



ISSN NO. 2320-5407

Journal homepage: <http://www.journalijar.com>

INTERNATIONAL JOURNAL
OF ADVANCED RESEARCH

RESEARCH ARTICLE

Clinical Evaluation of Shonitadushti in Appendicitis with special reference to Unduka.

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Manuscript Info

Manuscript History:

Received: 26 October 2014
Final Accepted: November 2014
Published Online: December 2014

Key words:

Unduka (Caecum and Appendix),
Appendicitis (Undukapucchashotha),
Shonita

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Abstract

Background- Appendicitis has got prime importance in present era. It is one of the common cause of acute abdomen. As appendix is related to *Unduka* and limited information is available on *Unduka*. Hence the study was undertaken to study *Unduka sharir* in relation to appendicitis. **Materials and Methods-** In present study term *Unduka* is defined with the help of *Ayurvedic* texts, its location was found with the help of cadaveric dissection of caecum and appendix. The study was undertaken to ascertain *Shonitadushti* in patients of appendicitis. **Result** - Total 30 patients of appendicitis were studied, out of that 21 patients i.e.70% had shown the symptoms of *Shonitadushti* and 86% patients had shown *Raktavahasrotodushti*. **Conclusion-**As *Unduka* is derived from *Shonita*, *Shonitadushti* symptoms mentioned by *Charakacharya* were found and proved on clinical ground.

An attempt has been made out to put the theoretical consideration of *Unduka sharir* and Appendicitis on an applied substratum.

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Introduction

Man adopted so many gifts from nature, from the time of his evolution to present era. The special qualities, which made him supreme of nature are high power of thinking and reasoning erect posture, progressive and biological evolution, progressive physiological development, facial expression, community life, ability to speak language, bold adventurous nature, power of invent, better sensation and location, culture abuse, anger, selfishness and difference between one man and other animals. At the same time along with these advantages man has adopted some disadvantages also for instance these advantages gave him a better identification, no doubt simultaneously it gave him certain affliction too, like appendicitis etc.

Appendicitis has got prime importance in present surgical era. It is one of the common cause of acute abdomen.^[1] Most of the history of appendicitis and appendectomy has been made during the past two centuries. Jacopo Berengario da Carpi gave the first description of this structure in 1522. Gabriele Fallopio in 1561, appears to have been the first writer to compare the appendix to a worm. In 1579 Casper Bauhin proposed the ingenious theory that the appendix served in intrauterine life as a receptacle for the faeces. In 1880 Robert Lawson Tait made the first diagnosis of appendicitis and surgically removed the appendix. In 1886 Reginald Heber Fitz published a study on appendicitis and named the procedure an appendectomy. Charles McBurney proposed his original muscle splitting operation in 1893 and this was modified by Robert Fulton Weir in 1900.^[2] Vermiform appendix is a blind ended tube originating from posteromedial wall of caecum. It is absent in fish, amphibians, reptiles, birds and most

mammals. It is found in few marsupials and few rodents. Among primates it is present in anthropoid apes and man. In man appendix develops through evolution from the old world monkeys.^[3] The caecum and appendix in man and anthropoid apes is considered to be less primitive than in monkeys. The caecum lies in the right iliac fossa. It is a large cul-de-sac continuous with the ascending colon at the level of the ileal opening on the medial side. The vermiform appendix is a narrow, vermian tube, arising from the posteromedial wall, 2cm or less below the end of ileum which indicates the position of its base. The lumen of appendix may be partially or completely obliterated in the later decades of life. In view of its rich vascularity and histological differentiation, the appendix is probably a specialized rather than a degenerate or vestigial structure. Its position in the abdomen corresponds to a point on the surface of the anterior abdominal wall known as McBurneys point.^[4] As appendix is a structure attached to main structure i.e. caecum, both are embryologically derived from caecal bud arising from postarterial segment of midgut loop.^[2] As per *Ayurveda Unduka* is derived from *Shonitakittabhaga*.^[3] Therefore *Undukapuccha* is also derived from it because *Unduka* is a terminology used both for *Unduka* and *Undukapuccha* (i.e. caecum and appendix). The study was planned to do **comparative study of Unduka** from both aspect and to make assessment of clinical condition appendicitis to ascertain the ***Shonitadushti in patients of Appendicitis***. However no such evidence was found available which provides detail study of *Unduka* in this aspect, hence the present study was undertaken to investigate patient of appendicitis regarding it.

