

A STUDY ON KUDAL KIRUMI

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INTRODUCTION

The science of medicine must have originated with primitive and fore most means as it is of fundamental importance to his happiness, well being and survival and then must have developed all along, even since the dawn of civilization.

Siddha is perhaps the earliest medical science that laid stress on positive health a harmonious blending of physical mental, social, moral and spiritual welfare of an individual.

Birth without any deformity and life without disease is a boon to human kind. It reminds of the proverb “sound mind in a sound body” so there are two classes of disease physical and mental and each arise from the other. Mental disorders arise from physical and vice versa.

Medicine as every one knows is not merely a science but an art. It certainly deals with difficult process of life (ie) combating ailments and maintaining physical mental and moral health society. The siddhars were the saints who have controlled the inner aspect of mind mainly the evil. They followed the principles to attain the purity through mind and action.

The siddha system is based upon the panchapoothic and mukkuutra theory Panchapootham and mukkuutram comes under 96 thathuvas, which are the basic principles of siddha medicine. According to siddha science the universe and the body are composed by panchabootham and to say in short.

“அண்டத்திலுள்ளதே பிண்டம்”

Siddhars treated the body as well as mind and have also formulated the ways for the prevention of the diseases. The ancient siddha physicians were aware of the aetiology thridosha, pathology and symptoms of the disease with all its complaints and have tried various medicines with the diet restriction.

In this study an attempt has been made to trace out various aspect of disease such as aetiologcial factors risk factors, predisposing factors, clinical features, pathophysiology, pathogenesis of the disease and the investigation available in the siddha as well as modern system of medicine.

With these applied factors, literature dealing with Naakku puchi Noi and Masaraipuzhu Noi” has been collected and tried in the clinical side.

The contaminated food, lack of personal hygiene and poor environmental sanitation all together contributes for the occurrence of the above disease. Naakku puchi noi and masaraipuzhu noi is commonest disease in children. Intestinal infestation with the different types of worms are very common. The author have selected Naakku puchi noi (*Ascaris Lumbricoides*) and masaraipuzhu noi (*Giardiasis*) for the clinical study according to the description found in various siddha medical literatures. The author has chosen to evaluate and assess clinically the

therapeutic effect of a few anthelmintic drugs mentioned in siddha materia medica.

In siddha literature there are various medical preparations containing various raw drugs which are more effective clinically in curing the Naakku puchi noi and masaraipuzhu noi. Siddha literature developed their own way of diagnosing the disease by envagi thervugal. If the disease is unattended contended or not properly treated according to the aetiology, sign and symptoms, may cause death in many lives.

So according to the ancient Siddhar's concept of Nakku Puchi Noi and Masraraipuzhu Noi clinical study was taken up.

AIM AND OBJECTIVES

AIM:

Kudal Kirumi (Worm infestations) is prevalent world wide and more in regions with poor standards of personal and food hygiene and inadequate sanitation.

It is said that 40% of world's population are affected. In tropics especially children are more prone to infestation due to over crowding and lack of knowledge.

The principle aim of study of Kudal Kirumi with clinical study is to collect and review the views and ideas of the ancient Siddhars about this disease, having this basic aim in mind the following aim have been drawn.

OBJECTIVE:

- To make a clinical study on the basis of Siddha Literature.
- To utilize the diagnostic methods mentioned by the Siddhars.
- To make a comparative study on Naakkupuchi Noi and Masarai Puzhu Noi regarding their incidence & their effects on age, sex, occupation, etc.
- To know the extent of correlation of aetiology, signs and symptoms of Naakkupuchi Noi with Ascariasis and Masarai Puzhu Noi with Giardiasis.
- To use modern parameters in the investigation of the disease that enhances to observe the progress of the patient.
- To have clinical trial on Kudal Kirumi with Vidangathi Chooranam.
- To do the Pharmacological and Bio-chemical analysis of the drug.
- To high light the factors like diet, land climate condition and mainly the hygienic measures in the incidence Naakkupuchi Noi & Masarai Puzhu Noi.
- To make an awareness about the disease and counselling to the patients about the hygienic life.

REVIEW OF LITERATURE

SIDDHA ASPECTS

குடல் கிருமிகள்

இயல் :

குடலில் மிகுந்த அளவில் கிருமிகள் உண்டாவதால் வயிற்றுவலி, இசிவு, மலக்கட்டு அல்லது கழிச்சல், சருமத்தில் அரிப்பு, வாந்தி, சுரம் போன்றவைகளை உண்டாக்கும் நோய்.

நோய் வரும் வழி:

அசுத்தமான இடங்களில் இப்பூச்சிகளின் முட்டைகள் அதிக அளவில் காணப்படும். தூய்மையற்ற மலம் கலந்த மண்ணில் குழந்தைகள் விளையாடுவதாலும், மண்ணைத் திண்பதாலும், ஈ மொய்த்த பண்டங்கள், தூய்மையற்ற உணவு, காய்கறிகள், பழங்கள் ஆகியவற்றை உண்பதாலும், மிகுதியான இனிப்பு வகைகள், கெட்டுப்போன தயிர், பழைய சாதம், அழுகிய காய்கறிகள், பழங்கள் போன்றவைகளை உண்பதாலும், நாயுடன் நெருக்கமாக பழகுவதாலும் இந்நோய் பரவக்கூடும். இப்பூச்சியின் முட்டைகள் ஆகாரத்தின் வழியாக உட்சென்று கிருமியாகி ஆணும், பெண்ணும் கலந்து மேலும் இனவிருத்தியடைகின்றன.

குடல் புழுக்கள் உண்டாகும் விதம் :

குடல் புழுக்கள் அகக்காரணம், புறக்காரணங்களால் உற்பத்தியாகின்றன.

அகக்காரணம் :

உடற்குள் பக்குவாசயத்தையும், குடலையும் பற்றி பெரிய பூநாகம், தட்டைப் புழு, சன்னக்கிருமி, நெல்முளைக்கிருமி, (கொக்கி புழு),

வெண்மைக்கிருமி, செம்மைக்கிருமி என்ற பலவிதக் கிருமிகளும் கொட்ப்புழு, திமிர்ப்பூச்சி முதலிய கிருமிகளும் உண்டாகும். இவை மலத்தைப் பற்றியும் உண்டாகும் என்பர். மலம், சிறுநீர், ரத்தம், சுக்கிலம், சீழ், சளி வியர்வை இவற்றிலும் உற்பத்தியாவதுண்டு.

புற்காரணம் :

இது உடலின் அசுத்தையும், அழுக்கையும் காரணமாகக் கொண்டு உண்டாகும். வயிற்றுள் கிருமிகளிருப்பதால் பலவிதமான குறிகுணங்களை விளைவிக்கும்.

குடல் கிருமி நோயின் குறிகுணங்கள் :

இந்நோயில் அடிவயிறு கல் போல் திரண்டிருக்கும். வயிறு உப்புசம், தொப்புழைச் சுற்றி வலி, தூக்கத்தில் பற் கடித்தல், இசிவு, ஆசனப் பகுதியில் அரிப்பு, வாந்தி, சுரம், வயிற்றுப்போக்கு, சுவையின்மை, செரியாமை, கழிச்சல் ஆகிய குறிகுணங்கள் காணும்.

சில சமயங்களில் பூச்சிகள் அதிகமாக பெருகிவிட்டால் மலத்தோடாகிலும், வாந்தியோடாகிலும் வெளியேறும். நாக்குப் பூச்சிகள் சிலவேளைகளில் ஆசனத் துவாரத்தையும் அடைத்துக் கொள்வதுண்டு. இவ்வித மரணங்கள் பெரும்பாலும் குழந்தைகளில் தூக்கத்தில் இருக்கும்போது நேரிடும்.

குழந்தைகள் உண்ணும் ஆகாரத்தில் உள்ள சத்துக்களை இவை உறிஞ்சி வளர்வதால் குழந்தைகள் வன்மை குறைந்து வெளுப்பு நோயும், அதைத் தொடர்ந்து ஊதல் நோயும் உண்டாகும். தோலில் வெண்புள்ளிகள் ஏற்பட்டு தோலின் நிறம் மாறல், தடிப்பு, அரிப்பு, தினவு, சொரி, சிரங்கு முதலியன ஏற்படும்.

இவையல்லாமல் இருமல், கயநோய், அருசி, வாய்நீருறல், சூலை, மாலைக்கண், மூக்கில் புண் உண்டாகுதல் போன்ற நோய்களும் குடல் கிருமியினால் உண்டாகும்.

குடல் கிருமிகளின் வகைகள் :

பிள்ளைப்பிணி மருத்துவம் என்ற நூலில் கிருமிகளை 27 வகையாக பிரிக்கப்பட்டுள்ளது. இவற்றில் பத்தொன்பது வகை கிருமிகளும், ஐந்து வகை பூச்சிகளும், மூன்று வகை புழுக்களும் அடங்கும்.

➤ பிள்ளைப்பிணி மருத்துவம் பக்கம் 88-89.

பூச்சிகளின் வகைகளின் கீழ் :

1. நாக்குப்பூச்சி (Roundworm Ascariss)
2. கீரிப்பூச்சி (Maggot)
3. திமிர்ப்பூச்சி (small parasites in the intestine oxyuriasis)
4. பட்டைப்பூச்சி
5. நூல்பூச்சியும். (Treadworm – Enterobius vermicularis)

கிருமிகளின் வகைகளின் கீழ்

1. நீர்பாம்புகிருமி
2. நெல்முளைக்கிருமி (Hook worm – Ancylostoma duodenal)
3. சன்னநீளக்கிருமி (Filaria)
4. அணுக்கிருமி (Germ, microbe)
5. வெண்கிருமி (Thread Worm)
6. செங்கிருமி (Red Worm)
7. அந்தர்மலக்கிருமி (Worms of rectum oxyuris vermicularis)
8. வட்டக்கிருமி (Round Worm)

9. சூட்சுமக்கிருமி (Micro Zoom)
10. தோன்றாக்கிருமி (Invisible worm)
11. நீர்க்கிருமி (water worm)
12. மஞ்சள் கிருமி (Yellow organism)
13. கருங்கிருமி (Black Colored worm)
14. வாளக்கிருமி (Flagellated Germ)
15. குடல் கிருமி (Intestinal Worm)
16. ஈரல் கிருமி (Liver Flukes)
17. கணைக்கிருமி (Germ Responsible for kanam)
18. வயிற்றுக்கிருமி (Germs in the stomach)

புழுக்களின் வகைகளின் கீழ்

- சாட்புழு
- தான்புழு
- மசரைப்புழு (Worm in the intestine – செறிப்புழு)

என்றும் வகைப்படுத்தப்பட்டுள்ளது.

ஜீவரட்சாமிர்தம் என்ற நூலின் அடிப்படையில்

இதில் இருபது வகையான கிருமிகளைப் பற்றியும், அவைகள் தோன்றி வசிக்கும் இடபேதங்களினால் நான்கு வகையாகவும் கூறப்பட்டுள்ளது. அவைகள்.

- சரீரத்தின் மேல் இருப்பன
- கபத்தில் இருப்பன
- இரத்தத்தில் இருப்பன
- மலத்தில் இருப்பன என்பனவாகும்.

கபத்தால் ஆமாசயஸ்தானத்தில் பிறந்து விருத்தியாகி உள்சஞ்சரிப்பது, பெரும் பூநாக்கிருமி, நீர்ப்பாம்புக்கிருமி நெல்முளைக்கிருமி, சன்ன நீளக்கிருமி, அணுக்கிருமி, வெண்கிருமி, செங்கிருமி என ஏழு வகைப்படும். இவைத்தனித்தனியாகவும், கூட்டங்கூட்டமாகவும், காலில்லாமலும், வட்டமாக சுற்றிய நூலைப்போலும், பார்வைக்குப் புலப்படாத அணுப்போலும், தருப்பைப்பூ வாசனையைப் பெற்றும் குடலில் சஞ்சரிக்கின்றன.

உதிரத்தில் பிறந்து விருத்தியாகி இரத்த நாளங்களில் சஞ்சரிப்பது அணுக்கிருமி, வட்டக்கிருமி, மிகுசூஷ்மக்கிருமி, காலில்லாக்கிருமி, செங்கிருமி, தோற்றாக்கிருமி என ஆறுவகைப்படும்.

பக்குவாசயஸ்தானத்தில் பிறந்து வளர்ந்து மலாசயத்தில் சஞ்சரிப்பவை ககேருசம், மகேருகம், சவரசம், சலூனம், லேலிகம் என ஐந்து வகைப்படும். மேலும் இவற்றுடன் பட்டைப்பூச்சி, வட்டப்பூச்சி போன்ற பூச்சிகளும் குடலில் வசிக்கின்றன என ஜீவரட்சாமிர்த நூல் தெளிவுப்படுத்தியுள்ளது.

நாக்குப் பூச்சி (இரைப்பூச்சி) (Round worm-Ascariasis)

நாக்குப்பூச்சி, குடற்கிருமி என்றும் இரைப்பூச்சி என்றும் அழைக்கப்படுகிறது. இப்பூச்சி நான்கு முதல் பதினைந்து அங்குல நீளமுள்ளதாக இருக்கும். இது தவிட்டுநிறமானது. பெரும்பாலும் மலக்குடலில் சஞ்சாரம் செய்யும். இவை அதிகமாக பன்னிரண்டு வயதிற்குட்பட்ட சிறுவர்களிடமே காணப்படும். சாதாரணமாக குழந்தைகளிடம் முப்பது நாற்பது புழுக்கள் வரை இருப்பதுண்டு.

அசுத்தமான இடங்களிலுள்ள இப்பூச்சிகளின் முட்டைகள் ஆகாரத்தின் வழியாக அதிகமாக பூச்சி பெருகி விட்டால் மலத்தோடாகிலும், வாந்தியோடாகிலும் வெளிப்பட்டு விடுவதுமுண்டு. இப்பூச்சிகள் சில சமயங்களில் ஒன்று சேர்ந்து சுருண்டு கொண்டு தொண்டையின்

அடிப்பாகத்தையாவது. ஆசனத்துவாரத்தையாவது அடைத்து ஆபத்தை விளைவிக்கும். இப்பூச்சிகள் பெருக்கத்தினால் இரைப்பையிலும் வாசம் செய்ய ஆரம்பிப்பதனாலும், இயற்கையிலேயே இப்பூச்சிகள் ஒரு வித நீரைக் கக்குவதாலும் வயிற்றுவலியும், வாந்தியும் உண்டாகும்.

மேலும் இப்பூச்சிகள் விஷத்தால் காய்ச்சலும், ஆகார வெறுப்பும், வயிற்றுப் பொருமலும், அரோசகமும், வயிற்றோட்டமும், இழுப்பும் உண்டாகும். சில சமயங்களில் புழுக்கள் குடலைப் பின்னிக் கொள்வதால் வயிற்றைப்பிசைந்து சொல்ல முடியாத வயிற்றுவலியை உண்டு பண்ணும். நாக்குப்பூச்சி அதிகமாக உள்ளவர்களுக்கு முகம் வெளுத்திருக்கும். ஆசனவாயிலும், மூக்கு துவாரங்களிலும் பசுபசுமென்று நமைச்சல் இருந்து கொண்டேயிருக்கும். குழந்தை தூகத்தில் பற்கடிக்கும் அயர்ந்த நித்திரையில் குழந்தை திடுக்கிட்டு எழுந்திருக்கும். அடிவயிறு திரண்டு கல் போலிருக்கும் சில சமயம் வயிற்றோட்டம் ஏற்படும்.

நாக்குப் பூச்சிக் குறிகுணங்கள் :

“பேச்சை இனிகேள் பெருவயிறும் கொப்பூழும்
காய்ச்சலுட னோக்காளம் கக்குமே — மேய்ச்சலுறு
பூச்சியது நாகமாம் புவையே நீயறிந்து
நீச்சறவே வைமருத்தை நேர்”

பொருள்

வயிறு பெருத்தல், கொப்பூழ் மலர்தல், காய்ச்சல், ஓக்களித்து வாந்தி எடுத்தல் இக்குறிகுணங்கள் இருந்தால் நாக்குப்பூச்சி இருக்கும் என அறிந்து கொள்ள வேண்டும்.

- பாலவாகடம் பக்கம் 377.

நாக்குப் பூச்சியினால் குழந்தைகளுக்கு கிருமிசுரம், வாந்திபேதி காணும் வாயின் வழியாகவும், அபானத்தின் வழியாகவும் கிருமிகள் விழும். மேலும் கிருமி பித்தம் உண்டாகும். கிருமி பித்தம் எனப்படுவது மலத்தில் கிருமி விழுதல், வயிற்றை புரட்டி புரட்டி வலித்தல், உடல் முழுவதும் தினவு, வலி, மலசலம், வறட்சி, கை, கால் சில்லிட்டல், உடம்பில் நாற்றம் முதலிய குணங்களைக் காட்டும்.

T.V. சாம்பசிவன் பிள்ளை அகராதி பக்கம். 1450, 1451, 1452.

“நாக்குப்பூச்சியினாடுக் குணஞ் சொல்லிற்
பேரும் வந்தி பொருமும் வயிறது
வேகு நெஞ்சும் வயிறு காலொடு கை”

- பரராசசேகரம் பக்கம் 217.

என்பதிலிருந்து நாக்குப் பூச்சியினால் வாந்தி, வயிற்றுப்பொருமல், வயிற்று வலி, நெஞ்சுவலி, கை, கால் வலி, ஏற்படும் எனவும், நாக்குப் பூச்சிக்கு மருத்துவமும் பரராசசேகரத்தில் கூறப்பட்டுள்ளது.

சரபேந்திர சித்த மருத்துவச் சுடரில் வயிறு பெருத்து தொப்புள் மலர்ச்சியடைந்து காய்ச்சல், வாந்திபேதி உண்டாகும். வயிற்றுவலியும் இருக்கும். சரீரம் இளைத்துக் காணப்படும். மேற்கூறிய குறிகளிருந்தால் நாக்குப் பூச்சி நோய் என அறிந்து கொள்ள வேண்டும் எனக் கூறப்பட்டுள்ளது.

தன்வந்திரி வைத்திய நூலில் கிருமிகளின் தேர்வுக் குறிகளைப் பற்றி கூறும் பொழுது.

