

AN OBSERVATIONAL STUDY ON THE ASSOCIATION OF LOW BACK PAIN AND MID-LINE FISSURE IN TONGUE

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ABSTRACT

In *Siddha* system of medicine, “tongue” is well-regarded as one of the most significant diagnostic tool for a wide number of diseases. Since the tongue is a mirror of our body and it is a hypothetical point, the midline fissure (MLF) in tongue may reflect the disorders of midline structures in the body. In ancient *Siddha* literature by Sage *Agasthiyar*, the presence of fissure in tongue is described as an indicator of derranged *vatha* humour. This observational study was conducted among 3 groups of patients to observe and analyse the clinical presentation of patients having mid-line fissure in tongue and thereby to evolve significant diagnostic clue from tongue examination. Group

I, included 100 cases with mid-line fissure in tongue and their clinical presentation was observed and documented. Group II consisted of 30 patients with low back ache [without any major illness] and were observed for the presence of midline fissure. In Group III (control group) 50 general patient population irrespective of their diseases were studied for the presence of midline fissure and associated symptoms. All the results were documented and the strength of association of midline fissure and low back pain (LBP) was statistically analyzed by using Odds ratio and were also represented graphically. From this preliminary effort it has been evident of an association between Mid-line fissure & low back ache condition.

KEYWORDS: Siddha, Mid line fissure, Eightfold examination, Tongue fissure.

INTRODUCTION

Siddha system of medicine is one among the oldest known healing modality in the world and its diagnostic methodology is unique as it is made purely on the basis of clinical acumen of the physician. The diagnosis is arrived from *Poriyal arithal* and *Pulanaal arithal* (Examination of sense organs), *Vinaathal* (Interrogation), *Envagai thervu* (Eight fold examination), *Manikkadai nool* (wrist circumference sign), *Sothidam* (Astrology), Assessment of deranged three *Dosham* (Humours), *Udal thathukal* and 96 principles. *Siddha* system recommends eight powerful tools called “*Ennvagai thervugal*”. i.e., *Naadi* (Pulse), *Sparism* (Perception of touch), *Naa* (Tongue), *Niram* (Colour), *Mozhi* (Speech), *Vizhi* (Eyes), *Malam* (Faeces) and *Moothiram* (Urine) for assessing the persons current state of health and providing a basis for diagnosis. Through this *Envagai thervugal*, imbalances between the *dhoshas* and potential diseases can be detected in their early stage giving us an opportunity to bring balance of the vitiated humours before the disease manifest.^[1]

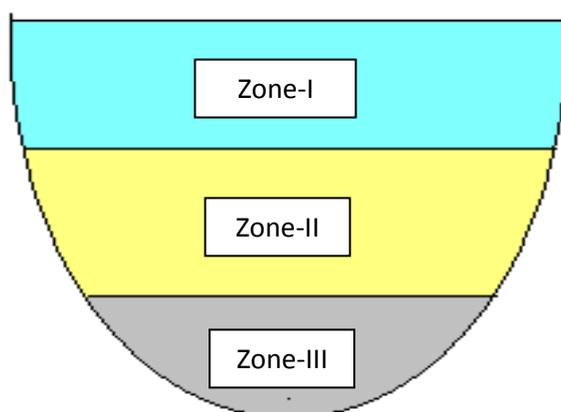
Among the eight diagnostic tools, Tongue diagnosis is revered as one of the important tool, because the tongue is an organ, which is exposed and easily assessable to examination and it is simple, inexpensive, non-invasive alternative screening method with a complimentary approach Tongue is an indicator of hidden ailments of an individual. A careful thorough examination of tongue will clearly disclose the exact root cause of disease. Though a variety of changes can be noted in tongue, presence of fissure in tongue gains its own significance in diagnosing diseases. Fissure in particular, Midline fissure (MLF) may reflect the disorders of midline structures in the body since the tongue is a mirror of our body and it is a hypothetical point. So, a study to understand the association between Mid-line fissure and diseases is necessary to evolve significant diagnostic clues from tongue examination. The findings got from the tongue examination can be interpreted with other *Siddha* diagnostic parameters.