Materials and Methods

Methods :

- **Cadaveric study** – The study was done for which anatomical structure *Unduka* belongs .it was confirmation about the structure because there are various doubts about the term.
- **Clinical study** – To elaborate the concept of *Unduka*, a clinical study of retrospective nature was carried out which was based on clinical observation and narration of the patient. In this project, manifestations of *Shonitadushti* were evaluated in the patient of appendicitis. It was diagnosed by modern means of investigations.
- **Methodology** – Total 30 patients of appendicitis of age group 15 to50 years and either sex, attending the OPD at Ashtang Ayurved Mahavidyalaya, Pune, irrespective of treatment were screened after approval of ethical committee. The patients fulfilling the inclusion criteria were selected after obtaining their written informed consent prior to study. The study was retrospective, observational in which patients of appendicitis were studied for the presence of symptoms of *Shonitadushti* mentioned by *Charaka*. The uncooperative, psychological and patients other than appendicitis were excluded. Patients complaining of pain in right iliac fossa, vomiting, temperature were studied.

The clinical examination of patient was done under the guidance of surgeon. A detail history of the patient was taken. Collection of information was entered in the formatted case paper. The final diagnosis was assessed on the basis of subjective and objective parameters. The collected data and results were evaluated and presented in the form of tables in accordance to purpose of study.

Results-

The study was an observational, retrospective hospital based study.

Table No.1
Type wise distribution

Sr . No.	Type	No. of patients	Percentage
1.	<i>Acute</i>	12	40%
2.	<i>Chronic</i>	9	30%
3	<i>Subacute</i>	3	10%

4	<i>Appendicular mass</i>	4	13.33%
5	<i>Appendicular abscess</i>	2	6.66%

Table No.2
Srotodushti-wise distribution

Sr.No.	Srotas	No.of patients	Percentage
1.	Raktavaha	26	86.66
2.	Annavaha	22	73.33
3.	Purishavaha	9	30.00
4.	Mutravaha	5	16.66

Table No.3
Distribution according to shonitadushti with appendicitis

Sr.No.	Symptoms of shonitadushti	No.of patients	Percentage
1.	Jwara	12	40.00
2.	Anannabhilasha	23	76.66
3.	Mukhapaka	04	13.33
4.	Pipasa	04	13.33
5.	Bhram	05	16.66
6.	Daurbalya	08	26.66
7.	Aruchi	02	6.66
8.	Shiroruk	03	10.00
9.	Akshiraga	04	13.33
10.	Kandu	01	3.33

The result is based on the observations made by above clinical study, which is as follows: It was observed that, 12 patients (i.e.40%) were male and 18 patients (i.e. 60%) were female. Out of 30 patients 26 patients (i.e.86%) were having *Shonitadushti*. Study shows that patients having acute appendicitis 12 patients (i.e. 40%) shows more signs of *Shonitadushti* as compared to other types of appendicitis.[Table 2]

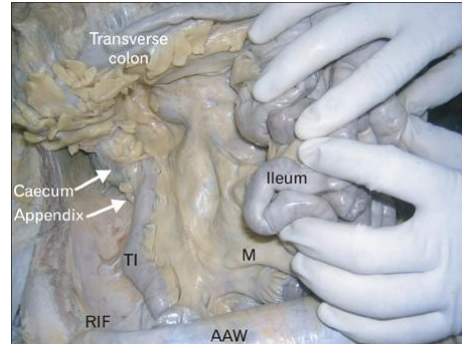
Patients of chronic appendicitis (9 patients) had less signs of *Shonitadushti*.

9 patients (i.e.30%) had shown signs of *Purishavaha srotodushti* as a constipation and diarrhea . 73% patients (i.e. 22patients) were affected their *Jatharagni*.