“வலித்திடும் மலம் விடாதே நானோறுத் தங்கியாக்கே
கலித்திடுஞ் சிறுபுழுத்தான் காயத்தை மிகக் கெடுக்கும்
மபான மட்டும் நசநச வென்றறிருந்து நோவா
மலத்தினிற் கிருமி தேர்வுமிவை யென வகுக்கலாமே”

பொருள் :

வயிற்றில் வாயு உண்டாக்கி தினந்தோறும் மலம் போகாமல் குடலில் தங்கும். சிறு சிறு புழுக்கள் சேர்ந்து உடலை வருத்தும். ஆசனவாயில் நசநச வென்று அரிப்பை தந்து வலியையும் கொடுக்கும். இவை கிருமி நோய்க் குறிகள் ஆகும்.

- தன்வந்திரி வைத்தியம் பக்கம் 268.

குருநாடி நூலில் கூறியுள்ளபடி கிருமியால் வரும் நோய்கள்.

“கிருமியால் வந்த தோடம் பெருகவுண்டு
கேட்கலதின் பிடுவதனைக் கிரமமாக
பொருமி வரும் வாயுவெல்லாக் கிருமியாலே
புழுக்கடி போல் காணுமது கிருமியாலே
செருமி வரும் பவத்திரங்கள் கிருமியாலே
தேகமதில் சோகை குட்டங் கிருமியாலே
துருமி வருஞ் சுரோணிதங் கிருமியாலே
சூட்சமுடன் கிளிசைப்பால் தொழில் செய்வீரே”

பொருள் :

கிருமிகள் பெருகும்போது பொருமல், வாய்வு, புழுக்கடி, பவத்திரம், சோகை, குட்டம், சுக்கிலப்பிரமேகம் ஆகிய ரோகங்கள் ஏற்படுவதுண்டு. அன்றியும் குன்மம், கயநோய், சுரம், பாண்டு, பெருவயிறு, விடக்கரப்பான், விடநீர்ச் சூலை, சுக்கிலநட்டம் இவற்றால் தாதுக்கள் கெட்டுத் தடிப்புண்டாகும். ஆதில் கிருமியுண்டாய் கிருமியுட விட நீரால் தேகமெல்லாம் பரவி குழிகுழியாய் புள்ளிபுள்ளியாய் கிருமியுட விடநீரால் குட்டம் விடகரப்பான் உற்பத்தியாகுமென்றறிக.

- சித்த மருத்துவ நோய்நாடல் நோய்முதனாடல் திரட்டு பக்கம் 250.

ஆத்மரட்சாமிர்தம் என்னும் வைத்திய சாரசங்கிரம் என்னும் நூலில் குடல் கிருமிகளின் குணங்களும் மருத்துவமும் எடுத்துரைக்கப்பட்டுள்ளது.

Curable Symptoms in Naakku Puchi :

“வயிறுதனிற் பூநாகந்தன்னை சந்ந்து
வருந்தியது புற்று போல பற்றி காணும்
எழும்பியது கிருமிதானிடைந்து புக்கில்
இயல் பெருகுங்குழல் மடவாய் சொல்லக்கேளு
கயிறு முறுக்கி விட்டாற் போல் தேகந்தன்னில்
கறகறத்து சொறியாகிக் காணும் சீழ்நீர்
உயிர் பெருகும் பண்டிதரே கரப்பான் செய்யும்.
உறுதி தனை நன்றாக ஊரணிப்பாரே”

- குருநாடி

Symptoms of enlarged stomach and bloated umbilicus, fever with nausea and vomiting can be easily cured with medicine of the Naakku Puchi. If left untreated it may lead to further complications like bloated stomach, itching all over the body, piles etc.,

Incurable symptoms in Naakku Puchi

“புழுவாந்தி குறிகள் புகழ்க் கேண்மோ
வளி முதல் மூன்றும் வகையத் தனித்தின
மிகுதலினாலும் விரவுதாலும்
அகட்டில் மர்பில் அடைத்து மலத்தில்
புழுக்கள் மிக்காய்ப் புகுந்து நெளிந்து
வயிறு வலித்தல் விக்கலுடன் நடுக்கல்
செயிறுற மர்பில் நோய் துடத்தல்
கோழை மிகுதல் கொண்டு வாந்தி
வீழலாகும் அதனிற்புழுக்கள்
வெளியோ மென்று விளம்பினாரன்றே”

In Naakku Puchi the worms more towards the pharynx and throat block them and prevent vomiting. On entering the nostrils and lungs block them and prevent respiratory function and ultimately reach an incurable stage and causes death of the patients.

Increase of mukku-trangal, salivation, vomiting of worms, chest pain, shivering, unbearable stomach pain are the symptoms which indicate that the disease of Naakupuchi Noi cannot be cured.

மசரைப் புழு நோய்க் குறிகுணம்

“சாருஞ் சீத மலந்தண்ணீர் துலங்க விடாம லேகழிந்து
சேறு மலம்போ லபானத்தைச் சேர்த்தல் வெளியில் வயிற்றினோய்
காசி னிறம்போல் கத்திரிக்காய் கசங்கல் போலக் கழிந்துகுத்தல்
வாரும் வடமுந் திகழ்முலையாய் மசரைப் புழுவின் குணமாமே.”

குழந்தை சோர்ந்து கிடத்தல், ஒரு வேளை சீதமாகவும், ஒரு வேளை மலமாகவும், ஒரு வேளை நீராகவும், ஒரு வேளை கலந்ததாகவும் கழிதல், மலவாய் வெளிவருதல், வயிற்று வலி என்னும் இவைகள் மசரைப் புழுவின் குறிகளாகும்.

- பாலவாகடம் பக்கம் 376

MUKKUTRA THEORY:

Whatever may be the cause attributed to the occurrence of Naakku Puchi Noi or any other diseases, the Siddha concept is that the manifestation of the disease is the result of disturbed Vatham, Pitham and Kabam dhosas.

“உற்றதோர் உடலின் கூறு
உறுப்புடன் விரலி நின்று
முற்றுமே நோய்கள் எல்லாம்
முதல்தனில் தோன்றும் போது
பற்றுமே வாத பித்த
சிலேற்பனந் தன்னில் ஒன்றையும்
பற்றியே தோன்றும் என்று
பகர்ந்தனர் முனிவர் தாமே”

- அகத்தியர் குரு நாடி.

Apart from other factors taste of the food have great inference over the physiological activities of the thiridhosas because the taste thiridhosas are formed by the different combination of five elements.

i.e. Pancha Bootham.

The combination of five elements in thiridhosas is as follows

Vali + Vinn – Vatham

Thee – Pitham

Neer + Mann – Kabam

MUKKUTRA VERUPADUGAL (PATHOGENESIS)

In Siddha system, the manifestations of all disease are the result of derangement of thiridhosas i.e. Vatham, Pitham and Kabam.

CLASSIFICATION OF VATHAM, PITHAM, & KABAM:

The description in anatomical and physiological Vatham has been made in ten forms with various functions where as Pitham and Kabam have been classified in five forms and have different functions.

VATHAM:

LOCATION OF VATHAM IN BODY

Piranan (Uyirkaal):

This control knowledge, mind & five objects of senses, responsible for breathing & digestion.

Abanan (Keezh nokkukaal)

Responsible for all downward movements such as passing urine, stools, sperm, including menstrual flow. Gets the ingested food extracts to their respective places.

Uthanan (Mel nokkukaal)

Helps in transport of the ingested food to different parts of the gut. Responsible for all upward visceral movements such as vomiting, eructation etc.

Viyanan (Paravukaal)

Viyanan spreads all over the body in all nerve endings and causes contraction and relaxation of muscles. This is also responsible for movement of all parts of the body.

Samanan (Nadukaal)

This is the neutralizing force for the above four vayus & aids for proper digestion.

Naagan

Responsible for higher intellectual functions like learning, thinking, singing etc. opening and closing of the eyelids.

Koorman

Responsible for vision and yawning. Lacrimal secretion is also attributed to koorman. Helps in bodybuilding.

Kirukaran

Responsible for salivation, nasal secretion, appetite and also for concentration of mind.

Devathathan

Responsible for laziness, sleeping and anger.

Dhananjeyan

Produces bloating of the body after death. It escapes on the third day after death by bursting the cranial sutures.

PITHAM

Location Of Pitham In The Body

Pitham is located in Pranavayu, Pinkalai, bladder, Moolakkini, heart, Umbilical region, abdomen, stomach, sweat, saliva, blood, eyes and skin.

THE VARIETIES OF PITHAM

Anala Pitham

This is responsible for the change of liquid state into solid state of food substances and helps for proper digestion.

Ranjagam

Converts the food extracts into blood. Gives red colour to blood.

Sathagam

This is responsible for coordination and proper functioning of the other types of Pitham causing determination and memory.

Aalosagam

This is responsible for vision.

Prasagam

Gives complexion and colour to skin.

KABAM:

Location Of Kabam In The Body

Kabam is located in Samanavayu, Sperm, Head, Tongue, Uvula, Fat, Bone marrow, Blood, Nose, Chest, Nerve, Bone, Brain, Eyes and joints.

THE VARIETIES OF KABAM

Avalambagam

Aids for proper function of other four types of Kabam. It is present in the lungs and controls the respiration.

Kilethagam

Makes the food moist and soft to help digestion.

Pothagam

Responsible for identifying taste in the tongue.

Tharpagam

Present in the head and responsible for the coolness of eyes.

Santhigam

Responsible for the lubrication and free movements of the joints.

Situated in the joints.

DERANGEMENT OF THIRIDHOSA IN KUDAL KIRUMI

VATHAM

Piranan

It was normal in both diseases.

Abanan

In Naakkupuchi Noi worms pass through the motion. In Masaraipuzhu Noi diarrhoea is the prominent symptom.

Viyanan

In Naakkupuchi Noi viyanan was affected. So, the body weight was reduced in children.

Uthanan

In Naakkupuchi Noi and in some cases of Masaraipuzhu Noi nausea and Vomiting is present.

Samanan

In Naakkupuchi Noi as well as in Masaraipuzhu Noi samanan was affected and causes loss of appetite.

Naagan

It was normal in Naakkupuchi Noi and in Masaraipuzhu Noi.

Koorman

It was normal in both diseases

Kirukaran

In both the Naakkupuchi Noi and Masaraipuzhu Noi kirukaran was affected and causes loss of appetite.

Devathathan

It was normal in both diseases

PITHAM

Anala Pitham

In Naakkupuchi Noi and in Masaraipuzhu Noi there was loss of appetite due to derangement of analam.

Pirasagam

In Naakkupuchi Noi paleness of skin was observed

Saathagam

It was normal in both diseases

Alosagam

It was normal in both diseases

Ranjagam

Those who were affected by Naakkupuchi Noi paleness of the body were seen.

Kabam

Avalambagam

It was normal in both diseases

Kilethagam

In Naakkupuchi Noi and in Masaraipuzhu Noi loss of appetite, indigestion was seen.

Pothagam

It was normal in both diseases

Tharpagaml

It was normal in both diseases

Santhigam

It was normal in both diseases

EZHU UDAL THATHUKKAL (SEVEN PHYSICAL CONSTITUENTS)

The physical body is constituted by the seven physical constituents. Each has its own specific structures and functions.

Saaram

It is the final product of the digestive process, which strengthens the body and mind and nourishes the blood.

Senneer

The saaram after absorption is converted into senneer. It is responsible for knowledge, strength, boldness and healthy complexion. Imparts colour to body and nourishes the muscles.

Oon

It gives structure and shape to the body and is responsible for the movement of the body. Give plumpness. Derangement of oon produces the symptoms of emaciation.

Kozhuppu

Lubricates the organs and thus facilitates their functions. Maintains oily matter of the body. It was affected by Naakkupuchi Noi.

Enbu

Forms the basic skeletal structure of the body. Responsible for locomotion and protection of vital organs.

Moolai

Present inside the core of the bone, which strengthens and maintains the normal conditions of the bone.

Sukkilam (Or) Suronitham

Responsible for the propagation of species

Paruva kaalam (season)

The whole year is constituted by the seasons. They are known as

- ❖ Kar Kaalam - (Avani and Purattasi) - Aug' and Sep'
- ❖ Koothir kaalam - (Iyppasi and Karthigai) - Oct' and Nov'
- ❖ Munpani Kaalam - (Markazhi and Thai) - Dec' and Jan'
- ❖ Pinpani kaalam - (Maasi and Panguni) - Feb' and Mar'
- ❖ Elavenil Kaalam - (Chithirai and Vaigasi) - Ar' and May'
- ❖ Mudhuvnil Kaalam - (Aani and Aadi) - June and July

In every season changes will occur in the land, water plants, animals and human beings, which will modify the physiology and make them susceptible to certain specific diseases which are common in that season.

Kabam gets Thannilai valarchi in pinpani kaalam and vetrunilai valarchi in Elavenil kaalam. Pitham gets Thannilai Valarchi in Kaar Kaalam and Vetrunillai Valarchi in koothir kaalam. Vatham gets thannilai valarchi in Mudhuvenil and Vetrunilai Valarchi in Kaar Kaalam.

Piniyari muraimai (diagnosis)

- This is done by
- Poriyalarithal
- Pulanalarithal
- Vinadhhal
- Envagai Thervugal

Poriyalarithal

Physician pori and pulan are used as the tools for examining the pori, pulan of the patient. Pori is the five organs of perception. They are nose, tongue, eyes, ears and skin. Poriyalarithal is examining the pori of the patient by the physician.

- Smell
- Taste
- Vision
- Sensation
- Sound

Vinadhah

By interrogation, the physician knows about the patient's name, age, occupation, native place, socio-economic status, family history, diet, habits, prone for any allergens, period of suffering his complaints, history of previous episode, frequency of attacks by change of season, relevant history of treatment and habits etc.

ENVAGAI THERVUGAL:

Envagai thervugal is the specialty of siddha diagnosis. These are the instruments for the physician to diagnose disease. This is described as follows,

“நாடிப்பரிசம் நாநிறம் மொழி விழி
மலம் மூத்திரமிவை மருத்தவராயும்”

- நோய்நாடல் நோய் முதல் நாடல் (முதல்பாகம்)

“தரணியுள்ள வியாதி தன்னை யட்டாங்கத்தால்
தானறிய வேண்டுவது யேதோ வென்னில்
திரணியதோர் நாடிகண்கள் சத்தத்தோடு
தேகத்தினது பரிசம் வருணம் நாக்கு
யிரணமல மூத்திரமமிவைக ளெட்டும்
யுதம்படவே தான்பாந்ததுக் குறிப்புங் கண்டு
புலனாளுளல் பெரியோர்கள் பாம் போற்றிப்
பண்பு தவறாமல் பண்டிதற் செய்வீரே”

- குணவாகட நாடி

“நீடிய விழியினாலும் நின்ற நாக்குறிப்பினாலும்
வாடிய மேனியினாலும் மலமொடு நீரினாலும்
கூடிய வியாதி தன்னைச்சுகம் பெற அறிந்து சொல்லே”

- அகத்தியர்

In Agathiyar vaidya vallathi – 600, Envagai thervugal have been mentioned as “Astavitha Paritchai’

“தொகுக்கலுற்ற அட்டவிதப் பரிட்சை தன்னை
துலக்கமுறும் பண்டிதரே தெளிவாகப்
புகர்கின்ற வார்த்தையைப் பார் நாவைப் பாரு
வகுக்கரிய தேகமெனத் தொட்டுப் பாரு
வயமன சரீரத்தின் நிறத்ததைப் பாரு
சகிக்கரிய மலத்தைப் பாரு சலத்தைபாரு
சுந்நதவிழி தனைப் பார்த்து தெளிவாய்க் காணே”.

-அகத்தியர் வைத்திய வல்லாதி - 600

ENVAGAI THERVUGAL

- | | |
|----------|--------------|
| 1. Naa | 5. Sparisam |
| 2. Niram | 6. Malam |
| 3. Mozhi | 7. Moothiram |
| 4. Vizhi | 8. Naadi |

Naadi

The examination of Naadi was used in diagnosis, prognosis of the disease. Anyhow in general the changes in thiridhosa are best diagnosed by feeling the Naadi. Vatha Naadi was seen in Kirumi.

“வாதமெனும் நாடியது தோன்றில்
 சீதமந்தமொடு வயிறு பொருமல் திரட்சி வாய்வு
 சீதமுறுங்கிராணி மகோதரம் நீரமை
 திரள்வாய்வு சூலை வலிக்கடுப்புத் தீரை
 நீதமுறுங்கி ருமிகுன்மம் அண்டவாதம்
 நிலையும் நீர்க்கிரிச்சரங்கள் தந்து மேகம்
 பேதகமன முதரபிணி மூலரோகம்
 பேச வெகுபிணிகளுமே பொருள தாமே.”

- சதகநாடி

வாதநாடி மீறி நடக்கில் வயிறுப்பல், வாயுதிட்சி, கிராணி, மகோதரம், சூலை, வலி, கிருமி, குன்மம், வயிற்று நோய், வாதசன்னி (கிருமியால் வரும் வலிப்பு), உடல் மெலிவு, கெண்டைக்கால் குடைச்சல், மலக்கட்டு, குடற்புரட்டல், விலாசந்து பொருந்துகள் இவை புண் போல நோதல், தேகமெல்லாம் குத்தல் அன்னம் செல்லாமை, கழிச்சல், வயிறுமந்தம் ஆகிய குறி குணங்களை காட்டும்.

- சித்த மருத்துவ நோய் நாடல் நோய்
 முதனாடல் திரட்டு பக்கம் - 166.

Naa (Tongue)

The tongue may be whitish and coated in Naakku Puchi Noi.

Niram

The colour of the patient's conjunctiva and tongue may be pale.

Mozhi

It was normal in both diseases

Vizhi

The colour of conjunctiva was pale in colour.

Malam

The motion of the patient was examined for its colour, presence of worms that indicate the dhosas.

Moothiram

The urine of patient was detected by its colour and compomsition.
The urine was detected through both Neerkuri and Neikkuri.

Sparism

It was normal in both diseases

Neerkuri and neikkuri:

Based upon the clinical features of a diseases and Naadhi, the diagnosis is further confirmed by the support of Neerkuri and Neikkuri test.

Collection of Urine for the determination of Neerkuri and Neikkuri.

“அருந்து மறிரதமும் அவிரோதமதாய்
அ.:கல் அலந்தல் அகால வுண்தவிர்ந்தழற்
குற்றளவருந்தி உறங்கி வைகறை
ஆடிக் கலசத் தாவியே கந்துபெய்
தொரு முகூர்த்தக் கலைக்குட்படு நீரின்
நிறக்குறி நெய்க்குறி நிரூமித்தல் கடனே”

- நோய்நாடல் நோய் முதல் நாடல் (முதல்பாகம்)

The patient must take only well cooked food in the previous day, the intake must be proportionate to the degree of his appetite. Food intake should be taken, at appropriate time.