MATERIALS AND METHODS

This single centric observational study was conducted in Department of Noi Naadal, National Institute of Siddha, Tambaram sanatorium, Chennai- 47 during the year 2010-2012. The study was approved by the Institutional ethical committee (F.NO.NIS/6-20/RES/IEC/10-11). The study was performed in 3 Groups. Group I, included 100 cases with mid-line fissure in tongue and their clinical presentation was observed and documented. Group II consisted of 30 patients with low back ache [without any major illness] and were observed for the presence of midline fissure. In Group III (control group) 50 general patient population were randomly

selected and studied for the presence of midline fissure and associated symptoms. The inclusion criteria consisted of patients with Low back pain, Mid line fissure in tongue, general cases with other ailments and those who were willing to give informed consent for the study. Patients with other serious diseases and those who were not willing to give consent were excluded from the study.

Study methodology: The Tongue was examined in natural day light and the study subjects were asked to protrude his tongue with less effort. Tongue was observed for the presence / absence of mid-line fissure. Photo image of dorsum of tongue was taken in patients with mid-line fissure [Group –I] & Photo image of dorsum of tongue was taken in patients with low backache (without any major illness). To make a detailed analysis, the dorsum of tongue was divided into 3 zones. Patients were informed about the study and their consent was obtained before taking photo image of the tongue. The data collected from the patient were kept confidentially. There was no infringement on the rights of patient and normal treatment procedure followed in National Institute of Siddha was provided.



[Zone I – posterior 1/3rd of Tongue, Zone II – middle 1/3rd of Tongue, Zone III – anterior 1/3rd of Tongue].

Figure. 1. Zonal distribution of tongue.

RESULTS

Upon careful analysis of the observed results, out of 100 cases, 78% of cases had low back ache, 11% had respiratory disorders, 9% had Knee pain and 2% had cervical pain. From the study in Group I, an association has been found between mid-line fissure and low back ache condition. In order to enrich the results obtained from Group I, Out of 30 low back ache cases, 70% had mid- line fissure in tongue and 30% had no fissure in tongue. Among them,

78% had no mid-line fissure and 22% had mid-line fissure in tongue. In the study with Group– I, out of 100 cases, 78% of cases had low back ache, 11% had respiratory disorders, 9% had Knee pain and 2% had cervical pain. The results are graphically represented in (Fig-2).

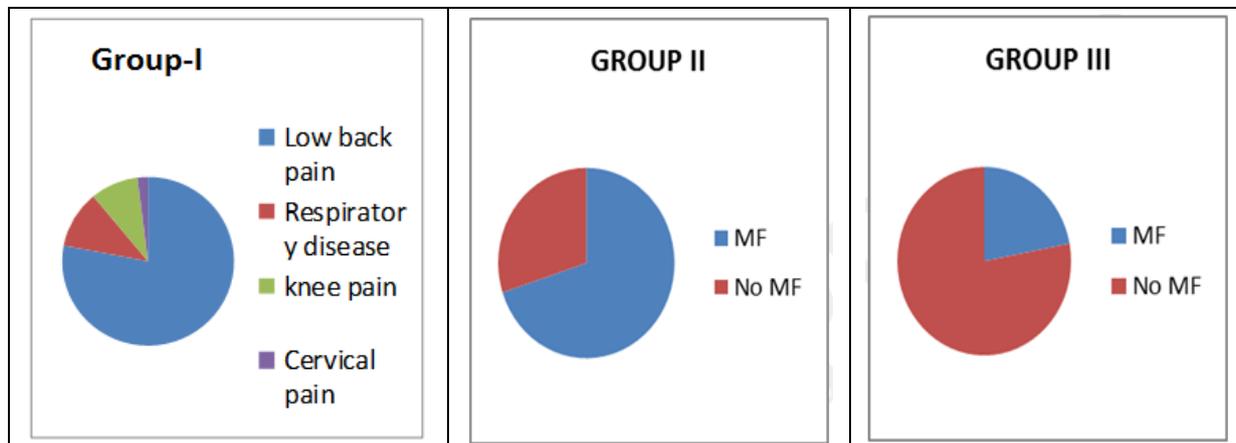


Figure. 2. Graphical representation of clinical symptoms of Group I (Cases with mid line fissure), Group II (Cases with low back pain) and Group III (General cases irrespective of disease).