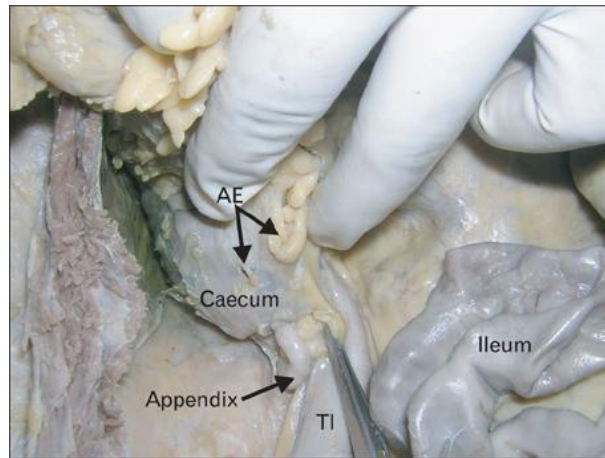
Regarding the *Shonita dushti* most commonly associated symptoms with appendicitis were, *Jwara* (40%), *Annanabhilasha*(76%), *Mukhapaka* (13%), *Pipasa* (13%), *Bhrama* (16%), *Daurbalya* (26%), *Aruchi* (6%), *Shiroruk* (10%), *Akshiraga* (13%), *Kandu* (3%).According to age pattern second and third decade of life is more prone for appendicitis. 19 patients (i.e.63%) were found in this age group. As concerned the anatomy of appendix, clinically only few patients revealed their position. 4 patients had retrocaecal appendicitis. 3 patients had pelvic appendicitis.

5 patients have not shown any sign. These physical signs were mostly found in acute appendicitis.

Leucocytosis were found in most of the patients in 20 patients (67%).Tenderness at the Mcburney's point was also found by local examination in the maximum number of patients (90%). In some cases RBCs are found in urine routine and microscopic examination having the position of appendix retrocaecal and pelvic.



TI= Terminal ileum, M=Mesentery, RIF=Right iliac fossa, AAW=Anterior abdominal wall.



AE=Appendices epiploae, TI= Terminal ileum.

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Discussion

The present study was discussed under following steps-

1) Structural aspect :

On the basis of this statement in *Sushruta*, *Unduka* derives from end metabolite of blood (?)^[5] ultimately appendix also derives from it. In inflammation of appendix, there may be *Shonitadushti*. As earlier quoted that, it is one of the part of *Unduka* and derived from *Shonitakitta bhag*. To prove the above aim, 30 patients having appendicitis were selected and studied with various signs, symptoms and investigations regarding *Shonitadushti*.^[6]

a) *Unduka* is a part of *Koshtha* .i.e. it is one of the *Koshthanga* and *Koshthangas* are different viscera of the thoraco-abdominal cavity or organs related both anatomically and physiologically to alimentary tract. *Koshthangas* described in text include *Kshudrantra* and *Sthulantra*.

Haranachandra quotes that,

Unduka is situated in between the end portion of *Kshudrantra* and initial portion of *Sthulantra*. Its function is *Anuloman* and *Vahan* of *Mala* having two walls and opening in the posterior wall. Its *Pramana* is *Shada-anguli*, It is an *Avayava* of *Purisha vibhajana*.^[5]

Appearance of *Unduka* is given like *Pottali* by *Dalhana*.^[5] Caecum is somewhat also similar to *Unduka* which is large blind pouch and commencement of large intestine. The patients of appendicitis were selected and studied with various signs , symptoms and investigations regarding shonitadushti.

b) Caecum lies in right iliac fossa. It is a large cul-de-sac continuous with the ascending colon.^{[4][7]} The caecum was seen and identified with the help of cadaveric dissection.

The dissection started with anterior abdominal wall. The incision was taken from xiphoid process till the pubic symphysis. It was carried laterally from the umbilicus till the lateral abdominal wall on both sides. Finally horizontal incision was given across the xiphoid process till the lateral abdominal wall. The skin and superficial fascia was reflected laterally along with six muscles of anterolateral abdominal wall. Then peritoneal cavity was opened up, blind pouch like structure was seen in right iliac fossa at the beginning of large intestine. Its caliber was little more than the rest of large intestine, that structure was caecum which was confirmed by presence of three ribbon like structure i.e. taeni coli. It was observed that one tube like structure called vermiform appendix was attached to main structure at the posteromedial wall. The base of appendix was fixed and its tip was projecting towards 4 o'clock position. Anatomically such type of similarity is seen between *Unduka* and caecum which was confirmed by cadaveric dissection.^{[8][9]}

c) Embryological development of appendix and caecum is same i.e. from caecal bud arising from post arterial segment of midgut loop. The proximal part of bud dilates to form caecum. Its distal part remains narrow and forms the appendix.^[10]

2) Functional aspect- As previously seen that *Maladhara kala* is situated in *Antra* which carries out the function of *Malavibhajan* especially in the *Unduka* region.^[5]

‘Most of the absorption in the large intestine occurs in the proximal half of the colon’, giving this portion the name **absorbing colon**. Whereas the distal colon functions principally for storage and therefore called the **storage colon**.^[11]

During its passage along the large intestine, these are absorbed and absorption appears to occur in caecum.