He must have sound sleep on the previous night. The next day, the urine is collected in a glass container and closed immediately to prevent contact with external atmosphere. This specimen must be examined, within 1½ hour. This procedure should be followed strictly in order to get accurate reading in Neerkkuri and Neikkuri.

Neikkuri

Urine has the following features

1. Niram
2. Edai
3. Manam
4. Nurai
5. Enjal

“வந்த நீக்கரி எடை மணம் நுரை எஞ்சிலன்

றைந்தியலுளவை யறைகுது முறையே”

- நோய் நாடல் நோய் முதல் நாடல் (முதல்பாகம்)

Neikkuri

The diagnosis and prognosis of dhosic derangement of the disease are studied on the basis of the behaviour of a drop of gingely oil on the surface of the Urine in a wide vessel in the sunlight.

Methods for the determination of Thiri dhosa derangement by adding a drop of oil in to the urine as follows.

“நிறக்குறிக் குரைத்த நிருமண நீரிற்
சிறக்கவெண்ணை யோர்சிறுதுளி நடுவிடுத்
தென்றுறத் திறந்தொலி யோக தமைந்ததி
னின்ற திவலைபோம் நெறிவிழியறிவும்
சென்றது புகலுக்கு செய்தியை யுணரே”

- நோய் நாடல் நோய் நாடல் (முதல் பாகம்)

The Process Of Oil Indication

The urine specimen collected in the above stated procedure is analyzed as follows.

The specimen is kept open in a glass dish, well exposed to sunlight but it should not be disturbed by the movement of wind.

Then add one drop of gingely oil by a glass rod. Observe keenly the position of spreading of the oil drop.

“அரவென நீண்டினை:தே வாகம்”

“ஆழிபோற் பரவின் அ:தே பித்தம்”

“முத்தொத்து நிற்கின் மொழிவதென கபமே”

- நோய் நாடல் நோய் முதனாடல் (முதல்பாகம்)

If the drop spreads like a snake it indicates the Vatham disease. If it spreads like ring or pearl it indicates the Pitha and Kaba disease respectively.

Treatment

Treatment was based upon accurate recognition of etiology, diagnosis of the disease.

In this disease the unhygienic habits, unsanitary surrounding, improperly cooked food, lower the resistance of the individual resulting in upsetting the function of Vatham. The deranged vatham causes dysfunction of Kukkianal, which permits the multiplication of the intestinal worms in the Aamasayam.

Dietetic

“மருந்தே உணவு, உணவே மருந்து”

“மஹுபாடில்லாத உண்டி மறுத்துண்ணில்

ஊறு பாடில்லை யுயிர்க்கு”.

Good diet is the most important factor to maintain the body.

MODERN ASPECTS

ASCARIASIS

Definition

An infection of the intestinal tract caused by the adult *Ascaris Lumbricoides* and clinically manifested by Vague symptoms of nausea, abdominal pain and cough. The living worms are passed in the stool or through vomit occasionally, they may produce intestinal obstruction or may migrate into the peritoneal cavity.

Causative Organism : *Ascaris Lumbricoides*

Sub Family : Ascariodea

G.K. : *Ascaris* – An intestinal Worm.

It is commonly known as **Round Worm**. It was discovered by Linnaeus in 1758. Its life cycle was worked out as late in 1916.

Geographical distribution

Ascaris Lumbricoides (round worm) is the one of the most common and wide spread human infestations. Possibly one in four of the world population is infected. It occurs in Asia, Central and South America, Europe, Africa and North America.

It is common in humid areas.

In Central and South America the entire rate of infection is 45% Africa, 95% In Europe and the Southern USA.

Habitat

The adult worms are found in the intestine of man, mainly in jejunum and upper part of ileum.

Incidence

The incidence of Ascariasis is very high in rural areas with poor sanitation (80% or more). It is more frequent in children and often limited to some families.

Morphology**Adult worm**

It resembles an ordinary earthworm and is the largest intestinal nematode infesting man, when fresh from the intestine. It is light brown or pink in colour but it gradually changes to white. In shape it is rounded and tapers at both ends, the anterior end being thinner than the posterior the mouth opens at the anterior end and possesses three finely toothed lips one dorsal and two ventral. The digestive and reproductive organs float inside the body cavity contains an irritating fluid. The irritant action is due to the presence of a substance ascaron or ascarase which is probably of the nature of primary albumoses. Allergic manifestation seen in infected individuals and amongst Laboratory workers dissecting the worms are due to this ascaron. The life span of the adult worm in the human host is less than a year.

Male

It measures about 15cm to 24cm in length with a maximum diameter of 3 to 4mm. The tail end of each male is turned ventrally in the form of hook having a conical tip.

The genital pores open into the cloaca from which two curved copulatory spicules are produced. The anus opens with the ejaculatory duct into the cloaca.

Female

It is longer and stouter than the male and measures 25 to 40 cm in length with a maximum diameter of 5mm. The posterior extremity is neither curved nor pointed but is conical and straight. The anus is subterminal and opens directly on the ventral aspect in the form of transverse slit. The Vulvar in opening at the junction of the worms is narrower and is called the vulvar waist. The egg laying capacity of a mature female ascaris has been found to be enormous liberating about 2,00,000 eggs daily.

Eggs

The eggs liberated by a fertilized female pass out of the human host with the faeces.

The characteristics of fertilized egg

1. Round or oval in shape, 60-70 mm in length by 40-50mm in breadth.
2. Always bile stained and brownish (golden brown) in colour.
3. Surrounded by a thick smooth translucent shell with an outer aluminous coat which is thrown into rugosities or mammillation.
This outer coat is some times lost.
4. Contains a very large conspicuous unsegmental granular embryo.
5. Floats in saturated solution of common salt.

Incubational Period

The incubation period from infection of the swallowed eggs to the first appearance of the eggs in stool is 60-70 days. In larvae Ascariasis pulmonary symptoms occur within 4-16 days.

Life Cycle

The adult worm lives in the intestine of human being. No intermediate is necessary to complete the life cycle. Human being is the only known definite host for. *A. Lumbricoides*, continuance of the species is maintained by transference from one individual to another. Various stages in the life cycle is described below.

Stages of Life Cycle

1. Eggs in faeces
2. Developments in soil
3. Infection by ingestion
4. Migration through the lungs
5. Re-entry to alimentary canal.
6. Maturation of worms

Stage – I

Eggs in Faeces

The fertilized eggs containing the unsegmented ovum, passed with faeces. They are not infective to man when freshly passed.

Stage II

Development in Soil

A Rhabditiform larva is developed from the unsegmented ovum within the egg shell in 10-40 days time depending on the atmosphere, temperature and humidity. This takes place in the soil. The ripe egg containing the coiled up embryo is infective to human being.

Stage III

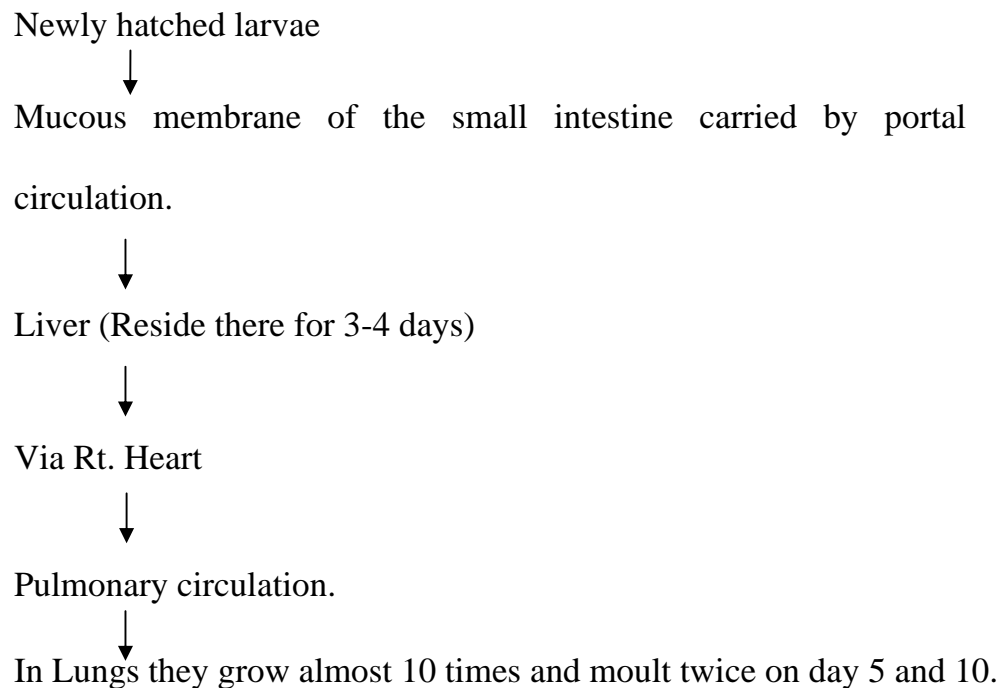
Infection by ingestion liberation of larvae

Man acquires infection by the ingested food, vegetable or drinks with the embryonated eggs, that passes down the duodenum where the digestive secretions weakens the egg shell and stimulate the enclosed

larvae into activity. Splitting of egg shell occurs and rhabditiform larvae measuring $250\ \mu$ in length by $14\ \mu$ diameter in the upper part of the small intestine.

Stage IV

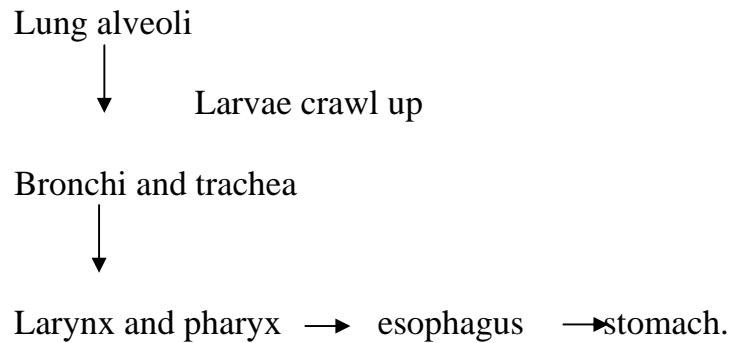
Migration through the lungs



This blood bath is necessary for development breaking through the capillary wall they reach the lung alveoli. Time taken for such migration is 10-15 days.

Stage – V

Re-entry into the stomach and small intestine



Swallowed into

It localises in the upper part of the small Intestine. Another moulting takes place on any day between 25th - 29th.

Stage – VI

Sexual maturity and egg liberation

The larvae on reaching their habitat grow into adult worm and become sexually mature in about 6-10 weeks. The gravid female, begin to discharge egg in the stool within two months from the time of infection. Again the cycle is repeated.

Mode of Infection

Infection is effected by swallowing ripe eggs of Ascaris with raw vegetables from infected soil. The drinking of water from Ascaris infected sources, where soil pollutions are common, the eggs may be directly conveyed to the mouth with dirty fingers. Infection may also

occur by inhalation of desiccate eggs from the dust reaching the pharynx and swallowed.

Immunology

A partial immunity may be acquired by man induced by the migrating larvae. Antigens are liberated during the moulting periods of the larvae and produce protective antibodies which lower the worms burden and play a part in the immune response. A severe allergic reaction occur when the larvae reach the small intestine for the second time. Eosinophilic count is increased at time of tissue invasion. Specific antibodies can be demonstrated in Ascaris infection, Hyper sensitivity to ascaris is determined by skin test.

Pathology

The important pathological features are listed below:

1. In uncomplicated intestinal Ascariasis, no pathologic changes are found.
2. Infarct or gangrene may develop due to intestinal obstruction, volvulus or local circulatory disturbances.
3. At sites of ectopic Ascariasis there is acute or chronic, inflammation with infiltration of eosinophils, histiocytes and nuclear cells.
4. Around ova in tissue, granuloma formation may occur.

5. Adult worms in tissue sections can be identified based on their typical polymarian musculature.
6. Larvae in tissue sections can be identified by their bilateral alae, intestine and two excretory columns.

Clinical Features

The Ascaris infections produce various clinical manifestations, which may be divided into two groups.

1. Those produced by the migrating larvae
2. Those produced by the adult worm.

Symptoms produced by migrating larvae

I. Larvae in lungs (Loeffler's Syndrome)

In heavy infection typical symptoms of pneumonia or asthma such as fever, cough and dyspnea may appear. The sputum which is often blood tinged may contain Ascaris larvae. Urticarial rash and eosinophilia are seen such cases.

II. Intestinal sign and symptoms

The Ascaris larvae reach your throat, where you cough them up and then swallow them, then enter the intestine. Where they mature and mate.

Mild sign and symptoms

- Vague abdominal pain
- Nausea and vomiting
- Diarrhoea or bloody stools.

Heavy sign and symptoms

- Severe abdominal pain
- Fatigue
- Vomiting
- Weight loss
- A worm in vomit or stools
- A worm emerging from nose or moths.

Larvae in general circulation

Ascaris larvae passes beyond the pulmonary capillaries and reach the general circulation, they may reach different organs of the body via the brain, eye, spinalcord, heart, kidneys etc., where they produce unusual clinical symptoms such as meningitis, retinitis and palpebral edema etc.,

Symptoms due to Adult worm

Affected children may suffer from physical and mental retardation. The parasitism of Ascaris is so vulnerable, when the host is deprived of nutrition. Death may occur in poorly nourished, who develop convulsions.

Larvae in circulation

May settle in

- Brain
- Heart
- Spinal Cord
- Kidneys.

Due to Adult Worm

By spoliative action .

- Robbing the host nutrition
- Hypovitaminosis A
- Malnutrition.

Toxic Action

- Fever, Urticaria
- Edema of face
- Conjunctivitis
- Irritation of upper respiratory tract.
- Meningitis.
- Rashes
- Paraplegia.

Mechanical Effects

- Intussusceptions
- Intestinal obstruction
- Intestinal perforation.

General Symptoms

The adult worm in the small intestine produces general discomforts such as nausea, vomiting, colic pain, indigestion, anorexia, pyrexia, nose pricking large amount of intestinal gas and disturbed sleep with grinding teeth. Occasionally there may be convulsions, meningitis or hemiplegia.

Ectopic Ascariasis (Wander lust)

The worms frequently migrate and enter the stomach and may pass up through the esophagus at night coming out through the mouth and the nose at times. Ascaris may enter into the respiratory passage causing suffocation and death.

The migrative ascaris may even enter the lumen of an appendix causing appendicitis, obstructive jaundice, acute bleeding. Pancreatitis have been reported when worms enter the biliary passage. At time it penetrates high up in liver causing abscess and hepatobiliary disturbances.

Risk factors

1. Poor sanitation and the use of human faeces as fertilizer, human faeces are allowed to mix with local soil. The eggs become infective and are capable of infecting people who eat products grown in contaminated soil or otherwise ingest the eggs.
2. Warm climate:
Ascaris worms thrive in milder climates.

Complication

1. Nutritional deficiency
2. Intestinal blockage and perforation
3. Allergic reaction.

Differential Diagnosis

1. Asthma
2. Allergic bronchopulmonary aspergillosis
3. Acute eosinophilic pneumonia
4. Hook Worm

Laboratory diagnosis

The laboratory diagnosis can be made by direct and indirect evidence.

Direct Evidence

Finding of adult worm in the stool

Above two months after ingestion of *Ascaris* eggs, the ascaris worms mature and lay thousands of eggs a day, which travel through digestive system and eventually may pass out spontaneously in stool or per anus. Even though if there is no administration of a specific Anthelminitics, may lead to the expulsion of worms. When passed in the faeces particularly after treatment, the parasites get paralyzed and get propelled by mode of peristalsis.

X – ray Diagnosis

The presence of *Ascaris Lumbricoides* has been demonstrated by radiography with barium emulsion, which being ingested by the worm within 4 to 6 hours casts an opaque shadow. (string like shadow)

Finding of Eggs

In the Stool

As the *Ascaris* eggs are passed in the stool in enormous numbers it should be easy to detect the infected persons by direct microscopical examination of a saline emulsion of the stool. Concentration by floatation methods may be employed for the detection of eggs in the stool. The unfertilized eggs do not float in salt solution. If the patient harbours a solitary male, eggs may not be found in stool.

The Bile

Microscopical examination of the bile stain obtained by duodenal incubation may reveal *Ascaris* eggs.

Indirect Evidence

a) Blood Examination

Eosinophilia is present only at the early stage of invasion but it present in the intestinal phase, suggests associated strongyloidiasis or toxocariasis.

b) Dermal Reaction

“Scratch test” with powered *Ascaris* Antigens has often been found to be positive but the results are variable.

c) Serodiagnosis

Serological tests like “ELISA, IHA” and microprecipitation on larvae are currently available.

GIARDIASIS

“Giardiasis is an infection of the small bowel by a single celled organism.

Causative Organism : Giardiasis Intestinalis

Giardia intestinalis is also known as Giardia lamblia, Giardia duodenalis, Lamblia intestinalis.

Discovery

It was seen by **Leeuwenhoeck** in 1681 while examining his own stool. Lamb (1859) Alexeify (1914) are also associated with the discovery.

Geographic Distribution

Worldwise, it occurs in all age groups though incidence appears to be higher in children.

Habitat

Duodenum and the upper part of jejunum in man.

Duration

The incubation period for Giardiasis is 1 to 3 weeks after exposure to the parasite.

Morphology

It exists 2 forms : Trophozite and cyst.

Trophozoite

This is the vegetative (actually feeding) stage, which is responsible for the colonization of the parasite in the human beings. In this stage, the organism resembles a longitudinally cut pear measuring about 10-20 μm in length, 6-15 μm in width and 1-3 μm in thickness. The dorsal surface is convex and the ventral surface concave. There is an ovoid adhesive disc in the anterior ventral surface. The dorsal surface provides an area for diffusion of nutrients. The anterior end is rounded and the posterior end tapers to a point. It is bilaterally symmetrical and all the organs of the body are symmetrical. Thus there are 2 oxostyles 2 nuclei and 4 pairs of flagellae. The parasite gives a typical monkey – face appearance on microscopic examination. Trophozoites multiply in the intestine by binary fission.

