to test the taste of each plant to determine its properties. History records that he once accidentally bitten an unknown poison and died.

### 2) By Origin

(1) There are types of toxins such as *Sthavar & Jangam*.

(2) According to *Yonibheda - Jangam, Audbhid* and *Parthiv* are also types.

### Experiments on Animals by the Properties

The science of using different medicinal plants on different animals before using them on humans (Animal experimentation) or the science of toxicity tests & determination of lethal dose in animals has been developed. Such misconceptions are everywhere. Although there are not many direct mentions of this in *AyurvedicGuna, Visha-tantra* etc., many indirect mentions from the way of naming plants show that such experiments were also done in ancient times.

*Khaj-kuhili* vines and pods have a lot of scabs. Their touch makes the body very itchy, so much so that a man is even startled, a goat, etc. animals sometimes even die. So these *kuslas* are enumerated in the sub-topic. Its seeds are loved by crouching birds and monkeys. Even so, these two animals do not go near *Khaj-kuhili* except by scratching the *kuslas* on its pods.

“  
 वाम्मेषामविषांविचार्यविषविदुस्संभक्षितांपक्षिभिःसंभक्ष्य..  
 ..... ।”

कल्याणकारक

That is why it is said that after the birds have started eating the seeds of this plant, the agronomist should bring the pods, knowing that the *khaj-kuhili* is non-poisonous.

- *Avighana* Or sheep do not have the ability to digest the chikes that are present in the leaves and fruits of *karvanda*. Therefore, if this chikes enters her stomach, her stomach distends and she dies by giving cramps to her arms and legs, similarly, the chikes in the *Umbar* tree is also not eaten by the sheep.

- *Ashwamar* is the name of *Kanheri* tree, derived from its virtues and test on animals. Because if a horse eats the leaves of *Kanheri*, he will die.

- A snake does not accidentally go near the *Ahimar* or *Vacha* tree.

“ यथाखलस्यवैषम्यात्पीडितोयातिसज्जनः ।  
तथावचायाधूपेनगृहंमुक्त्वात्रजेद्गृही (सर्पः) ॥”  
आ. औ. नि.

That is why it is said that just as a gentleman goes away after being tired of the trouble of an evil person, if you smoke *Vekhanda* in the house, the snake will leave the house.

All these examples are very eloquent and show how ancient Kali guna medicines were tested on animals.

### Poison Girl – (*Vish-kanya*)

In ancient times, they were used to sneak up on the enemy. *KautilyaArthashastra* clearly mentions that *Chanakya* killed *Parvatesvara* by using *Vish-kanya* (**Poison Girl**) and eliminated a very powerful enemy of Emperor *Chandragupta*. In the present age, however, *Vish-kanya* does not exist. To make a poison girl, small amounts of poison are started from a very young age. Then as the age increases, the amount of toxins is increased. By the time this poisonous girl reaches puberty, since she has been consuming for a long time, all the *doshadhatu* & *malas* in her body are very heterogeneous. This dose does not affect her because she has been acclimatized (*Oak-Satmya*) to it through years of training. But if such a poisonous *GIRL* comes in contact with any other man through kissing, hugging, touching, sexual intercourse, the other man will get poisoned and die instantly.

“ हन्तिस्पृश्यन्तीस्वेदेन, गम्यमानाचमैथुने ।  
पक्वंत्तादिवफलंप्रशांतयतिमेहनम् ॥”

सु. क. 1/6 डल्हण

The *Acharya Dalhan* says that just as a ripen fruit falls from a tree, intercourse with a poisonous girl or the mere touch of her sweat

causes another man's penis to fall off or he dies.<sup>[31]</sup>

### 10. CONCLUSION

Forensic Science is the integral part of Ayurveda & have a well elaborated & also useful in day to day practice.

### REFERENCES

- [1] "Criminology Vs. Criminalistics: What's the Difference?". Study.com.
- [2] "Job Description for Forensic Laboratory Scientists". Crime Scene Investigator EDU. 12 November 2013. Archived from the original on 6 September 2015. Retrieved 28 August 2015.
- [3] "Prosecutors just got millions of pages of Trump documents. His taxes are only the beginning". NBC News. Retrieved 27 February 2021.
- [4] "Sections". American Academy of Forensic Sciences. 27 August 2015. Archived from the original on 30 August 2015. Retrieved 28 August 2015.
- [5] "forensic (adj.)". Online Etymology Dictionary. Retrieved 5 June 2023.
- [6] study.com <https://study.com/learn/lesson/what-is-forensic-science-forensic-science-types-etymology.html>. Retrieved 8 June 2023. {{cite web}}: Missing or empty |title= (help)
- [7] Schafer, Elizabeth D. (2008). "Ancient science and forensics". In Ayn Embar-seddon; Allan D. Pass (eds.). Forensic Science. Salem Press. p. 40. ISBN 978-1587654237.
- [8] "Forensics Timeline". Cbsnews.com. Archived from the original on 29 June 2011. Retrieved 20 December 2011.
- [9] A Brief Background of Forensic Science Archived 16 December 2009 at the Wayback Machine
- [10] Song, Ci, and Brian E. McKnight. The washing away of wrongs: forensic medicine in thirteenth-century China. Ann Arbor: Center for Chinese Studies, U of Michigan, 1981. Print. p. 3.
- [11] Song, Ci, and Brian E. McKnight. The washing away of wrongs: forensic medicine in thirteenth-century China. Ann Arbor: Center for Chinese Studies, U of Michigan, 1981. Print. p. 161.
- [12] Song, Ci, and Brian E. McKnight. The washing away of wrongs: forensic medicine in thirteenth-century China. Ann Arbor: Center for Chinese Studies, U of Michigan, 1981. Print. pp. 76–82.
- [13] Song, Ci, and Brian E. McKnight. The washing away of wrongs: forensic medicine in thirteenth-century China. Ann Arbor: Center