From the above description there is functional similarity in caecum and appendix.

As histologically appendix shows presence of lymphoid follicle and it plays an important role in immunity though previously it is called an vestigial organ but due to its function it is referred as an abdominal tonsil. Therefore in inflammation of appendix, lymphocytosis is significantly found.^{[11][12]}

There are limitations of study in which anatomical changes of appendicitis can't be seen because unless and until appendectomy can be done, it wouldn't be seen.

3) Applied Aspect-

A) In the development of body, tridoshas are causative factor. Sushrutacharya has been introduced shonita as fourth dosha and which is also a principal factor of body formation. Vata adi tridosha in state of normalcy are the Shukrashonitagata causative factor for embryogenesis. In the development of most of the structure shonita is principal factor, like Hridaya is made up of prasad bhag of shonita and kapha, Phupphusa is made up of shonitaphen. Hence Shonita plays significant role in Garbha Avayava Utpatti. As doshas are situated in the body and plays a vital role in the dharan karma as the tripod of life, similarly shonita as fourth dosha maintains utpatti, sthiti, and pralaya of sharira. As Sushruta-samhita is Shalyapradhana, in past era they found that without Shonita Vrana-Dushti, Shoth, Puyibhavan, Rohan is not possible. If they are vitiated then act as pralayahetu and causes dehanash means death.^[13]

^[5] The importance of shonita has been described by Sushrutacharya so immensely in a such way that, Rudhir is mula of deha and it should be preserved because rakta is called as Jiva.^[14] Jivan is supreme function of rakta, which means pranadharana. Prana is atman (material cause) of doshas and as such the latter can't exist without the former. They are continuously present only till the living being holds the pranas and as such their eternality is relative. What modern call blood is, in fact a combination of rasa and rakta. According to Ayurved which circulates in blood vessels and supplies nourishment and oxygen to the whole body that is why rakta is called Jiva. The increase and decrease of other dhatu depends on blood.

B) After the digestion of food mutra, purisha, vayu are formed in the form of kittabhaga of ahararasa, that separation of kittabhaga is done with the help of unduka when it comes in contact with it. Purisha in its normal states plays important role in dehadharan, vayu and agnidharan.^[15]^[5] Hence in the Rajyakshma due to agnimandya the poshaka dhatu are not formed, they are transformed into malabhaga, therefore in that persons mala is precious and it has to be preserved because charaka has said that in the Sarvadhatushaya patient Vida/Purisha is itself bala.^[16]

C) The study was done over appendicitis patients to rule out shonitadushti symptoms. As Rudhir is one of the sthana of Pitta and Pitta is mala of Rakta. If the Rakta is vitiated, then Pitta also gets vitiated. Kshuda, Trushna, Pachana, Annaruchi, Agnidipti is the normal function of Pitta. Therefore in the Shonitadushti we found Agnimandya in 73%, Annanaabhilasha in 76%, Pipasa in 13.33%, Aruchi in 6.66% patients.

D) Charakacharya has not mentioned Rakta as separate dosha, but in the Paitik nanatmaja vikara they have included some Raktadoshaj vikara like Raktapitta, Raktamandal, Kamala, Trushnaadhikya, Asyavipaka, Tamapraveshana, etc. causative factor for Pittaj and Raktaj vikar is also similar.

E) Charaka and Vagbhata has given Daha, Ushnata, Paka, Sveda, Kleda, Kotha, Kandu, Strava, Raga, Kotha, Sadana, Murchana, Mada as Pittaja Vikar.^[17]^[18] When the tikshna guna of Pitta gets increased then process of paka

formation starts. Paka can be correlated with inflammation and appendicitis indicates the inflammation of appendix. So various dushtilakshanas were found in the study like, *Jwara* in 12 (40%) patients, *Mukhapaka* in 4 (13.33%) patients, *Atidaurbalya* in 8 (26.66%) patients, *Bhram* in 5 (16.66%) patients, *Akshiraga* in 4 (13.33%) patients, *Kandu* in 1 (3.33%) patients, .

As *Unduka* is a part of *Maladhara kala*, symptoms of *Purishavaha srotodushi* were also found. 9 patients (30%) had shown constipation and diarrhea, by holding the natural urge of defecation causes shiroruk which was found in 3 (10.0%) patients. 26 patients (86%) had shown *Raktavaha srotodushti*.