Cyst

When the environmental conditions are unfavourable, the trophozoites convert themselves in to more resistant cyst stage. The cysts are oval, measuring 8-14 μm in length and 6-10 μm in width. They contain 4 nuclei, which are usually positioned near one end or lie in pairs at opposite poles.

The remains of the flagellae and margins of the sucking disc may be seen inside the cytoplasm. The cysts are passed in the faeces.

These cysts survive best in wet conditions. These can withstand standard concentrations of chlorine used routinely in water purification systems.

Source Of Infection

Mainly human; probably beavers and other wild and domestic animals. Cysts are the infective stages to man. They are transmitted through a water source. Cysts have been shown to remain viable in water for upto 3 months. As few as 10 cysts can effectively establish an infection in human volunteers, hence there is high degree of infectivity associated with this parasite.

Life cycle

The infective stage is cyst, which is introduced in human body by oral route through water, food, hands or other body contact. Acidic environment of the stomach initiates excystation, which is completed in duodenum, and the new trophozoites make their home among the intestinal villi. Each cyst divides to form 2 trophozoites, which obtain nourishment by diffusion through the cell wall. Once the trophozoite is established. It multiplies by binary fission every five hours rapidly increasing in number. It can also localize in the biliary tract.

Causes of Giardiasis

1. Contaminated water supplies : Giardia is one of the most common cause of water borne diarrhoea out breaks.
2. Contaminated Food : Food that may have been washed in contaminated water. Exposed to manure or prepared by an infected person can transmit the disease.
3. Person to person contact : Infection may be caused by poor hygiene and most commonly occurs in daycare centre. Nursing home and homosexual males, family members daycare workers.

Clinical Features

Giardiasis presents itself in a variety of ways ranging from totally asymptomatic to a malabsorption syndrome. The symptoms produced in acute or chronic giardiasis are listed below.

Sl.No.	Acute	Chronic
1.	Diarrhoea (foul smelling)	Recurrent diarrhoea
2.	Greasy stools	Periodic constipation
3	Weight loss	Abdominal distension
4	Abdominal cramps	Fatigue
5	Anorexia, Vomiting	Nausea
6	Headache	Substernal burning
8	Low grade fever	Urticaria
7	Chills	Erythema nodosum
9	Mucus in stools	Malabsorption syndrome

Epidemiology

Giardiasis is endemic worldwide with highest prevalence in the tropics and subtropics. Water is probably the most common medium of transmission. Water contamination can be caused by leakage of sewage, failure of water purification systems, persons or animal reservoir hosts such as beavers. Food borne outbreaks are rare. Person – to – person transmission has been reported in homosexuals and day care centers. Localized epidemics frequently occur in children's institutions. Several large water –borne epidemics have occurred.

Pathology

In mild infections no histological changes are seen. In severe cases following changes have been recorded.

- a) Intestinal biopsy shows atrophy of villi, nodular lymphatic hyperplasia, and an increase in the number of intraepithelial lymphocytes and cellular infiltration of the lamina propria. These changes are non-specific.
- b) Carbohydrate malabsorption.
- c) Decreased excretion of pancreatic trypsin in paediatric patients.
- d) Deficiency of secretory IgA.

Susceptibility to Giardia infection

Some categories of people are more susceptible to infection with Giardia.

They are,

- a) Children
- b) Individuals with impaired Immune response.
- c) Individuals with achlorhydria or hypochlorhydria.

For development of resistance to Giardia infection – T-cell function is necessary. The development of asymptomatic carrier stage poses a constant threat for disease transmission.

Complication of Giardiasis

- Diarrhoea
- Liver Granuloma
- Malabsorption syndrome
- Reiters syndrome
- Reactive arthropathy.

Diagnosis

Demonstration Of Cyst In The Stool

Demonstration of the cysts of *G. lamblia* in the stool sample is the majority of diagnosis. If bowel movement is increased, trophozoites can be detected in the stool occasionally. Giardia cyst may be present in the

stool intermittently thus three stool examinations at an interval of 4-5 weeks are recommended to make the diagnosis.

False negative results in stool examination are due to many reasons such as:

- a) Periodic absence of cysts in stool.
- b) Parasite is detected only after the prepatent period is completed.
- c) Many medicines and radio-opaque materials can mask the organism in the stool.
- d) All concentration techniques can kill-the trophozoites.
- e) Delayed examination of stool can result in lysis of trophozoites.
 - Demonstration of trophozoite in Duodenal aspirate.
 - Intestinal Biopsy.
 - Detection of Antigen.
 - Detection of antibodies.

Demonstration of Trophozoite in Duodenal aspirate

In case of high index of suspicion in spite of three stool examinations failing to detect any cyst of this parasite, specimen of duodenal contents can be obtained using an enterotest, which employs a string containing gelatin capsule. Examination of duodenal contents may show typical falling – leaf motility of the trophozoites which is diagnostic. The parasite is attached so securely to the mucosa by means

of the sucking disc; a series of 5-6 stool samples may be examined without recovering the organisms.

Intestinal biopsy

Though the parasite can be demonstrated in intestinal biopsy. This procedure should be attempted unless it is strongly indicated clinically, by abnormal radiological findings or abnormal results in lactose tolerance test.

Detection of antigen

ELISA and CIEP tests have been used for the detection of Giardia antigens in faeces, but it is not yet established for the purpose of diagnosis. ELISA has been found to be as sensitive as microscopic wet examination. A fluorescent method with monoclonal antibodies has proven to be extremely sensitive and specific.

Detection of antibodies

ELISA and indirect immunofluorescence tests have shown good promise for the detection of antibodies in the serum. However, these are not available at present for routine examination.

I. Personal Protection

a) Food

Ground or fresh vegetables used for making salads should be thoroughly cleaned and preferable peeled before use. Pork, beef and fish should be cooked well to destroy the infective forms of the parasite embedded in the flesh.

b) Water

The drinking water should be boiled and filtered to prevent infection through ingestion of infected Cyclops especially in areas with high endemicity of these infections.

c) Skin

The children should be encouraged to wear shoes while playing in the field, which are likely to be contaminated with infected faeces. They should not run bare feet in the open field.

Diminishing the reservoir of infection

The water used for drinking should be protected from contamination from excreta and other contaminants. Men should not be allowed to bath in the wells used for drinking water. Larvicidal and molluscidal drugs should be used to destroy the infective forms of helminthes in water.

Health Education

a) Personal Hygiene

1. The habit of washing hands after defecation and before taking food should be encouraged.
2. Nails should be cut and cleaned daily with soap and brush.
3. The children should be prevented from scratching perianal region. Irritation and itching should be relieved by the use of antipruritic cream.

b) Publicity

The information on the mode of infection with the helminthes, methods of prevention and treatment should be widely disseminated.

c) Prophylaxis

1. Proper disposal of human stools.
2. Treatment of the affected individuals.
3. Education of children on sanitation and personal hygiene.

Prevention And Control

- Effective elimination of faecal contamination.
- Avoid contaminated water.
- Health education at individuals as well as community level.
- Avoid foods washed in contaminated water (or) that cannot be cooked or peeled.
- All water must be boiled, filtered.

- Wash hands thoroughly with soap and warm water.
- Wash hands after changing a baby's diaper.
- Identifying the source of infection in an outbreak situation.
- It is important to remember that cysts in the water can be inactivated by boiling the water or treating the water supply with hypochlorite or iodine (2-4 drops per litre of water) for about an hour. The concentration of chlorine employed in routine for chlorination of water. However, fails to kill the cysts of *Giardia lamblia*.
- The use of night soil (human faeces) for fertilization of crops should be recognized as a potential hazard, so proper disposal is must.

Self care at Home

Management of Diarrhoea

- Fluids such as sports drinks diluted fruit juices, flat soda, soups etc.,
- Should be taken in small amount frequently throughout the days.
- Avoid fluids containing caffeine.
- After 12 hours, the diet can be advanced to bland foods such as potatoes, noodles, rice toast, cereal, crackers, and boiled vegetables. Avoid spicy, greasy and fried foods.
- After stools become formed return to a regular diet. Avoid milk for several weeks.

MATERIALS AND METHODS

In this dissertation work the patients suffering often from Naakkupuchi Noi & Masarai Puzhu Noi were admitted in the Postgraduate Kuzhanthai Maruthuvam inpatient ward of Govt. Siddha Medical College Hospital, Palayamkottai. Those who fulfilled the criteria for Naakku Puchi Noi & Masarai Puzhu Noi according to the pathophysiology of Siddha reviews and Modern reviews were selected.

All those cases were clinically diagnosed by Siddha methodology of Poriyalarithal, Pulanalarithal, Vinaathal, Envagai thervugal, Neerkuri, Neikkuri and also with modern laboratory findings. Clinical investigations were fully done before and after treatment. Male & Female children were taken into account for the study. In both the systems of medicine Viz. Siddha and modern Paediatric Professors, Professor of Pharmacology and professor of Bio-chemistry opinion were obtained. A detailed proforma was formed and was approved by both the departments of Siddha and modern pediatric.

Methods:

The patients who fulfilled all the following criteria were selected for this study.

1. Age 12 & below 12 years.
2. Those who fulfilled the diagnostic criteria for NaakkuPuchi Noi and Masarai Puzhu Noi as per Siddha & Modern system of medicine.
3. Using the criteria, 20 patients were selected for treatment.

All well framed proforma, which contains the proper particulars both in the siddha and modern highlights. In the proforma patient's name, age, sex information, socio-economical status of the parents, educational status of the parents as well as the patient's complaints and duration, present history, previous history, history of pica, history of infections.

Siddha & Modern systems criteria for the diagnosis of **NaakkuPuchi**

Noi:

1. Loss of appetite.
2. Pain in abdomen
3. Teeth grinding during sleep
4. Abdominal distension with nausea, vomiting, cough, dyspnoea, fever.
5. Itching, Emaciation, Growth retardation.
6. Disturbed sleep

Siddha & Modern system's criteria for the diagnosis of **Masaraipuzhu**
Noi

1. Sudden onset of explosive watery foul smelling diarrhoea.
2. Abdominal distension
3. Flatulence
4. Nausea
5. Anorexia
6. Epigastric cramps.

The laboratory investigations have been done in the laboratory of Govt. Siddha Medical College, Palayamkottai.

Clinical Examination:

All the cases were subjected to the following investigations.

1. Neerkuri, Neikkuri
2. Complete blood analysis – TC, DC, ESR & Hb.

Method of treatment:

Siddha system of medicine is based on Mukkutra theory and hence the treatment is mainly aimed to bring down the thiridhosa to its equilibrium state and thereby restoring the physiological condition of thiridhosa.

The medicine chosen for this study was **Vidangathi** Chooranam with hot water od., for 3 days therapy at night after the food.

The dose is adjusted according to the age of the patient & the severity of the disease.

Stools Examination:

In Naked eye examination, the following are noticed.

- Quantity
- Colour
- Consistency
- Odour
- Blood & Mucous
- Parasites

Saline preparation method is used to detect the organisms in the faeces.

Procedure

A bit of faecal matter is taken on the end of narrow stick and a thin emulsion in drop of saline is prepared on the slide. A cover slip is placed and the smear is examined to detect the motility of organisms.

Ova and Cyst

Concentration method to detect ova and cyst in the faeces.

Procedure

1ml of faeces is taken in a flat-bottomed vertical edged container of 15-20ml capacity with a diameter of not more than 1½ inches.

A few ml of saline is added and an even emulsion is prepared. Gradually more saline is added till the receptacle is full of a glass slide is then placed across the mouth of the receptacle. That the center is in contact with the fluid. The preparation is kept for 20-30 minutes. (Eggs take 20-30), minutes to come to the surface of the fluid). The glass slide is quickly lifted up and smoothly twined to avoid spilling of the liquid. The slide is then examined under the microscope for detection of the eggs.

Study of Anthelmintic effect

All the patients with signs and symptoms of Kudal Kirumi are confirmed by both Siddha and modern parameters and were given with dissertation medicine.

Observation & daily progress were recorded to have an idea about the presence of anyone of the complaints of Kudal Kirumi. Severity of the disease and effects of the drug were noted & assessed. Routine blood investigations were done. Stool examinations were also observed at the time of admission and at the time of discharge.

LINE OF TREATMENT OF NAAKKA PUCHI NOI AND MASARAI PUZHU NOI

When treating for removal of the diseases, the following principle must be noted.

”நோய்நாடி நோய்முதல் நாடி அதுதணிக்கும்
வாய்நாடி வாய்ப்பச் செயல்”

And the Siddha treatment is fully based on the herbals.

”வேப்பாரு, தழைபாரு, மிஞ்சினக்கால் மெல்ல மெல்ல
பற்ப செந்தூரம் பாரே”

Siddha Maruthuvam says begin treatment with mooligai medicine first. If the prognosis with the drug is poor then slowly use parpam and chenduram.

1. First bring out the thiridhosha to it's normal physiological activities. Anthelmintic are to be administered.
2. After neutralizing the thiridhosha appetizer drugs are given to increase the appetite.
3. For improving the blood, iron preparation are used
4. Removal of the causative factors.
5. Dietetic treatment is so equal as to medicine.

Medicine are advised to be in the form of Kudineer, Chooranam. Pills, Lehyams Parpam, Chenduram etc. The author selected vidangation chooranam.

In addition to Naakku Puchi Noi and Masarai Puzhu Noi symptoms like loss of appetite, Pain in abdomen, Teeth grinding during sleep, Abdominal distension with nausea, vomiting, cough, dyspnoea fever, Itching, Disturbed sleep, Epigastric cramps, flatulence, diarrhea.

Treatment

Treatment is to be based upon accurate reconsideration of aetiology, diagnosis and prognosis of the disease. The proper treatment is based upon proper diagnosis. Particularly with a view to the thiridhosha pathology. Before the treatment is given to the patient we have to ascertain whether the disease is curable or rarely curable or incurable.

Before starting the actual treatment the presence or absence of toxin in the body produced due to derangement of thirithathus is noted. This is explained in Siddhar as follows.

”பேதியால் வாதந் தாமும்

வமனத்தால் பித்தம் தாமும் - றசிய

அஞ்சனத்தால் கபந் தாமும்”

In this disease the in hygienic habits, in sanitary surrounding, Improperly cooked food. Lower the resistance of the individual resulting in upsetting the function of vatha the deranged Vatha cases dysfunction of kukkianal which permits the multiplication of the Intestinal worms in the Aamasayam.

RESULT AND OBSERVATION

For the clinical study 20 cases were selected and treated in the In patient ward, P.G. IV Kuzhanthai Maruthuvam Department G.S.M.C hospital, Palayamkottai, Results were observed with respect to the following criteria.

- Incidence
- Sex Reference
- Age Reference
- Religion Reference
- Socioeconomic Status in the Patient Reference
- Diet Reference
- Thinai
- Paruva Kaalam
- Mode of onset Reference
- Clinical features during admission
- Thiridhosa theory
- Ezhu Udarkattugal Reference
- Envagai thervugal reference
- Neerkuri Neikkuri reference
- Aetiology reference
- Results after treatment reference

The observations recorded with the above said criteria were given in the tabular form.

Table – 1

Incidence

S. No.	Infestation	No. of Cases	Percentage
1.	Ascariasis	6	30
2.	Giaradiasis	14	70

Among 20 In-Patients the incidence of Ascariasis was found in all 6 cases (30%). The incidence of Giaradiasis was found in all 14 cases.

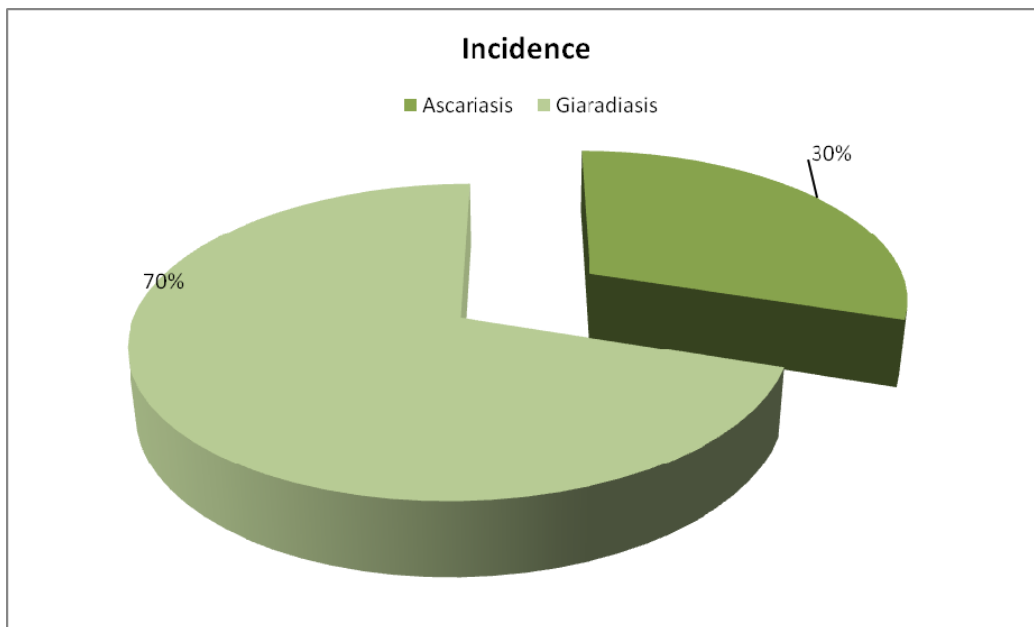


Table – 2

Sex Reference

S. No.	Sex	Ascariasis		Giardiasis	
		No. of Cases	Percentage	No. of Cases	Percentage
1.	Male Children	4	20	6	30
2	Female Children	2	10	8	40

Regarding Ascariasis, among 6, 4 were male children (20%), 2 were female children (10%). Regarding Giardiasis among 14, 6 were male children (30%), 8 were female children (40%).