- for Chinese Studies, U of Michigan, 1981. Print. p. 95.
- [14] Song, Ci, and Brian E. McKnight. The washing away of wrongs: forensic medicine in thirteenth-century China. Ann Arbor: Center for Chinese Studies, U of Michigan, 1981. Print. p. 86.
- [15] Song, Ci, and Brian E. McKnight. The washing away of wrongs: forensic medicine in thirteenth-century China. Ann Arbor: Center for Chinese Studies, U of Michigan, 1981. Print. p. 87.
- [16] Song, Ci, and Brian E. McKnight. The washing away of wrongs: forensic medicine in thirteenth-century China. Ann Arbor: Center for Chinese Studies, U of Michigan, 1981. Print. pp. 79–85.
- [17] McKnight, Brian E. The Washing Away of Wrongs: Forensic Medicine in Thirteenth-Century China. University of Michigan Press, 1981, <https://doi.org/10.3998/mpub.19945>.
- [18] Parmeshwaran and, Swami (2003). Encyclopaedic Dictionary of the Dharmaśāstra, Volume 1. New Delhi: Sarup & Sons. p. 499. ISBN 8176253650.
- [19] ^ McCrie, Robert D. "General Managerial Fundamentals and Competencies". Security Operations Management. 1st ed. Amsterdam: Butterworth-Heinemann/Elsevier, 2007. 93. Print.
- [20] "Licking hot metal spoons to expose lies: Egypt's oldest tribal judicial system". Al Arabiya English. 24 September 2018. Retrieved 6 May 2021.
- [21] Kelly, Jack (27 April 2009). Gunpowder: Alchemy, Bombards, and Pyrotechnics: The History of the Explosive ... New York: Basic Books. p. 79. ISBN 978-0465037186. Archived from the original on 23 July 2016.
- [22] Porter, Roy; Lorraine Daston; Katharine Park. The Cambridge History of Science: Volume 3, Early Modern Science. p. 805.
- [23] Suter, Patricia; Russell D. Earnest; Corinne P. Earnest (2010). The Hanging of Susanna Cox: The True Story of Pennsylvania's Most Notorious Infanticide and the Legend that Kept it Alive. Mechanicsberg: Stackpole Books. p. 20. ISBN 978-0811705608.
- [24] Madea, Burkhard (4 March 2014). Handbook of Forensic Medicine. Sussex: Wiley Blackwell. p. 10. ISBN 978-0470979990. Archived from the original on 5 May 2016.
- [25] Lindemann, Mary (28 October 1999). Medicine and Society in Early Modern Europe. Cambridge: University of Cambridge. p. 135. ISBN 0521412544.
- [26] McCrery, Nigel (29 August 2013). Silent Witnesses. London: Random House Books. p. 51. ISBN 978-1847946836. Archived from the original on 13 May 2016.
- [27] Forensic Medicine Under Indian System of Medicine (Ayurveda) [Print Replica] Kindle Edition by U.N. Prasad (Author)
- [28] Charaka Samhita – Vaidya Manorama (Hindi Interpretation) Part-1, 2. Acharya Vidyadhar Shukla, Prof. Ravidutt Tripathi, Chaukhambha Sanskrit Pratishthan, Delhi, First Edition – 2003
- [29] Charak Samhita – Vaidya Chandrika (Hindi Interpretation) Part-1,2. Acharya Bramhanand Tripathi, Chaukhambha Surbharti Pratishthan, Varanasi, First Edition – 2001.
- [30] Sushrut Samhita – Ayurveda Tattva Sandipika (Hindi Explanation) Part-1,2, Kaviraj Dr. Ambikadatta Shastri, Chaukhamba Sanskrit Institute, Varanasi, Eleventh Edition - 1997.
- [31] Sarth Vagbhat - Dr. Ganesh Kodre, Anmol Prakashan, Pune, First Edition-2003.

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