

Evaluation of Uthira Vatha Suronitham (Rheumatoid Arthritis) Through Siddha Urinary Examination Neerkkuri & Neikkuri

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Abstract: Siddha system of medicine has its own diagnostic techniques to elench the diagnosis and assess prognosis of the disease. This study was aimed to determine the usefulness of Neerkkuri and Neikkuri that is one of the eight fold diagnostic tools used in the diagnosis and /or prognosis of Uthiravathasuronitham (UVS) inpatients. Clinical study was conducted by selecting forty cases of UVS and ten normal subjects as control. In this study many patients had coin shaped Neikkuri that is a manifestation of kabam-pitham involvement; Kabam-pithamblend of humours considered a favorable prognostic factor.

Keywords: Siddha, Eightfold diagnostic technique, Uthira Vatha Suronitham, Neerkkuri, Neikkuri

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I. Introduction

Siddha system is a way of life morally and ethically founded upon and instituted by Siddhars to attain ultimate aim of reaching bliss. Siddhars viewed every disease under the roof of diagnostic techniques, finding the root causes, clinical features and treatment methodologies. A good diagnosis can make a good treatment protocol in any disease. According to Siddha system human body is made up of Vatham, Pitham and Kabam^[1]. These three are the components of life force and formed by combination of five basic elements. Vatham formed by combination of air and space, elements possessing their characters, pitham formed by fire, which is the force of preservation; and Kabamis formed by earth and water, which is the destructive force. In healthy state, these three humours are in equilibrium found in ratio of 1:1/2:1/4^[1]. This is collectively called life force or humours.

To diagnose the alteration of humours, *Envagai Thervu* (eight fold diagnostic tools) are used in Siddha system. They are *Naadi, Sparisam, Naa, Niram, Mozhi, Vizhi, Malamand Moothiram*.^[1] Of all these tools, many literary evidences are available at present regarding pulse and urine analysis. Urine being an ultra-filtrate^[2, 3] of blood; urine tests are very useful for providing information to assist in the diagnosis, monitoring and treatment of a wide range of diseases. Urine analysis has been given great emphasis in Siddha. It includes physical examination such as colour, specific density, odour, froth and volume. In addition, a special procedure called Neikkuri (Oil in urine sign) is in practice in Siddha system, in which the shape and spreading nature of gingelly oil drop over urine sample surface is observed and inferred. Siddha way of urine analysis is an easier and individualistic technique with high reliability than the other parameters. This is relatively simpler but effective diagnostic methodology, which can be utilized to approach varying medically challenging diseases of patients in present world. One such disease is *Uthira Vatha Suronitham*^[4, 5] (Rheumatoid arthritis) for which urine examination can be a useful in the diagnosis.

Since the entire existing laboratory, investigations for Rheumatoid arthritis (RA) cost very high and that they are not affordable to all classes of people, the above urine examination can be a useful tool. On the other hand, though Siddha advocates *Neerkkuri Neikkuri*^[7, 8] procedure as a good diagnostic tool, proper observational studies about *Neerkkuri Neikkuri* for RA have not yet been done. So present study was carried out to validate the *Neerkkuri Neikkuri* diagnostic procedure for *Uthira Vatha Suronitham* (Rheumatoid Arthritis)^[9].

II. Materials And Methods

2.1 Selection of patients

A total number of two hundred and forty six patients with the complaints of joint pain were screened and forty nine cases were diagnosed to have been suffering from UVS/RA. Among the forty-nine cases nine cases were excluded and forty were recruited. Twenty five normal subjects were screened and from them twenty were recruited. This study was conducted under the supervision of faculties of Noi Naadal Department.

2.2 Criteria for inclusion

Age between 18 to 60 years in both sex with symptoms of Uthira Vatha Suronitham (pain in knee joint, ankle joint and interphalangeal joints of the body, patients with loss of appetite), EULAR scoring diagnostic of RA and also those who were willing to give blood and urine samples for lab investigations were taken^[1].

2.3 Criteria for exclusion

Patients who had major systemic illness, vulnerable group and who had complications of RA other than joint contracture were excluded.

2.4 Study Enrollment

Patients were informed about the study; a written informed consent was obtained for this study. Complete clinical history, complaints, duration, and examination findings were recorded in a prescribed format in history and clinical assessment forms separately.

2.5 Evaluation of clinical parameters

During examination, the cases were subjected to careful enquiry, which involved history taking, evaluation of *Siddha* and modern parameters, which includes the seven physical constituents, trihumoural status, eightfold diagnostic techniques, wrist circummetric sign, habit, season, astrology. Conventional diagnostic parameters used for screening patients were complete haemogram, Renal Function Test, Lipid profile, alkaline phosphatase, urinalbumin, sugar, acetone, bile salts, bile pigment, urobilinogen, occult blood, deposits, pH, specific gravity; other tests including Rheumatoid Arthritis factor, C Reactive Protein, Anti Streptolysin O titre were done.