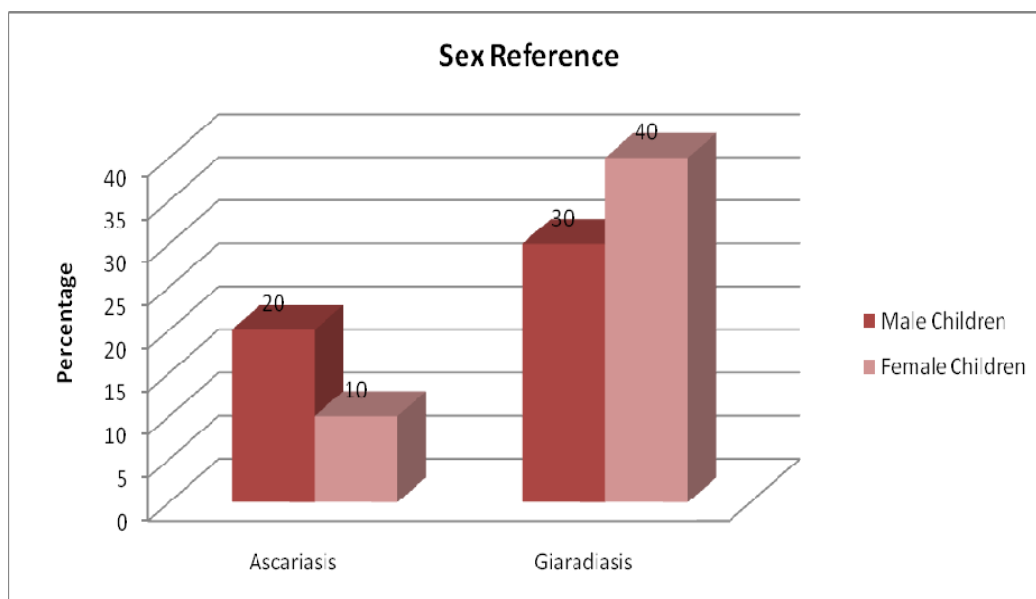


Table - 3**Age Reference**

S. No.	Age	Paruvam	Ascariasis		Giardiasis	
			No. of Cases	Percentage	No. of Cases	Percentage
1	1-6 months	Kaappu Paruvam	-	-	-	-
2	6-12 months	Senkeerai Paruvam	-	-	-	-
3	1-1½ years	Thaala Paruvam	-	-	-	-
4	1½-2 years	Sappani Paruvam	-	-	-	-
5	2-2½ years	Muththa Paruvam	-	-	-	-
6	2½-3 years	Varugai Paruvam	-	-	-	-
7	3-3½ years	Ambuli Paruvam	1	5	1	5
8	3½-4 years	Chitril Paruvam	-	-	2	10
9	4-4½ years	Siruparai Paruvam	-	-	-	-

10	4½-5 years	Siruthaer Paruvam	-	-	-	-
11	5-6 years	Paeathai (Male)	-	-	1	5
		Pillai (Female)	1	5	1	5
12	6-12 years	Pethumbai (Female)	2	10	3	15
		Siru Paruvam (Male)	3	15	5	25

Regarding Ascariasis, among 6, 1 patient was in Ambuli Paruvam (5%), 1 patient was in Pillai Paruvam (5%), 2 patients were in Pethumbai Paruvam (10%), 3 Patients were in Siru Paruvam (15%). Regarding Giardiasis among 14 patients, 1 patient were in Ambuli Paruvam, 2 patients were in Chitril Paruvam (10%), 2 patients were in Peathai Paruvam (10%), 3 Patients were in Pethumbai Paruvam (15%), 5 patients in Siru Paruvam (25%).

Table – 4

Religion Reference

S. No.	Religion	Ascariasis		Giardiasis	
		No. of Cases	Percentage	No. of Cases	Percentage
1	Hindu	4	20	12	60
2	Christian	2	10	2	10
3	Muslim	-	-	-	-

Regarding Ascariasis, among 6, 4 patients were Hindus (20%), 2 patients were Christian (10%). Regarding Giardiasis, among 14, 12 patients were Hindus (60%), 2 patients were Christians (10%).

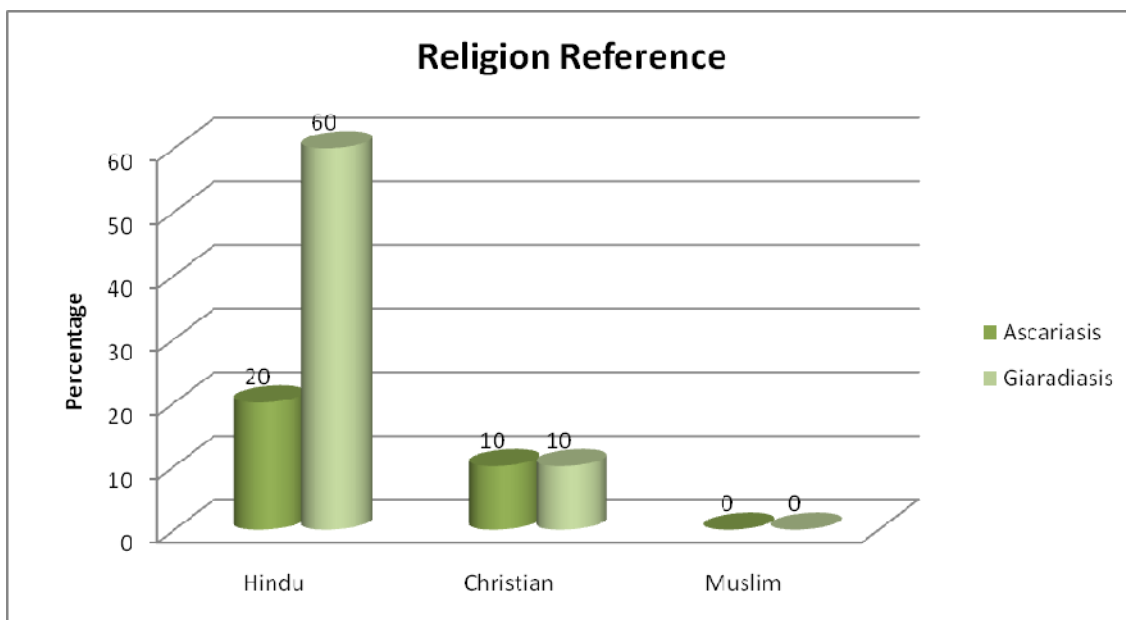


Table – 5

Socio Economic Status of the Patients

S. No.	Socio Economic Status	Ascariasis		Giardiasis	
		No. of Cases	Percentage	No. of Cases	Percentage
1.	Poor	6	30	14	70
2	Middle	-	-	-	-
3	Rich	-	-	-	-

Regarding Ascariasis and Giardiasis all 20 Patients were from poor Socio-Economic Status.

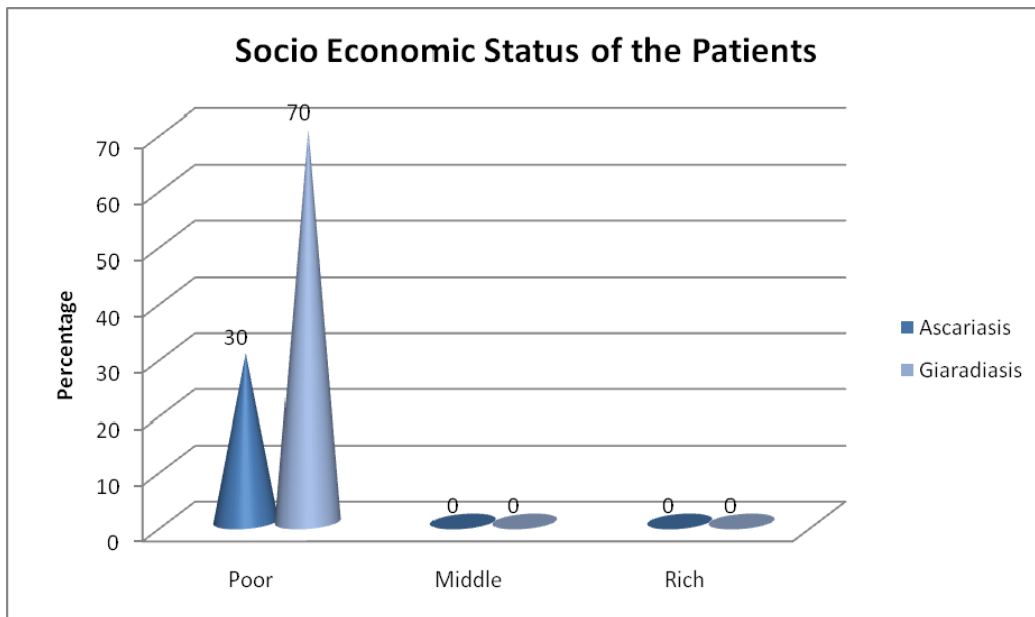


Table – 6
Diet Reference

S. No.	Diet Habit	Ascariasis		Giardiasis	
		No. of Cases	Percentage	No. of Cases	Percentage
1	Vegetarian	1	5	2	10
2	Mixed diet	5	25	12	60

Regarding Ascariasis, among 6, 1 patient was a vegetarian (5%), 5 patients were taking mixed diet (25%). Regarding Giardiasis, among 14, 2 patients were vegetarian (20%), and 12 patients were taking mixed diet (60%).

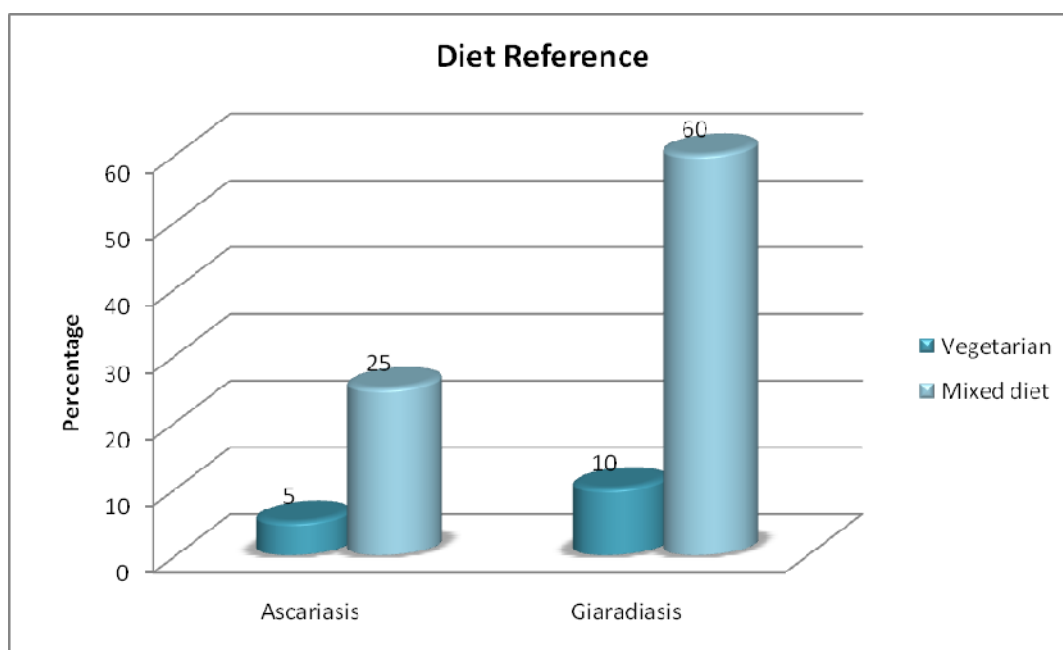


Table – 7

Thinai

S. No.	Thinai	Ascariasis		Giardiasis	
		No. of Cases	Percentage	No. of Cases	Percentage
1	Kurinji	-	-	-	-
2	Mullai	-	-	-	-
3	Marutham	6	30	14	70
4	Neithal	-	-	-	-
5	Paalai	-	-	-	-

Cent Percent of cases were from Marutha Nilam (20).

Table – 8**Paruva Kaalam**

S. No.	Paruva Kaalam	Ascariasis		Giardiasis	
		No. of Cases	Percentage	No. of Cases	Percentage
1	Kaar Kaalam (Avani & Puratasi)	-	-	9	45
2	Koothir Kaalam (Iyppasi & Karthigai)	1	5	1	5
3	Munpani Kaalam (Markazhi & Thai)	-	-	-	-
4	Pinpani Kaalam (Maasi & Panguni)	-	-	-	-
5	Elavenil Kaalam (Chithirai & Vaikasi)	1	5	-	-
6	Muthuvenil Kaalam (Pani & Addi)	4	20	4	20

Regarding Ascariasis among 6, 1 patient had been admitted in Kaar Kaalam (5%), 1 patient had been admitted in Elavenil Kaalam (5%), 4 patients had been admitted in Muthuvenil Kaalam (20%).

Regarding Giardiasis among 14, a patients had been admitted in Kaar Kaalam (45%), 1 patient had been admitted in Koothir Kaalam (5%). 4 patients had been admitted in Muthuvenil Kaalam (20%).

Table - 9

Mode of Onset

S. No.	Mode of Onset	Ascariasis		Giardiasis	
		No. of Cases	Percentage	No. of Cases	Percentage
1	Acute	6	30	14	70
2	Chronic	-	-	-	-

Regarding Ascariasis and Giardiasis all 20 patients had acute on set of diseases.

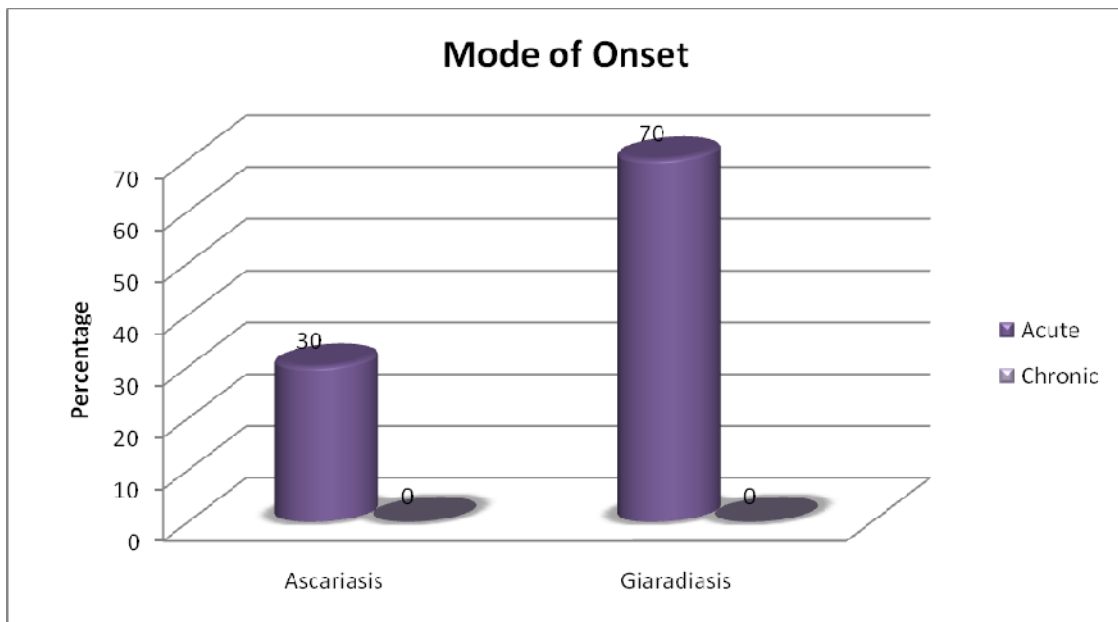


Table – 10**Clinical Features During Admission**

S. No.	Clinical Features	Ascariasis		Giardiasis	
		No. of Cases	Percentage	No. of Cases	Percentage
1	Pain in Abdomen	6	30	14	70
2	Nausea	2	10	4	20
3	Loss of appetite	6	30	14	70
4	Vomiting	1	5	2	10
5	Distended Abdomen	-	-	-	-
6	Skin Rashes	-	-	-	-
7	Disturbed Sleep	6	30	-	-
8	Pallor of the body	2	10	-	-
9	Loss of body weight	2	10	-	-
10	Diarrhoea	-	-	14	70
11	Worms in Faeces	2	10	-	-
12	Cough & Wheezing	-	-	-	-

Regarding Ascariasis among 6.

- Pain in Abdomen was present in all 6 cases (30%).
- Loss of appetite was present in all 6 cases (30%).
- Disturbed sleep was present in all 6 cases (30%).
- Nausea was present in 2 cases (10%)

- Vomiting was present in 1 case (5%)
- Pallor of the body was present in 2 cases (10%)
- Loss of body weight was present in 2 cases (10%).
- Worms in the faeces was present in 2 cases (10%).

Regarding Giardiasis, among 14 cases,

- Nausea was present in 4 cases (20%)
- Pain in abdomen was present in all 14 cases (70%)
- Vomiting was present in 2 cases (10%).
- Loss of appetite was present in all 14 cases (70%).
- Diarrhoea was present in all 14 cases (70%).

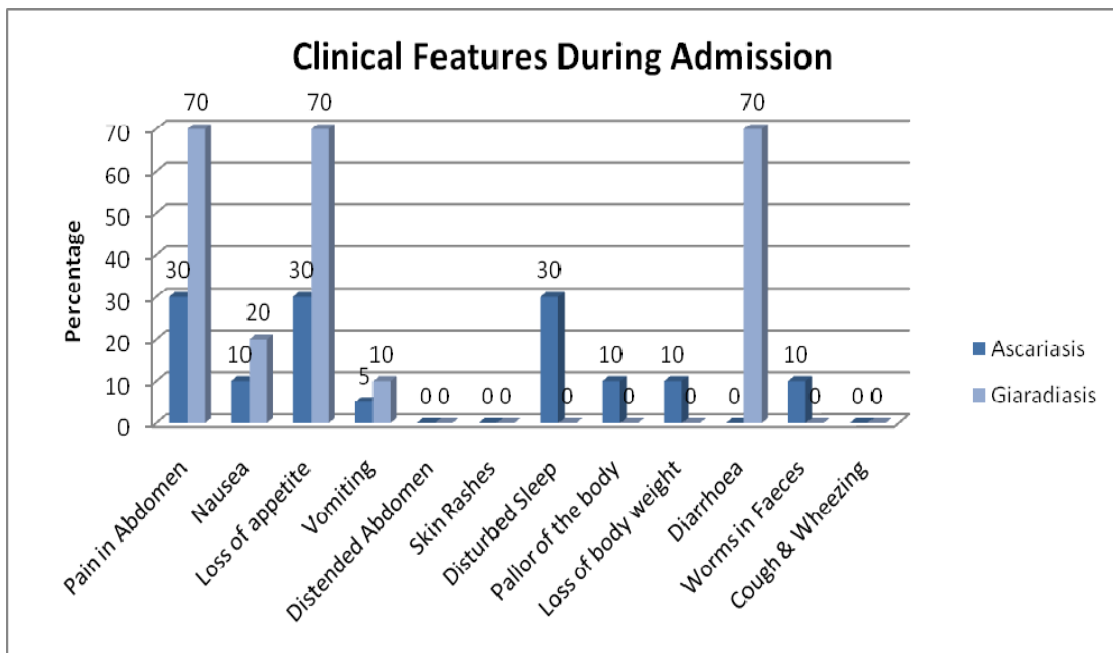


Table – 11

Thiridhosa Reference.