Conclusion

As *Shonitadushti* is seen in maximum number of patients, it is clear that the statement in the *Samhita* regarding the *Utpatti of Unduka* especially *Undukapuccha* is verified and proved on clinical grounds. In *Sushruta samhita* indication of *Raktamokshan* has given. In which *Shotha* and *Shonitaja roga* are one of them.

In the *Undukapucchashotha Raktamokshan* can be done which is another subject of research and the scope of the study is that to help for the treatment of appendicitis.

In nutshell it can be concluded that *Ayurvedic* concept has its valuable importance and it stands in modern also. The various morphological, histological & physiochemical standards developed in this study will help to provide guidelines to the future workers.

Acknowledgement

We are grateful to Department of Sharir rachana, Ashtang Ayurved Mahavidyalaya, Pune

And Department of Sharir rachana, College of Ayurved, Bharati Vidyapeeth Deemed University, Pune. .

References-

- 1) Somen Das. The vermiform appendix. In: Textbook of Surgery, 3rd ed. Calcutta: Calcutta Publisher; 2001. p.1002- 12.
- 2) Meljnikov I, Radojcic B, Grebeldinger S, Radojcic N. History of surgical treatment of appendicitis. Med Pregl 2009;62:489-92.
- 3) Reshma.M, ShubhaDevi V, K.Thyagarju, M.D.Azaruddin .Morphological features and morphometric parameters of human fetal vermiform appendix at different gesetatoinal ages .J Anat 2013; 2:18-25.
- 4) Lawrence H.Bannister .. Alimentary System. In: Peter L. Williams, editor. Gray's Anatomy., 38th ed. London:Chur-Chill Living stone; 2000.1774-75.
- 5) Ghanekar.B.G.SushrutaSamhita,SharirSthana,Garbhavyakaran sharir Adhyaya15/24, Meherchand Lachmandas Publication, New Delhi, 2008;110-16.
- 6)ChakrapanidattaCommentator,CharakaSamhita,SutraSthana,VidhishonitaAdhyaya11/16,edited byJadavjiTrikamajiAcharya, 4th ed,Munshiram Manoharlal Publisher, New Delhi,1981;124.
- 7) B.D.Chaurasia. The Intestines. In:Human Anatomy,4th ed.New Delhi, Bangalore:CBS Publisher;2007.p.256-58.
- 8) Anne, M.R.Agur.Abdomen. In: Grant's Atlas of Anatomy,13th ed. South Asia: Lippincott Willianis and Wilkims;2005.p.140.
- 9) L.J.Romanes.The abdominal cavity. In:Cunningham's Manual of Practical Anatomy, 15th ed. Oxford: Oxford medical Publications;1992. p.141-42.
- 10) Indiber singh, G.P.Pal. Alimentary System-II: Gastrointestinal tract. In: Human Embryology, 7th ed. New Delhi: Macmillian India Limited;2005. p.164-74.
- 11) Arthur C.Guyton, John E. Hall .Digestion and Absorption of Gastrointestinal tract.In:Textbook of Medical Physiology, 10th ed. New Delhi:Elsevier Publication;2004.p. 762-63..
- 12) Harsh Mohan.Inflammation and Healing. In:Textbook of Pathology,5th ed. New Delhi:Jaypee Brothers Medical Publishers Ltd;2005. p.153-56.
- 13) Kaviraj Dr.Ambikadatta Shastri. SushrutaSamhita,Sutra sthana, Vranaprashnama Adhyaya, 3,14th ed, Chaukhamba Sanskrit Sansthan, Varanasi, 2003;86-87.
- 14) Ibidem Sushruta Samhita (13), Shonitavarnaniya Sutra Adhyaya, 44;56.
- 15) Ibidem Sushruta Samhita (13), Dosha-Dhatu-Mala-Kshyavriddividnyaniya Sutra Adhyaya, 8;57.
- 16) Ibidem Charaka Samhita (6), Raajyakshma Chikitsa Adhyaya, 42;461.
- 17) Ibidem Charaka Samhita (6), Maharoga Sutra Adhyaya,15;115.
- 18) Arunadatta Commentator, Ashtang Hridaya Samhita, Sutra Sthana, Doshabhedhiya Sutra Adhyaya,51/52, 9th ed, Chaukhamba Orientalia, Varanasi, 2002;201.