2.6 Shape of oil drop in urine

To maintain uniformity, all the patients were advised to sleep early (before 9.00 PM) with usual intake (2 to 3 glasses) of water during dinner. Before sunrise, around 5 AM, patients were asked to collect the mid-stream urine of the first urination of the day in a clean and neat bottle. Urine thus collected was poured in a round wide mouthed glass bowl (4-5" in diameter and 1.5" depth) kept on a flat surface and is allowed to settle. After ascertaining that the urine is stable and devoid of waves or ripple or other influence of wind, the urine was examined in good lighting at 6.30 AM. Sesame oil was then taken in midrib of coconut leaf and one drop was instilled over the surface of urine slowly (keeping a distance of not more than 3mm from the surface of the urine to the lower end of the oil drop) spreading pattern on the urine was observed. The observations were then recorded.

III. Ethical Issues

This study was approved by Institutional Ethical Committee F.No.NIS/IEC/2011/3/37 dated on 24/12/2011

IV. Statistical Analysis

All collected data were entered onto computer using MS Access/MS Excel Software. The data were analyzed using STATA software. The level of significance was good ($p < 0.05$). Descriptive analysis was made and necessary tables/graphs were generated to explain profile of patients. Statistical analyses for significance of different diagnostic Neerkkuri Neikkuri were done. Student t test and chi square test were performed for processing quantitative and qualitative data.

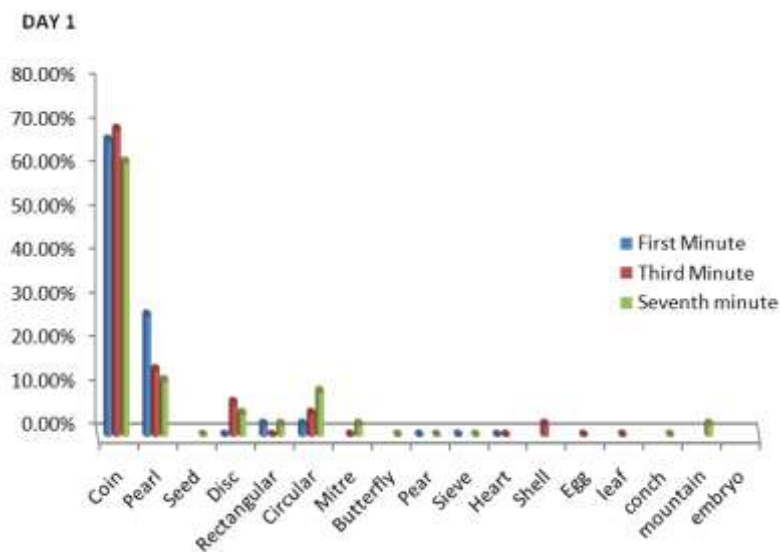
V. Results And Discussion

Age, gender, *naadi*, colour of urine, odour of urine, specific gravity, froth, volume of urine, pH and *Neikkuri* were observed for UVS patients. Majority of the cases affected 23 (57.5%) in the study were 31-50 years (*Pitha Kaalam*). In this study 35 (87.5%) cases were females and in case of *naadi* 14 (35%) of cases had *Naadi Nadai pitham* 8 (20%) had *vatha pitham*, 6 (15%) had *pithakabam*, 5 (12.5%) of cases had the *Naadinadai Vatha pitham*, 3 (7.5%) of cases had *pitha vatham*. In many cases colour of the urine was pale yellow on observation for three consecutive days and had aromatic odour. Specific gravity of urine observed was ranging from 1.010 to 1.020 in all the cases on all three days. Most of the cases did not have froth in urine and the volume of urine was 1100 ml – 1500 ml per day, while the pH felt between 5.1 – 6 in most of the cases.

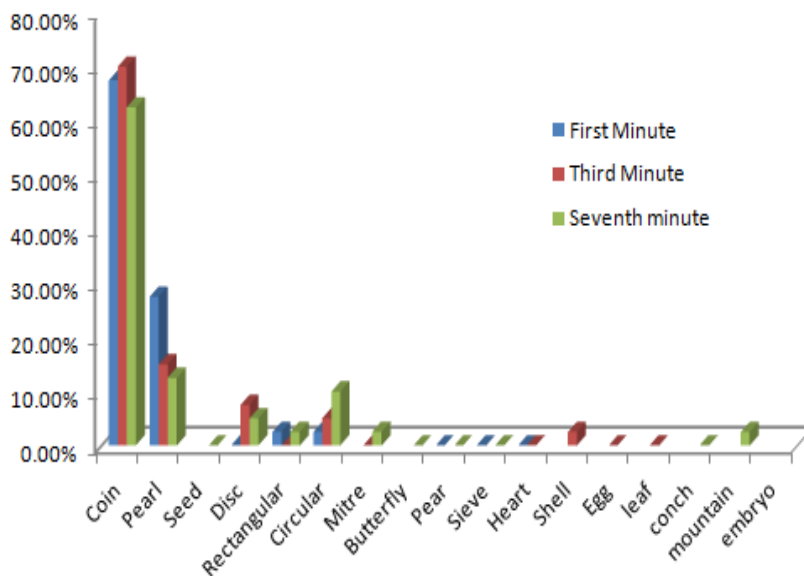
On first day among forty cases in 26 (65%) of cases, the shape of *Neikkuri* in the first minute was coin shape, 12 (30%) of cases had pearl shape and 2 (5%) had disc. In the third minute observation, 29 (72.5%) of cases had pearl, 4 (10%) of cases had disc, (2) 5% had mitre, 1 (2.5%) of cases had circular and sieve. In the