Taste showing the derangement of Vatham

S. No.	Classification of Vatham	Ascariasis		Giardiasis	
		No. of Cases	Percentage	No. of Cases	Percentage
1	Piranan	-	-	-	-
2	Abanan	-	-	14	70
3	Viyanan	6	30	14	70
4	Uthanan	5	25	10	50
5	Samanan	6	30	14	70
6	Nagan	-	-	-	-
7	Koorman	-	-	-	-
8	Kirukaran	6	30	14	70
9	Devathathan	6	30	-	-
10	Thananjayan	-	-	-	-

Regarding Ascariasis, among 6 patients

Derangement of Uthanan was observed in 5 cases (25%).

Derangement of Viyanan , Samanan, Kirukaran was observed in all 6 cases (30%).

Derangement of Devathathan was observed in all 6 cases (30%).

Regarding Giardiasis among 14 patients

Derangement of Abanan, Viyanan, Samanan, Kirukaran was observed in all 14 cases (70%).

Derangement of Uthanan was observed in 10 cases (50%).

Table – 12

Showing the Derangement of Pitham

S. No.	Classification of Pitham	Ascariasis		Giardiasis	
		No. of Cases	Percentage	No. of Cases	Percentage
1	Anila Pitham	6	30	14	70
2	Ranjagam	2	10	-	-
3	Sathagam	6	30	14	70
4	Prasagam	2	10	-	-
5	Aalosagam	-	-	-	-

Regarding Ascariasis, among 6 patients,

Derangement of Anila Pitham, Sathagam was observed in all 6 cases (30%).

Derangement of Ranjagam, Pirasagam was observed in 2 cases (10%).

Regarding Giardiasis, among 14 patients,

Derangement of Anila Pitham, Sathagam was observed in all 14 cases (70%).

Table – 13

Showing the Derangement of Kabam

S. No.	Classification of Kabam	Ascariasis		Giardiasis	
		No. of Cases	Percentage	No. of Cases	Percentage
1	Avalambagam	6	30	14	70
2	Kilethagam	6	30	14	70
3	Pothagam	-	-	-	-
4	Tharpagam	-	-	-	-
5	Santhigam	-	-	-	-

Regarding Ascariasis among 6 patients,

Derangement of Avalambagam, Kilethagam was observed in all 6 cases (30%).

Regarding Giardiasis, among 14 patients.

Derangement of Avalambagam, Kilethagam was observed in all 14 cases (70%).

Table – 14

Ezhu Udarkattugal References

S. No.	Udarkattugal	Ascariasis		Giardiasis	
		No. of Cases	Percentage	No. of Cases	Percentage
1	Saaram	6	30	14	70
2	Seneer	2	10	-	-
3	Oon	2	10	-	-
4	Kozhuppu	2	10	-	-
5	Enbu	-	-	-	-
6	Moolai	-	-	-	-
7	Sukkilam	-	-	-	-
8	Suronitham	-	-	-	-

Regarding Ascariasis, among 6 patients.

- Saaram was affected in all 6 cases (30%).
- Seneer was affected in 2 cases (10%)
- Oon was affected in all 2 cases (10%).
- Kozhuppu was affected in 2 cases (10%).

Regarding Giardiasis, among 14 patients,

- Saaram was affected in all 14 cases (70%).

Table – 13

Envagai Thervugal Reference

S. No.	Envagai Thervugal	Ascariasis		Giardiasis	
		No. of Cases	Percentage	No. of Cases	Percentage
1	Naa	2	10	-	-
2	Niram	2	10	-	-
3	Mozhi	-	-	-	-
4	Vizhi	2	10	-	-
5	Malam	6	30	14	70
6	Moothiram	-	-	-	-
7	Saaram	-	-	-	-
8	Naadi (Vatha Kalappu)	6	30	14	70

Regarding Ascariasis, among 6 patients Naa, Niram, Vizhi was affected in 2 cases (10%).

Malam was affect in all 6 cases (30%).

Regarding Giardiasis, among 14 patients.

Malam was affected in all 14 cases.

Vatha Kalappu Naadi has found in all 20 cases (100%).

Table – 14**Neerkuri Neikkuri – Reference**

S. No.	Type of cases.	Ascariasis		Giardiasis	
		No. of Cases	Percentage	No. of Cases	Percentage
1	Neerkuri “Vaikkol Niram”	6	30	14	70
2	Neikuri “Muththothu Nital”	6	30	14	70

The colour of urine in all cases was “Vaikkol niram” (100%). In all cases (100%) the urine represented kaba neer (Muththothu Nital)

Table – 15**Aetiology Reference**

S. No.	Aetiological Factors	Ascariasis		Giardiasis	
		No. of Cases	Percentage	No. of Cases	Percentage
1	Picca	2	10	3	15
2	Poor dietary habits	4	20	8	40
3	Drinking unsterilised water drawn from polluted sources	6	30	14	70

Regarding – Ascariasis, among 6 patients, Poordietary habits was the aetiological factor in 4 cases (20%)

Drinking unsterilised water drawn from polluted sources was the aetiological factor in all 6 cases (30%) picca was the aetiological factor in 2 cases (10%) . regarding Giardiasis, among 14 patients, poor dietary habits was the aetiological factor in 8 cases (40%)

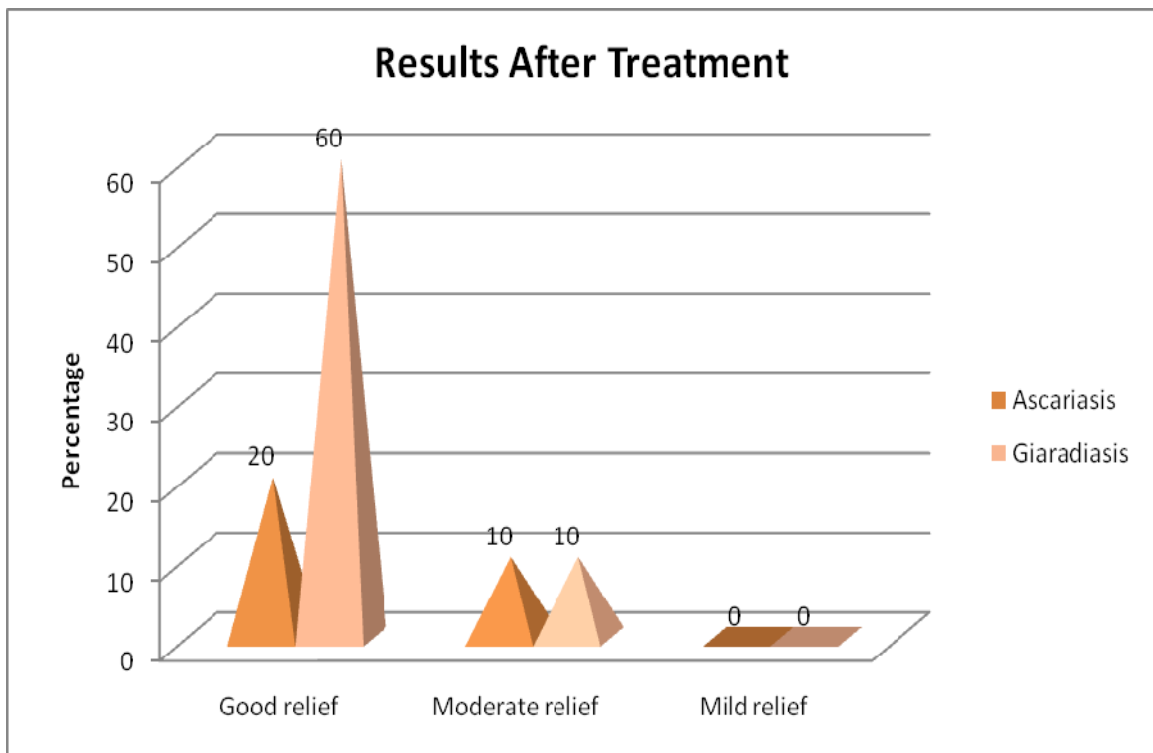
Drinking unspecialized water drawn from polluted sources was the aetiological factor in all 14 cases (70%)

Picca was the aetiological factor in 3 cases (15%)

Table – 16

Results After Treatment

S. No.	Results	Ascariasis		Giardiasis	
		No. of Cases	Percentage	No. of Cases	Percentage
1	Good relief	4	20	12	60
2	Moderate relief	2	10	2	10
3	Mild relief	-	-	-	-



IN-PATIENT CASE REPORT OF TWENTY CASES FOR THE DISEASE OF KUDAL KIRUMI

Sl.No	IP.No	Name	Age / Sex	Duration of illness	Sign and Symptoms	Admission Date	Discharge Date	No.of days Treated
1	1357	Venugopal	7 MC	15 days	Pain in abdomen, loss of appetite Nausea, Disturbed Sleep	25-5-2008	2-6-2008	5
2	1494	Saravan perumal	3 MC	10 days	Pain in abdomen,loss of appetite, vomiting, disturbed sleep	10-06-2008	16-6-2008	5
3	1535	Vinesh	6 MC	20 days	Loss of appetite, pain in abdomen, pallor of the body, loss of body weight,disturbed sleep, worms in faeces	14-6-2008	16-6-2008	3
4	1495	Sakthi Eswaran	8 MC	7 days	Nausea, pain in abdomen loss of apetite, Diarrhoea	12-6-2008	16-6-2008	5
5	1673	Vedhan	8 MC	25 days	Pain in abdomen, loss of appetite disturbed sleep	26-8-2008	3-6-2008	8
6	1702	Mariammal	4 FC	8 days	Pain in abdomen, loss of appetite disturbed sleep	30-6-2008	4-7-2008	5
7	1891	Radha	5 FC	15 days	Pain in abdomen, loss of appetite Diarrhoea, Nausea	19-7-2008	21-7-2008	3
8	1875	Johnsirani	11 FC	10 days	Pain in abdomen, loss of appetite disturbed sleep, worms in paeces, Loss of body weight, pallor of the body	18-7-2008	22-7-2008	5
9	1920	Enbamani	5 MC	1 MONTH	Pain in abdomen, loss of appetite, vomiting,diarrhoea	21-7-2008	28-7-2008	8
10	1844	Vidhiya	10FC	5 days	Loss of appetite, pain in abdomen, diarrhoea	16-8-2008	18-8-2008	3

IN-PATIENT CASE REPORT OF TWENTY CASES FOR THE DISEASE OF KUDAL KIRUMI

Sl.No	IP.No	Name	Age / Sex	Duration of illness	Sign and Symptoms	Admission Date	Discharge Date	No.of days Treated
11	2074	Anuesh	12FC	7 days	Pain in abdomen, loss of appetite Diarrhoea, vomiting	11-8-2008	13-8-2008	3
12	2131	Muthu	8MC	10 days	Loss of appetite, Diarrhoea, pain in abdomen	16-8-2008	20-6-2008	5
13	2206	Raja	12 MC	9 days	Pain in abdomen, loss of appetite, Diarrhoea	22-8-2008	24-8-2008	3
14	2247	Selva Balan	3 MC	15 days	Nausea, pain in abdomen loss of apetite, Diarrhoea	25-8-2008	29-8-2008	4
15	2365	Siva	8 MC	8 days	Pain in abdomen, diarrhoea, loss of appetite	6-9-2008	8/9/2008	3
16	2409	Mathi	7 FC	20 days	Pain in abdomen, diarrhoea, loss of appetite	12-9-2008	18-9-2008	7
17	2491	Priyangadevi	4 FC	7 days	Pain in abdomen, diarrhoea, loss of appetite	20-9-2008	22-9-2008	3
18	2589	Sudalaimani	5 MC	10 days	Pain in abdomen, diarrhoea, loss of appetite	29-9-2008	4/10/2008	4
19	2660	Pavithra	6 FC	15 days	Pain in abdomen, Loss of appetite, disturbed sleep, worms in faeces	8-10-2008	10/10/2008	3
20	2960	Manimuthu	6 MC	20 days	pain in abdomen, diarrhoea, loss of appetite, Nausea	18-11-2008	22.-11-2008	5

I.No	IP. No	Name	Age year	Sex	Blood Test Before treatment					Blood Test After treatment					Stools Examination		Urine Examination			
					Dc					DC					Before treatment presence of	After treatment	Before Treatment		After treatment	
					TC	P	L	E	HB %	TC	P	L	E	HB %			Alb	Dep	Alb	Dep
1	1357	Venugopal	7	MC	10800	62	34	4	68	10600	63	36	1	68	A.O	Nil	Nil	NAD	Nil	NAD
2	1494	Sarvaanperual	3	MC	9900	70	35	5	55	9900	71	36	3	56	A.O	Nil	Nil	NAD	Nil	NAD
3	1535	Vinesh	6	MC	7200	65	32	3	61	7100	65	33	2	61	A.O.	P	Nil	NAD	Nil	NAD
4	1495	SakthiEswaran	8	MC	7800	58	40	2	66	7800	56	40	4	65	GC	Nil	Nil	NAD	Nil	NAD
5	1673	Vedhan	8	MC	10400	70	28	2	68	10400	70	28	2	68	A.O	Nil	Nil	1-2 Pus cells	Nil	NAD
6	1702	Mariammal	4	FC	8700	59	40	1	65	8600	57	40	3	65	GC	Ni	Nil	NAD	Nil	NAD
7	1891	Radha	5	FC	7900	60	35	5	68	7400	60	36	4	67	G.C	P	Nil	NAD	Nil	NAD
8	1875	Johnsirani	11	FC	9200	58	38	4	60	9000	59	38	3	61	A.O	Nil	Nil	2-3 Pus cells	Nil	NAD
9	1920	Enbamani	5	MC	9600	67	30	3	68	9200	62	37	1	68	G.C	Nil	Nil	NAD	Nil	NAD
10	1844	Vidhiya	10	FC	8900	60	38	2	72	8700	65	33	2	72	G.C.	Nil	Nil	NAD	Nil	NAD
11	2074	Anuesh	12	FC	9800	67	30	3	63	9400	66	33	1	63	G.C	P	Nil	NAD	Nil	NAD
12	2131	Muthu	8	MC	7500	66	32	2	69	7600	67	30	3	68	G.C	Nil	Nil	NAD	Nil	NAD
13	2260	Raja	12	MC	10400	62	37	1	61	10300	61	38	1	61	G.C	Nil	Nil	NAD	Nil	NAD
14	2247	Selvabalan	3	MC	9200	60	36	4	65	9500	62	35	3	64	G.C	Nil	Nil	NAD	Nil	NAD
15	2365	Siva	8	MC	7200	70	29	1	68	7400	69	30	1	68	G.C	Nil	Nil	NAD	Nil	NAD
16	2409	Mathi	7	FC	7600	65	33	2	60	7600	60	38	2	61	G.C	Nil	Nil	NAD	Nil	NAD
17	2491	Priygadevi	4	FC	7400	64	34	2	64	7400	63	35	2	62	G.C	Nil	Nil	NAD	Nil	NAD
18	2589	Subdalaimani	5	MC	8700	59	37	4	63	8600	60	37	3	64	G.C	Nil	Nil	NAD	Nil	NAD
19	2660	Pavithra	6	FC	9800	61	38	3	55	9800	62	37	1	55	A.O	P	Nil	NAD	Nil	NAD
20	2960	Manimuthu	6	MC	7200	69	30	1	68	7400	66	37	1	60	G.C	Nil	Nil	1-2 Pus cells	Nil	NAD

TC – Total Count, DC – Differencial Count, P – Present, AO – Acaria Ova, GC – Giardia Cyst, Alb – Albumin, Dep - Deposit

DISCUSSION

Helminthic infestations contribute significantly to global burden of disease in children especially in the tropical and subtropical regions. Most of the helminths parasitise the living organism.

Most helminths are potentially Pathogenic to human beings, if these are present in sufficient number. These may cause disease in children by the following mechanisms.

- I. By depriving the nutrients of the host.
- II. By sucking the blood from host.
- III. By interfering with the body functions mechanically.

Ascariasis is the most common worm infestation of the humans, infecting nearly one – fourth of the world's Population Giardia lamblia is also important protozoan enteropathogen of humans.

Incidence

Among 20 in – patients the incidence of Ascariasis was found in 6 cases (30%), and the incidence of Giardiasis was found in 14 cases (70%). So, the study reveals that the incidence is more in Giardiasis than in Ascariasis.

Sex Reference

Regarding Ascariasis, among 6,4 were Male children, 2 were Female Children, regarding Giardiasis, among 14,8 were Male Children. 6 were Female Children.

Age Reference

Regarding Ascariasis, among 6,1 patient was were in Amubuli Paruvam (5%), 2 patients were in Pethumbai Paruvam (10%) 3 patients were in Siru Paruvam (10%)Regarding Giardiasis among 14 Cases, 1 patient was in Ambuli paruvam (5%) 3 patients were in Chitril Paruvam (10%)2 patients were in peathai paruvam (10%) 1 patient was in pillai Paruvam (5%).3 Patients were in Pethumbai paruvam (15%), 6 Patients were in Siru paruvam (30%)

Religion Reference

Regarding Ascariasis, Among 6, 4 patients were Hindus (20%) 2 patients were Christians (10%) Regarding Giardiasis among 14,12 patients were Hindus (60%) and 2 patients were Christians (20%).

Socio-Economic status of the patients

Regarding Ascariasis and Giardiasis all 20 patients were from poor socio-economic status. This study reveals that the patients belonging to poor socio-economic status are affected commonly due to unhygienic conditions.

Diet Reference

Regarding Ascariasis, among 6,1 patient was vegetarian (5%) 5 patients were mixed diet consumers (25%). Regarding Giardiasis, among 14,2 patients were Vegetarian (10%) and 1`2 patients were mixed diet (60%) consumers.

Paruva Kaalam

Regarding Ascariasis, among 6,1 patient had been admitted in Koothir Kaalam (5%) 1 patient had been admitted in Elavenil kaalam (5%) 4 patients had been admitted in muthuvenil Kaalam (20%) Regarding Giardiasis, among 14,9 patients had been admitted in Kaar Kaalam (45%), 1 patient had been admitted in Koothir Kaalam (5%) 4 patients had been admitted in Muthuvenil Kaalam (20%).

Thinai

Cent percent of cases were from Marutha Nilam. Marutha nilam is the area where the severity of disease is less, but this incidence may be due to the alteration of food habits and their activities.

Mode of onset

Regarding Ascariasis and Giardiasis all 20 patients had acute onset.

Clinical features during admission

Regarding Ascariasis, among 20, nausea was present in 2 cases (10%) vomiting was present in 1 person (5%) pain in abdomen was present in all 6 cases (30%), loss of appetite was present in 6 cases (30%), disturbed sleep was present in 6 cases (30%) pallor of the body was present in 2 cases (10%) loss of weight was present in 2 cases (10%) worms in the feces was present in 2 cases (10%). Regarding Giardiasis among 14, pain in abdomen was present in all 14 cases (70%) Nausea was presents in 4 person (20%) loss of appetite was presents all 14 cases

(70%) vomiting was present in 2 patients (10%) Diarrhoea was present in all 14 Cases (70%).

Thiridhosa reference

Derangement of Vatham

Regarding Ascariasis, among 6 patient, derangement of Uthanan was observed in 5 cases (25%) derangement of viyanan, samanana, kirukaran & devathathan was observed in all 6 cases (30%).

Regarding Giardiasis, among 14 derangement of uthnan was observed in 10 cases (50%), derangement of abanan, viyana, samanana and kirukaran was observed in all 14 cases (70%).

Derangement of Pitham

Regarding Ascariasis, among 6 patients, derangement of Anila – Pitham and sathagam was observed in all 6 cases (30%)

Derangement of ranjagam and Prasagam was observed in 2 cases (10%)

Regarding Giardiasis, among 14 patients, derangement of anila – pitham and sathagam was observed in all 14 cases (70%)

Derangement of Kabam

Regarding Ascariasis, among 6 patients, derangement of Avalambagam and Kilethagam was observed in all 6 cases (30%).

Regarding Giardiasis, among 14 patients derangement of avalambagam and kilethagam was observed in all 14 cases (70%).

Enbu Udarkattugal Reference

Regarding Ascariasis, among 6, saaram was affected in all 6 cases (30%), seneer oon and kozhuppu was affected in 2 cases (10%). Regarding Giardiasis among 14 patients saaram was affected all 14 cases (70%)

Envagai Thervugal Reference

Regarding Ascariasis, among 6, Naa, Niram and Vizhi was affected in 2 cases (10%), Malam was affected in all 6 cases (30%).

Regarding Giardiasis Malam was affected in all 14 cases (70%).

Neerkuri, Neikkuri Reference

The colour of Urine in all cases in Vaikkol niram (100%). In all cases (100%) the Urine represented the Kaba neer (Muth thothu nitral).

Aetiology Reference

Among 6 cases with Ascariasis, Picca was the aetiological factor in 2 case (10%). Poor dietary habits was the aetiological factor in 4 cases (20%), drinking unsterilized water drawn from polluted sources was the aetiological factor in all 6 cases (30%).

Among 14 cases with Giardiasis, Picca was the aetiological factor in 3 cases (15%) poor dietary habits was the aetiological factor in 8 cases (40%), drinking unsterilized water drawn from polluted sources was the aetiological factor in all 14 cases (70%). This study reveals that poor dietary habit was the main aetiology for the worm infestation.

Reference to Results

In case of Ascariasis, good response of this trial drug was observed in 4 cases (20%), moderate response was observed in 2 cases (10%).

In case of Giardiasis, good response of this trial drug was observed in 12 cases (60%) moderate response was observed in 2 cases (10%).

This study reveals that with the treatment of trail drug maximum number of cases showed good results.

The trail medicine for the treatment of “Kudal Kirumi” was Vidangathi Chooranam. Out of the 20 patients treated with Vidangathi Chooranam good result was found in 80% of cases, moderate result was found in 20% of cases, based on the evidence of motion examination at the time of admission and discharge. The Vidangathi Chooranam has got more effective anthelmintic action on Naakkupuchi Noi and

Masaraipuzhu Noi

Pharmacological studies were carried out in the department of Pharmacology, Government Siddha Medical College, Palayamkottai. The internal Medicine Vidangathi Chooranam had Very good anti Spasmodic action good laxative action and very good antihistamine action.

Bio-chemical analysis was carried out in the Department of Bio-Chemistry Government Siddha Medical College, Palay.

Treatment

Out of 20 patients treated with Vidangathi Chooranam, 80% of cases had cured and 20% of cases had moderate relief. Based on the laboratory investigation at the time of admission and discharge, the Vidangathi Chooranam has got more effective anthelmintic action for Naakkupuchi Noi and Masaraipuzhu Noi.

SUUMARY

Infection is most prevalent in tropical and subtropical climates due to lack of sanitary facilities or the use of human faeces as fertilizer (night soil). Infection may also be acquired through ingestion of contaminated fruits and vegetables. Most infected individuals are asymptomatic due to low worm load. Clinical manifestations occur due to intestinal complications.

Twenty patients from both sexes of different age groups were selected and a careful detailed history was elicited and diagnosis was made on both the siddha and modern methodology. Among 20 persons 12 were male and 8 were female.

The patients were treated with “Vidangathi Chooranam” internally in the in-patient ward of postgraduate Kuzhanthai marathuvam department.

Modern investigation also be done. Some of the patients varied in sex, age & in all other respect such as socio-economic status. I took a statistics with the aid of details mentioned in the case sheet.

The detailed clinical analysis of the trail drug is done in the Bio-Chemical laboratory in Government siddha medical college, Palayamkottai.

The pharmacological analysis of trial drug was done in the dept. of pharmacology in Government Siddha Madical College, Palayamkottai.

The drug Vidangathi Chooranam is having good laxative action, very good anti spasmodic action and good antihistamine action.

During the course of treatment no signs of complications were reported & recorded.

On the basis of clinical results achieved with the evidences of faeces examination at the time of admission and discharge the Vidangathi Chooranam” was proved to be more effective in anthelmintic action for Ascariasis and for Giardiasis, where more than 80% of the cases were completely relieved.

CONCLUSION

In this clinical study results were found to be satisfactory. Almost the clinical feature of Naakku Puchi correlates with Ascariasis and Masaraipuzhu noi with Giardiasis.

The results revealed that the predisposing factors for Naakku Puchi Noi and Masaraipuzhu Noi were contaminated food, unhygienic habits, lack of environmental sanitation and poor socioeconomic condition of the affected person.

The trail drug Vidangathi chooranam was effective and given good results in the present research finding show that 80% cases how been completed cured and 20% cases showed moterate relief study.

The preparation and administration of the trail drug was very simple economically cheap, easily available.

Clinically the drugs are free from adverse effects.

So it is concluded that the drug Vidangathi Chooranam was very effective in the treatment of Naakku Puchi Noi and Masaraipuzhu Noi.

ANNEXURE I

PREPARATION AND PROPERTIES OF TRIAL DRUGS

விடங்காதி சூரணம்

தேவையான சரக்குகள்

வாய்விளங்கம்	-	50 கிராம்
பெருங்காயம்	-	50 கிராம்
பலாசு வித்து	-	50 கிராம்
கடுக்காய்	-	50 கிராம்
கல்லுப்பு	-	50 கிராம்
திப்பிலி	-	50 கிராம்
இந்துப்பு	-	50 கிராம்

செய்முறை

சரக்குகளை சுத்தி செய்து பின் சம எடையாக எடுத்து சூரணம் செய்து கொள்ளல்.

அளவு: 1கிராம் (வயது மற்றும் நோய்வன்மைக்கு தக்கபடி)

அனுபானம் : வெந்நீர்.

உட்கொள்ளும் காலம் மூன்று நாள் உணவிற்கு பின்பு இரவு மட்டும்

ஒருவேளை

தீரும் நோய் : குடல் கிருமி

ஆயுட்காலம் : மூன்று மாதங்கள்.

ஆதாரம்

அனுபவ வைத்திய தேவ ரகசியம்

பக்க எண்.599

சரக்குகளின் சுத்திமுறை:

பெருங்காயம்

பொரித்தெடுத்துக் கொள்ளவும்.

பலாசு வித்து

விதையை நீரில் ஊறவைத்து மேல் தோலை எடுத்து விட்டு உட்பருபை உலர்த்திக் கொள்ள சுத்தியாகும்.

திப்பிலி:

சித்திரமூலக் கியாழத்தில் ½ நாள் உறவைத்து உலர்த்த சுத்தியாகும்.

கடுக்காய்:

இதனுள்ளிருக்கும் கொட்டையின் பருப்பு நஞ்சு அதனை நீக்கி விட சுத்தியாம்.

வாய்விளங்கம்:

இளம் வறுப்பாக வறுத்து புடைத்து எடுத்து கொள்ளல்.

இந்துப்பு:

இதனை காடியில் மூன்று நாள் ஊறப்போட்டு சூரியனொளியில் உலர்த்தி எடுக்கச் சுத்தியாகும்.

கல்லுப்பு:

இதனை காடித் தண்ணீரில் பிசறி, பிறகு ஈரத்தைத் துணியில் துடைத்து வெய்யிலில் உலர்த்திக் கொள்ளச் சுத்தியாம்.

PROPERTIES OF TRIAL DRUGS:

பெருங்காயம்:

வேறுபெயர் : அத்தியாகிரகம், இங்கு, இரணம் இராமடம், கந்தி, காயம், சந்துநாசம், பூதநாசம், வல்லீகம்.

Botanical Name : Ferula Asafoetida

Family : Apiaceae

Parts used : Aromatic gum resin.

பொதுகுணம்:

“தந்த வேதாந்த மூலந்தெழும் பிணி
சருவகாளம் விருச்சிகங் கீடம்மர
மந்தம் வாதம் உதாவர்த்தம் அங்குல் நோய்
மார்பணங் கட்ட குன்மம் மகோதரம்
உந்து கெட்பத்தின் வித்திரஞ் சூலைச் சூர்
உதிரப் பூச்சி சித்து மத்துறும் வலி
வந்த மெய்க்கடுப் போடிவை முற்றுமே
மாயு நூறுநந்த காயங் கிடைக்கினே”

- தேரையர் குணவாகடம்.

பொருள் :

நுண்புழு, குன்மம், பெருவயிறு, மந்தம், ஏப்பம், தேள் நஞ்சு, பாம்பு நஞ்சு, உடல் கடுப்பு, மற்றும் வலிகள் தீரும்.

சுவை : கைப்பு

தன்மை : வெப்பம்

பிரிவு : கார்ப்பு

Action

Antispasmodic	-	இசிவகற்றி
Laxative	-	மலமிளக்கி
Anthelmintic	-	புழுக்கொல்லி
Carminative	-	அகட்டு வாய்வகற்றி

Chemical Constituents:

- Organic sulphur compound
- Ferulic acid, malic acid
- Acetic acid, formic acid
- Valeramic acid, umbelli feron.

வாய்விளங்கம்:

வேறுபெயர் : வாயுவிளங்கம், கேரளம், வாய்விலங்கம்
வர்னனை, வாய்விடங்கம்.

Botanical Name : Embelia ribes

Family : Myrsinaceae

Parts used : Fruit, seeds

பொதுகுணம்

பாண்டுக்குட்டம் குன்மம் பருந்தூல நோய் வாதந்
தீண்டு திரிவிடஞ் சிரந்துண்டம் - பூண்ட மடி
நோய்விளங்கக் காட்டாத நுண்கிருமி யாசனப்புண்
வாய்விளங்கக் காட்டலிருமார்.

-அகஸ்தியர் குணவாடகம்.

பொருள்

வயிற்று புழு, பாண்டு, குன்மம், பெருவயிறு, வாயு, பாம்பு, நஞ்சுகள், தலை, மூக்கு, வயிறு பற்றிய நோய்கள் தீரும்.

சுவை - கைப்பு

தன்மை - வெப்பம்

வெப்பம் - கார்ப்பு

Action

Anthelmintic - புழுக்கொல்லி

Carminative - அகட்டுவாய் பகற்றி

Stomachic - பசித்தீத்தூண்டி

Astringent - துவர்ப்பி

Chemical Constituents:

Embelin, Quercitol

Volatile and fixed Oil

Coloceting matter tannin

Crystalline, Viddngin.

கடுக்காய்

வேறுபெயர்

அமுதம், அம்மை, அம்ருதா, அபையன், அரபி, ஏமவதி, ஐயவி, சிரோட்டம், வரிக்காய், வனதுர்க்கி, விஜயதேவன், ரோகிணி, ஜிவநிதா, ஜீவந்தி, ஜீவப் பிரியா.

Botanical Name : Terminalia chebala

Family : Combretaceae

Parts used : dried fruits.

கடுக்காயின் சிறப்பு:

“கடுக்காயுந் தாயுங் கருதி லென் றென்றாலும்
கடுக்காய்த் தாய்க்கதிகந் காண் றீ கடுக்காய் நோய்
ஓட்டியுடற்றேற்றும் உற்றவன்னை யோகவைகள்
ஊட்டியுடற் றேற்று முவந்து.”

- தேரையர் குணவாடகம்.

பொருள்

தாயோ அறுசுவை உணவை ஊட்டி உடலை தேற்றுவாள் கடுக்காய் உடற்பிணிகளை ஓட்டி உடலை தேற்றும்.

சுவை : தோல் கார்ப்பு சுவை

தன்மை : வெப்பம்

பிரிவு : இனிப்பு

Action:

- Stomachic - பசீத்தீத் தூண்டி
Laxative - மல மிளக்கி
Purgative - நீர் மலம்போக்கி

Chemical Constituents

Tannic acid, Gallic acid

Mucilage, Chebulinic acid

திப்பிலி:

வேறுபெயர்:

ஆர்கதி, உண்சரம், உலவைநாசி, சரம் காமன், குடாரி, கோலகம், கோலி கோழையறுக்கி, துளவி, மாகதி, கனன செளண்டி, தண்டுலி, கணம், கலினி, பாணம், பிப்பிலி, வைதேகி, அம்பு ஆதி மருந்து.

Botanical Name : Piper longum

Family : Piperaceae

Parts used : Immature berries.

பொதுகுணம்:

ஆசனநோய் தொண்டைநோய் ஆவரண பித்தமுதல்

நாசிவிழி காதிவைநோய் நாடபுழுநோய் வீசிடுவி

யங்கலாஞ்ச னஞ்சிதையும் அம்பாய் அழிவிந்தும்

பொங்கலாஞ்ச நங்கையர் கோட்போல்.

- தேரையர் குணவாடகம்.

பொருள் :

வயிற்றுபுழு, ஆசன நோய், தொண்டை நோய், புண், காதிரைச்சல், இவை தீரும்.

சுவை : இனிப்பு

தன்மை : வெப்பம்

பிரிவு : இனிப்பு

Action:

Carminative - அகட்டுவாய்கற்றி

Sedative - தாதுவெப்பகற்றி

General tonic - உரமாக்கி

Haematinic - குருதி பெருக்கி

Anthelmintic - புழுக்கொல்லி.

Chemical Constituents:

Resine, Volatile oil, Starch, Gum

Fatty oil, inorganic matter and piperine, piplarine.

பலாக:**வேறுபெயர்:**

பரசு, பிரமதாசு, முருக்கி, கிஞ்சுகி கிருமிநாசம், சீரா, பலாசம், புரைசு புரோசு, புனமுருக்கி, வாதபோதம், வனபத்தியம்.

Botanical Name : Butea Monosperma

Family : Fabaceae

Parts used : Seed

பொதுகுணம்:

வயிற்றுக் கிருமிகணம் வாதமொடு சீதம்
நியத்தபடர் தாமரையும் நீங்கும் வயிற்று
வலியிரைச்சல் வன்கரப்பான் மாறும் பித்துண்டாம்
மலிபுரசங் கொட்டைதனை வாழ்த்து.

- அகஸ்தியர் குணவாகடம்.

பொருள் :

வயிற்றுபுழு, உடல்வலி, படர்தாமரை, வயிற்றுவலி, வயிற்றிரைச்சல்,
கரப்பான் இவை நீங்கும்.

சுவை : கைப்பு

தன்மை : வெப்பம்

பிரிவு : கார்ப்பு

Action:

Laxative - மலமிளக்கி

Anthelmintic - புழுக்கொல்லி

Chemical Constituents:

Kino oil present in the seeds. Palasonin is the anathelmatic
principle present in seeds.

கல்லுப்பு

வேறுபெயர் - கடற்குருவி

English Name:

Sodium chloride

பொதுகுணம்:

ஐயமறுஞ் சூலை யரோசி பித்தஞ் சத்தியோடு
 வெய்யபிணி யட்டகுன்மம் விட்டேகும் பெய் வளையே
 வாதமதி தாகம் மலக்கட்டும் போமுலகிற்
 கோதறுகல் லுப்பைக்கொடு

- குணபாடம் தாது - சீவ வகுப்பு

கல்லுப்பினால் கபம் குத்தல், அருசி, பித்தம் வாந்தி உஷ்ண வாயு
 எண்வித குன்மம், வாதநோய், மலபந்தம் போகும்.

இந்துப்பு

English Name : Sodium Chloride impura, Rock salt

வேறுபெயர்:

சைந்தவம், சிந்தூரம், சந்திரணுப்பு மதிசூர்மை, மதியுப்பு, மிந்தாச்சொல்

பொதுகுணம்:

“அட்டகுன்ம மந்தம் அசிர்க்கரஞ்சூர் சீத பித்தந்
 துட்ட வையம் நாடிப்புண் டோடங்கள் கெட்டமலக்
 கட்டவிட விந்தையக் காமிய நோய் வன் கரப்பான்
 விட்டுவிட விந்துப்பை விள்.”

- குணபாடம் தாது சீவ வகுப்பு

பொருள்:

இந்துப்பினால் எண்வித குன்மம், அலசம், அசிர்க்கரம், கபபித்தம்,
 கபாதிக்கம், நரம்புகிரந்தி, திரிதோஷம், மலபந்தம் போகும்.