seventh minute observation,65% of cases had coin shape, 1 (2.5%) had pearl, 5(12.5%) had disc, 2 (5%) had rectangle, 3 (7.5%) of cases had circular, and1 (2.5%) of cases had butterfly, pear and sieve.That is in many of the cases the shape of *Neikkuri* observed in first,third and seventh minute were coin and pearl shaped.

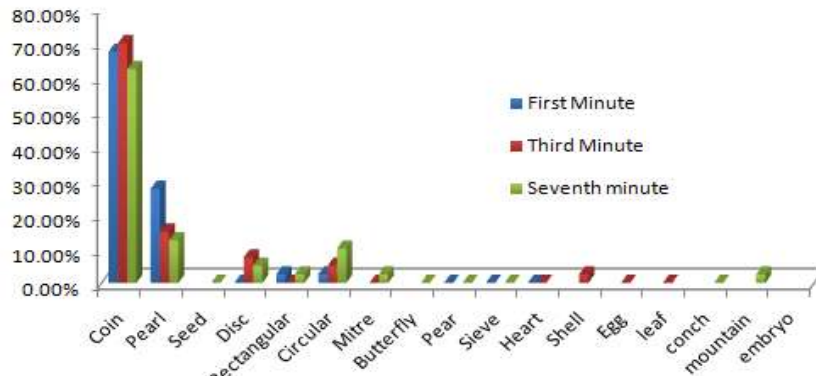
On second day among forty cases,in 22 (55%) of cases, the shape of *Neikkuri* at the first minute was coin shape,14 (35%) of cases had pearl,and 1 (2.5%) of cases had disc, egg,shell,heart shapes. In the third minute observation,32 (80%) of cases had coin shape,3 (7.5%) of cases had pearland 1 (2.5%) of cases had disc,rectangle,shell,conch and leaf.In the seventh minute observation,23 (57.5%) of cases had coin,2 (5%) had pearl4(10%) of cases had disc and egg,2 (5%) of cases had rectangle,1 (2.5%) of cases had conch,leaf,mountain,sieve and seed that is in most of the cases on the second day *Neikkuri* appeared coin and pearl shapes.On the third day,among forty cases in 27 (67.5%) of cases, the shape of the *Neikkuri* at first minute was coin shape,11 (27.5%) of cases had pearl,and 1 (2.5%) of casehad disc and circular shapes. In the third minute observation,28 (70%) of cases had coin shape,15% of cases had pearl,3 (7.5%) cases had disc,2 (5%) cases had circular and 1 (2.5%) cases had egg.In the seventh minute observation, 25(62.5%) of cases had coinshape,5 (12.5%) cases had pearl, (2.5%) had disc,4 (10%) circular, 1 (2.5%)had egg,embryo,mitre shapes.In most of the cases, the shape of *Neikkuri* observed in first,third and seventh minute were coin and pearl shapes.



DAY 2



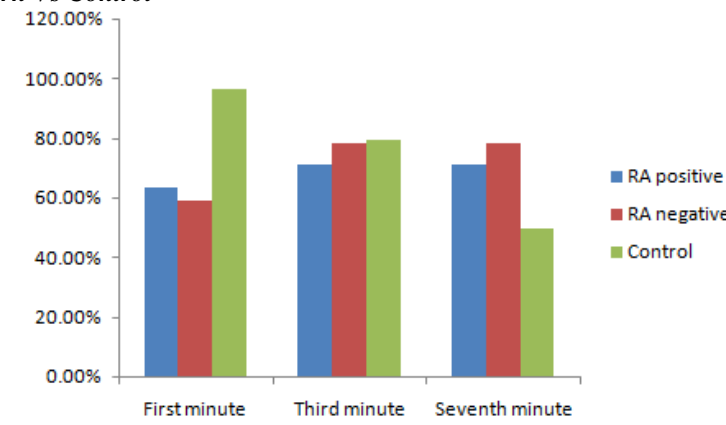
DAY 3



5.1 Dissemination dynamics of oil drop

Among forty cases the spreading nature of urine in the first day;35 (87.5%) had slow spreading and 12.5% had fast spreading of oil drop. In the second day 35 (87.5%) had slow spreading and 5 (12.5%) had fast spreading. In the third day 36 (90%) had slow spreading 4 (10%) had fast spreading. In most of the cases, the dissemination dynamics of oil drop observed were slowly spreading which indicated good prognosis.

5.2 Coin Shape Pattern Vs Control



Among the 25 RA positive patients, the shape of *Neikkuri* in first minute 16 (64%) of cases had coin shape, 18 (72%) cases had coin shape in third minute and 59% of cases had coin shape in seventh minute. In RA negative patients 9 (60%) of cases had coin shape in first minute, 12(80%) cases had coin shape in the third minute and 10 (66.7%) cases had coin shape in the seventh minute. In healthy volunteers 9 (90 %) cases had coin shape in first minute, 8 (80%) cases had coin shape in third minute and 5 (50%) of cases had coin shape in seventh minute.

In *Siddha*, system of medicine *Neerkuri* and *Neikkuri* are important diagnostic tools to elucidate the diagnosis and prognosis of disease. It is an excellent method to know the prognosis of the disease. Out of the eighty cases screened, forty diagnosed cases were selected from in patient department, and among twenty normal subjects were screened, and ten normal subjects were selected for control group. 57.5% cases in the study were of 31-50 years. As per *Siddha* texts, *senneer* when affected initiates *pitha* humour. In this study females (87.5%) are more affected than males. Though *Uthira Vatha Suronitham* is generally supposed to be a *Vatha* disorder in initial stages, the *suronitham*, which is a component of seven physical constituents, is most likely to be affected. This *suronitham* pertaining to be female sex explain the incidence of disease three times more common in them.

Many of the cases had *Naadi Pitham* (35%) and *Vatha Pitham* (20%). However, *Uthira Vatha Suronitham* is a *Vatha* disorder in which blood is involved and affected in this disease. Blood is one of the *Pitha* components that may be the reason for predominantly felt *pithanaadi* in majority of the cases. In many cases, the colour of urine observed were pale yellow (75%, 72.5% & 72.5%) on all the three days. The colour obtained was normal. Specific gravity of urine ranged from 1.010-1.020, which was normal. Volume of urine passed was 1100 -1500 ml, which was also normal. In most of the cases, pH values observed were between 5.1 and 6.

The coin shaped *Neikkuri* appeared in first, third and seventh minute were of 64%, 72%, and 59% respectively in RA positive patients. In RA negative cases Coin shape appeared in first, third and seventh minute were 60%, 80% and 66% respectively. From the above study, it was evident that coin shape appears in most of RA positive and RA negative cases. Thus, the shape of the *Neikkuri* does not depend upon RA factor. The coin shaped appeared in first, third and seventh minute were 65%, 72% and 65% respectively for first day, the coin shape appeared in first, third and seventh minute were 55%, 80%, 57% respectively for second day. For the third day 67%, 70%, 62%. From this, it is evident that there was no variation of *Neikkuri* shapes observed on three consecutive days. In most of the healthy volunteers, the shape of *Neikkuri* observed in first, third and seventh was coin. Here in this study many patients had coin shaped *Neikkuri*, which is a manifestation of kabapitha involvement, those patients, can be said to have a less severe course of disease.



Fig 1 coin shaped *Neikkuri* pattern



Fig 2 round shaped *Neikkuri* pattern



Fig 3 round shaped *Neikkuri* pattern



Fig 4 pearl shaped *Neikkuri* pattern

VI. Conclusion

Uthira Vatha Suronitham is one of the vatha diseases propounded by *Sage Yugi*. It affects all the major and minor joints, so this disease could be easily diagnosed by eight-fold examination. *Neikkuri* and *Neerkuri* are couple of tools to elicit the disease *Uthira Vatha Suronitham*. Based on the *Neikkuri* examination done in this study no specific association could be found out between the test result and diagnosis. These results were more nonspecific in character.

In many of the cases coin shaped *Neikkuri* was observed as finding, this showed the involvement of *Pitham* and *Kabam* humours in the pathogenesis of *Uthira Vatha Suronitham*. Therefore, the study recommends choosing drugs that corrects the vitiation of the above said humours. From the study, no association could be made between the chronicity, severity seropositivity^[10] and shape of *neikkuri* patterns observed. According to *Siddha* literature, predominant involvement of *Kabam* and *Pitham* humours is considered favorable prognostic factor. Here in this study many patients had coin shaped *Neikkuri*, which is a manifestation of kabapitha involvement, those patients, can be said to have a less severe course of disease and amenability to treatment.

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