Action:

Antiseptic	- குருதி பெருக்கடக்கி
Antiperiodic	- முறைச்சுரம்மகற்றி
Anthelmintic	- புழுக்கொல்லி
Purgative	- மலகாரி

ANNEXURE II

BIO – CHEMICAL ANALYSIS

BIO – CHEMICAL ANALYSIS OF VIDANGATHI

CHLOORANAM

PREPARATION OF THE EXTRACT

5gms of the drug was weighed accurately and placed in a 250ml clean beaker. Then 50ml distilled water is added and dissolved well. Then it is boiled well for about 10 minutes. It was cooled and filtered in a 100ml volumetric flask and then it is made up to 100ml with distilled water. This fluid is taken for analysis

Qualitative Analysis

S. No.	Experiment	Observation	Inference
1.	<u>Test for calcium</u> 2ml of the above prepared extract is taken in a clean test tube. To this add 2 ml of 4% ammonium oxalate solution.	A white precipitate is formed.	Indicates the presence of calcium.
2.	<u>Test for sulphate:</u> 2ml of the extract is added to 5% barium chloride solution.	No white precipitate is formed.	Absence of sulphate.

3.	<p><u>Test for chloride</u></p> <p>The extract is treated with silver nitrate solution.</p>	A white precipitate is formed.	Indicates the presence of chloride.
4.	<p><u>Test for carbonate</u></p> <p>The substance is treated with concentrated Hcl.</p>	No brisk effervescence is formed.	Absence of carbonate.
5.	<p><u>Test for Starch</u></p> <p>The extract is added with weak iodine solution.</p>	Blue colour is formed	Indicates the presence of starch.
6.	<p><u>Test for Iron Ferric</u></p> <p>The extract is treated with concentrated glacial acetic acid and potassium ferro cyanide.</p>	No blue colour is formed.	Absence of ferric iron.
7.	<p><u>Test of iron :</u></p> <p><u>Ferrous:</u></p> <p>The extract is treated with concentrated Nitric acid and ammonium thyo cynate.</p>	Blood red colour is formed.	Indicates the presence of ferrous iron.

8.	<p><u>Test for phosphate</u></p> <p>The extract is treated with ammonium molybdate and concentrated nitric acid.</p>	No yellow precipitate is formed.	Absence of phosphate.
9.	<p><u>Test for albumin</u></p> <p>The extract is treated with Esbach's reagent.</p>	No yellow precipitate is formed.	Absence of albumin.
10.	<p><u>Test for Tannic acid</u></p> <p>The extract is treated with ferric chloride reagent.</p>	Blue black precipitate is formed.	Indicates the presence of Tannic acid.
11.	<p><u>Test for unsaturation</u></p> <p>Potassium permanganate solution is added to the extract.</p>	It gets decolourised.	Indicates the Presence of unsaturated compound.
12.	<p><u>Test for the reducing sugar</u></p> <p>5ml of benedict's qualitative solution is taken in a test tube and allowed to boil for 2 mts and added 8-10 drops of the extract and again boil it for 2 mts.</p>	No Colour change occurs.	Absence of reducing sugar.

13.	<p><u>Test for amino acid:</u></p> <p>One or two drops of the extract is placed on a filter paper and dried it well. After drying, 1% ninhydrin is sprayed over the same and dried it well.</p>	Violet colour is formed.	Indicates the Presence of Amino acid.
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Inference

The given sample of “**VIDANGATHI CHOORANAM**” contains Ferrous iron, Tannic acid, Reducing Sugar, Amino acid, and unsaturated compound.

ANNEXURE III

PHARMACOLOGICAL ANALYSIS

LAXATIVE ACTION OF VIDANGATHI CHOORANAM

Aim

To study the laxative effect of the test drug.

Method

charcoal meal method.

Procedure

6 rats were selected and divided into three groups. Each group was having 2 rats, and they were fasted for 48 hours. One group of rats was orally administered with vidangathi chooranam in a dose of 200mg/100gm body weight in 1 ml. The second group of rats received 1ml of distilled water. 1 hour later each animal of both groups was given 0.5ml of an aczonus solution, and 10% charcoal by stomach tube. 1 hour after administration of the charcoal meal, the animals were sacrificed with chloroform. The small intestine from pyloric up to caecum was removed and the distance traveled by charcoal was measured by measuring the distance traveled from the pylorus. The mean distance traveled by the carbon particles to the total length of the intestine was measured in the control and the drug treated group. The results are tabulated and compared.

Study of Laxative Action by Charcoal Meal method

Using the drug of Vidangathi Chooranam

S.No	Name of Drugs / Groups	Dose / 100 gram body weight	Total Length of the intestine	Charcoal meal traveled up to	% of charcoal Travelled	Remarks
1	Control water	2 ml	60cm	60cm	100	Good
2	Vidangathi Chooranam + hot water	100 mg	60cm	57 cm	95	Good

Inference :

Test drug has got good laxative effect.

ANTI – SPASMODIC EFFECT OF VIDANGATHI CHOORANAM

Preparation of the test drug

100g of Vidangathi Chooranam is mixed with 10ml of water. The filtrate was used for the experiment.

Method

A rabbit weighing about one kg was sacrificed by a blow on the head. The abdomen was suddenly opened and ileocaecal junction was found. A small piece of ilea portion was cut, removed and placed in dish containing a worm aerated Tyrode solution. The lumen of the ileum was gently rinsed out by pushing Tyrode solution in to it. Three can length segment was cut from this part of ileum and tied with thread on both ends without closing the lumen and the tissue is mounted in the organ bath containing Tyrode solution maintained at 37⁰C and bubbled with air by an oxygen tube.

Drug was given to study of the inhibitory effect of acetyl chlorine (1mg / ml) inducing contraction.

Inference

The test drug has very good anti-spasmodic effect.

ANTI – HISTAMINIC STUDY OF VIDANGATHI CHOORANAM

Aim:

To study the Anti – histaminic effect of Vidangathi chooranam.

Preparation of the test drug:

1gm of Vidangathi Chooranam was boiled with 20ml of water for 15 mins. 2ml of decoction was taken as the test drug.

Procedure:

A guinea pig weighed about 350gm was starved for 48 hours. It was sacrificed by a blow on the head and external jugular vein was allowed to bleed. The abdomen was then cut and ileum was cut out and placed in a tray which contained warm tyrode solution (37⁰C) and continuously aerated. The contents of the lumen of the ileum were washed and utmost care was taken to avoid any damage to the gut muscle. An ileum segment having a length of about 3cm was taken and tied in both ends with thread. One end was tied in a ‘j’ tube and the other end was tied in a frontal lever. The tissue was put in an organ bath and the effect of drug on histamine induced contractions was recorded.

Inference:

The drug Vidangathi Chooranam has significant Anti-histamine action.

ANNEXURE IV
CASE SHEET PROFORMA – KUDAL KIRUMI
GOVERNMENT SIDDHA MEDICAL COLLEGE AND HOSPITAL
Post Graduate Research Centre
Branch IV – Kuzhandai Maruthuvam
Palayamkottai – 627 002.

Name of the Medical unit:	Nationality	:
I.P. No.	Religion	:
Bed. No.	Date of Admission	:
Name	Date of Discharge	:
Age/ Sex	Duration of treatment	:
Occupation (Parents)	Diagnosis	:
Income (parents)	Medical Officer	:
Informant		:
Address		:

Complaints and duration :

History of present illness :

History of past illness :

Antenatal History :

Birth and Neonatal History :

Dietetic and Nutritional History :

Developmental History :

Family History :

Social History :

Immunization History :

General Examination

1. Consciousness :
2. Decubitus :
3. Anaemia :
4. Jaundice :
5. Cyanosis :
6. Clubbing :
7. Pedal oedema :
8. Lymphadenopathy :
9. Nourishment :
10. Skin changes :

Vital Signs

1. Pulse
 - Rate :
 - Rhythm :
 - Volume :
 - Character :
2. B.P. :
3. R.R. :
4. Temperature :

Anthropometry

1. Wt – Weight :
2. Ht – Height :
3. Mid arm circumference :
4. Head circumference :
5. Chest :
6. Skin fold thickness :

Siddha System - Clinical Examination:

Poripulangal

- Mei :
- Vai :
- Khan :
- Mookku :
- Sevi :

Kanmendriyam – Kanmavidayam

- Kai :
- Kall :
- Vaai :
- Eruvaai :
- Karuvaai :

Gunam

Sathuvam :

Rajo :

Thamo :

Nilam

Kurinchi :

Mullai :

Marutham :

Neithal :

Palai :

Paruva Kaalam

Kar :

Koothir :

Munpani :

Pinpani :

Elavenil :

Muthuvenil :

Uthayam – Athakayam

Puyam :

Chayam :

Kaal :

Paatham :

Pira Uruppugalin Nilai

Moolai	:
Iruthayam	:
Puppusam	:
Kalleeral	:
Manneeral	:
Kudal	:
Siruneeragam	:
Kuri	:

Mummalam

Viyarvai	:
Malam	:
Moothiram	:

Mukkutra Udal

Vaatha thegi	:
Piththa thegi	:
Kabha thegi	:
Kalappu thegi	:

Udal Kattugal

Saaram	:
Senneer	:
Oon	:

Kozhuppu :

Enbu :

Moolai :

Sukkilam/Suronitham :

Envagai Thervugal

Naadi :

Sparisam :

Naa :

Niram :

Mozhi :

Vizhi :

Malam :

Moothiram :

Vaatham

Piranan :

Abaanan :

Uthaanan :

Viyaanan :

Samaanan :

Naagan :

Koorman :

Kirugaran :

Devathathan :

Dhananjeyan :

Pitham

Anilam :

Ranjagam :

Sathagam :

Alosagam :

Pirasagam :

Kabam

Avalambagam :

Kiletham :

Pothagam :

Tharpagam :

Santhigam :

Neerkuri

Niram :

Manam :

Nurai :

Edai :

Enjel :

Neikuri :

Malakuri

Niram :

Nurai :

Elagal :

Erugal :

Examination of other systems

CNS :

CVS :

RS :

Abdomen :

Lab Investigations

1. Blood

TC :

DC :

Hb :

ESR :

HIV :

VDRL :

Sugar :

Urea :

Cholesterol :

IgE :

2. Urine

Albumin :

Sugar :

Deposit :

3. Motion

Ova :

Cyst :

Occult Blood :

Pus Cells :

X-Ray

Chest P.A View :

Abdomen :

DIFFERENTIAL DIAGNOSIS :

PROGNOSIS :

MARUTHUVAMURAI :

DAILY PROGRESS :

ADVICE :

GOVERNMENT SIDDHA MEDICAL COLLEGE AND HOSPITAL

Post Graduate Research Centre

Branch IV – Kuzhandhai Maruthuvam

Palayamkottai – 627 002.

Admission – Discharge Sheet

Name of the medical unit :	Nationality :
I.P.NO :	Religion :
Bed No :	Informant :
Name :	Date of admission :
Age/Sex :	Date of Discharge :
Occupation (parents) :	No. of days treated :
Income (Parents) :	Diagnosis :

Patients Condition on Admission:

Motion:

Ova :

Cyst :

Blood:

TC :

DC :

ESR :

HB :

Urine:

Albumin :

Sugar :

Deposit :

Patient Condition at the time of Discharge:

Motion:

Ova :

Cyst :

Blood:

TC :

DC :

ESR :

HB :

Urine:

Albumin :

Sugar :

Deposit :

Signs and Symptoms during Admission.

Signs and Symptoms at the time of discharge.

Place :

Date :

Signature of the Medical Officer,

GLOSSARY

IP	-	In-Patient
OP	-	Out-Patient
TC	-	Total White blood Corpuscle
DC	-	Differential Count
P	-	Polymorphs
L	-	Lymphocytes
E	-	Eosinophils
B	-	Basophils
M	-	MONocytes
ESR	-	Erythrocyte Sedimentation Rate
MC	-	Male Child
FC	-	Female Child
Sec	-	Seconds
Mts	-	Minutes
Hr	-	Hour

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I.No	IP. No	Name	Age year	Sex	Blood Test Before treatment					Blood Test After treatment					Stools Examination		Urine Examination			
					Dc					DC					Before treatment presence of	After treatment	Before Treatment		After treatment	
					TC	P	L	E	HB %	TC	P	L	E	HB %			Alb	Dep	Alb	Dep
1	1357	Venugopal	7	MC	10800	62	34	4	68	10600	63	36	1	68	A.O	Nil	Nil	NAD	Nil	NAD
2	1494	Sarvaanperual	3	MC	9900	70	35	5	55	9900	71	36	3	56	A.O	Nil	Nil	NAD	Nil	NAD
3	1535	Vinesh	6	MC	7200	65	32	3	61	7100	65	33	2	61	A.O.	P	Nil	NAD	Nil	NAD
4	1495	SakthiEswaran	8	MC	7800	58	40	2	66	7800	56	40	4	65	GC	Nil	Nil	NAD	Nil	NAD
5	1673	Vedhan	8	MC	10400	70	28	2	68	10400	70	28	2	68	A.O	Nil	Nil	1-2 Pus cells	Nil	NAD
6	1702	Mariammal	4	FC	8700	59	40	1	65	8600	57	40	3	65	GC	Ni	Nil	NAD	Nil	NAD
7	1891	Radha	5	FC	7900	60	35	5	68	7400	60	36	4	67	G.C	P	Nil	NAD	Nil	NAD
8	1875	Johnsirani	11	FC	9200	58	38	4	60	9000	59	38	3	61	A.O	Nil	Nil	2-3Pus cells	Nil	NAD
9	1920	Enbamani	5	MC	9600	67	30	3	68	9200	62	37	1	68	G.C	Nil	Nil	NAD	Nil	NAD
10	1844	Vidhiya	10	FC	8900	60	38	2	72	8700	65	33	2	72	G.C.	Nil	Nil	NAD	Nil	NAD
11	2074	Anuesh	12	FC	9800	67	30	3	63	9400	66	33	1	63	G.C	P	Nil	NAD	Nil	NAD
12	2131	Muthu	8	MC	7500	66	32	2	69	7600	67	30	3	68	G.C	Nil	Nil	NAD	Nil	NAD
13	2260	Raja	12	MC	10400	62	37	1	61	10300	61	38	1	61	G.C	Nil	Nil	NAD	Nil	NAD
14	2247	Selvabalan	3	MC	9200	60	36	4	65	9500	62	35	3	64	G.C	Nil	Nil	NAD	Nil	NAD
15	2365	Siva	8	MC	7200	70	29	1	68	7400	69	30	1	68	G.C	Nil	Nil	NAD	Nil	NAD
16	2409	Mathi	7	FC	7600	65	33	2	60	7600	60	38	2	61	G.C	Nil	Nil	NAD	Nil	NAD
17	2491	Priygadevi	4	FC	7400	64	34	2	64	7400	63	35	2	62	G.C	Nil	Nil	NAD	Nil	NAD
18	2589	Subdalaimani	5	MC	8700	59	37	4	63	8600	60	37	3	64	G.C	Nil	Nil	NAD	Nil	NAD
19	2660	Pavithra	6	FC	9800	61	38	3	55	9800	62	37	1	55	A.O	P	Nil	NAD	Nil	NAD
20	2960	Manimuthu	6	MC	7200	69	30	1	68	7400	66	37	1	60	G.C	Nil	Nil	1-2 Pus cells	Nil	NAD

TC - Total Count, DC - Differential Count, P – Present, AO – Ascaria Ova, GC – Giardia Cyst Alb-Albumin, Dep - Deposit

IN-PATIENT CASE REPORT OF TWENTY CASES FOR THE DISEASE OF KUDAL KIRUMI

Sl.No	IP.No	Name	Age / Sex	Duration of illness	Sign and Symptoms	Admission Date	Discharge Date
1	1357	Venugopal	7 MC	15 days	Pain in abdomen, loss of appetite Nausea, Disturbed Sleep	25-5-2008	2-6-2008
2	1494	Saravan perumal	3 MC	10 days	Pain in abdomen, loss of appetite, vomiting, disturbed sleep	10-06-2008	16-6-2008
3	1535	Vinesh	6 MC	20 days	Loss of appetite, pain in abdomen, pallor of the body, loss of body weight, disturbed sleep, worms in faeces	14-6-2008	16-6-2008
4	1495	Sakthi Eswaran	8 MC	7 days	Nausea, pain in abdomen loss of appetite, Diarrhoea	12-6-2008	16-6-2008
5	1673	Vedhan	8 MC	25 days	Pain in abdomen, loss of appetite disturbed sleep	26-8-2008	3-6-2008
6	1702	Mariammal	4 FC	8 days	Pain in abdomen, loss of appetite disturbed sleep	30-6-2008	4-7-2008
7	1891	Radha	5 FC	15 days	Pain in abdomen, loss of appetite Diarrhoea, Nausea	19-7-2008	21-7-2008
8	1875	Johnsirani	11 FC	10 days	Pain in abdomen, loss of appetite disturbed sleep, worms in faeces, Loss of body weight, pallor of the body	18-7-2008	22-7-2008
9	1920	Enbamani	5 MC	1 MONTH	Pain in abdomen, loss of appetite, vomiting, diarrhoea	21-7-2008	28-7-2008
10	1844	Vidhiya	10FC	5 days	Loss of appetite, pain in abdomen, diarrhoea	16-8-2008	18-8-2008
11	2074	Anuesh	12FC	7 days	Pain in abdomen, loss of appetite Diarrhoea, vomiting	11-8-2008	13-8-2008
12	2131	Muthu	8MC	10 days	Loss of appetite, Diarrhoea, pain in abdomen	16-8-2008	20-6-2008
13	2206	Raja	12 MC	9 days	Pain in abdomen, loss of appetite, Diarrhoea	22-8-2008	24-8-2008
14	2247	Selva Balan	3 MC	15 days	Nausea, pain in abdomen loss of appetite, Diarrhoea	25-8-2008	29-8-2008
15	2365	Siva	8 MC	8 days	Pain in abdomen, diarrhoea, loss of appetite	6-9-2008	8/9/2008
16	2409	Mathi	7 FC	20 days	Pain in abdomen, diarrhoea, loss of appetite	12-9-2008	18-9-2008
17	2491	Priyangadevi	4 FC	7 days	Pain in abdomen, diarrhoea, loss of appetite	20-9-2008	22-9-2008
18	2589	Sudalaimani	5 MC	10 days	Pain in abdomen, diarrhoea, loss of appetite	29-9-2008	4/10/2008
19	2660	Pavithra	6 FC	15 days	Pain in abdomen, Loss of appetite, disturbed sleep, worms in faeces	8-10-2008	10/10/2008
20	2960	Manimuthu	6 MC	20 days	pain in abdomen, diarrhoea, loss of appetite, Nausea	18-11-2008	22-11-2008

No.of days Treated
5
5
3
5
8
5
3
5
8
3
3
5
3
4
3
7
3
4
3
5