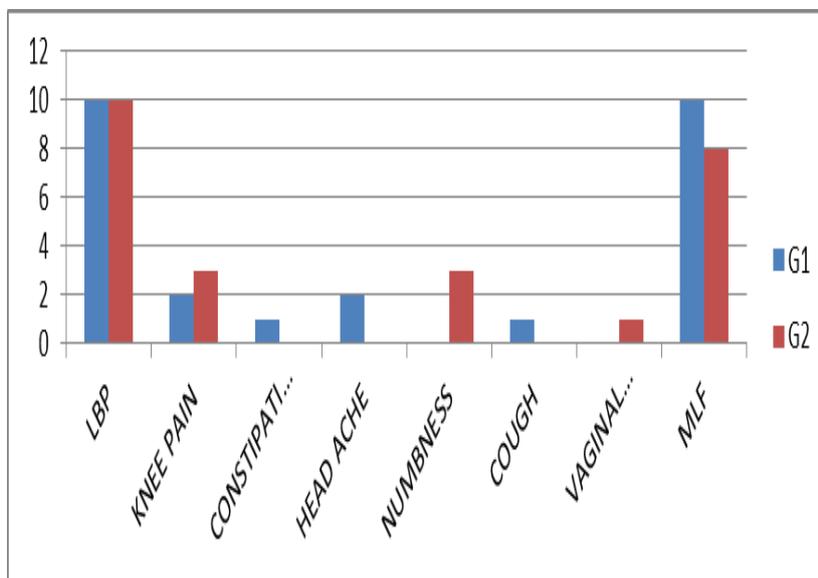


Figure. 3. Graphical representation of various symptoms observed in Group1 and Group2 individuals (1-10 cases).

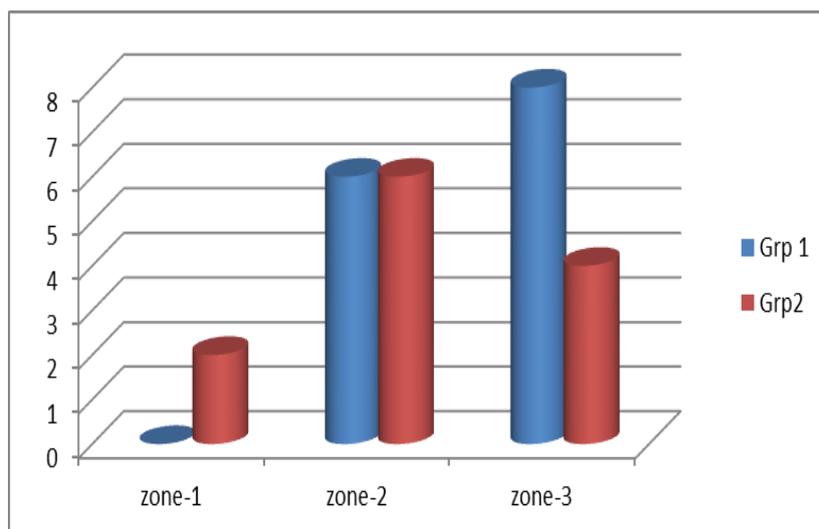


Figure. 4. Zonal distribution of Midline fissure in Group1 and Group2 individuals (1-10 cases).

Determination of strength of association of Low back pain and Midline fissure of tongue by Odds ratio

Since most of the cases presented with clinical symptoms of Low back pain were observed to have midline fissure in their tongue, odds ratio was found to determine the presence of association between the midline fissure of tongue and low back pain between Group II (Cases with Low back Pain) and Group III (Control group). The odds ratio was found to be 8.27 (OR>1) showing the presence of association between the exposure and outcome with 95% confidence interval (CI=2.9583 to 23.1344) and the P value was found to be significant (P = 0.0001).

DISCUSSION

In Siddha system of medicine the examination of tongue is one among the eight fold examination. According to Siddha pathophysiology, the color of the tongue, its size and shape, the color and thickness of its coating or fur, locations of abnormalities and moistness or dryness of the tongue could not only reveal the overall states of health, but can also well correlate the specific organ functions and imbalance in tridhosham (Vatham, Pitham and Kabam). Tongue is considered as one of the component of Gnanaindhiriyam (organ of sense) and Kanmaindhiriyam (Perception of taste). As the tongue is formed from *Neer Bootham* (Constituent of water), it exhibits the character of Neer Bootham and hence helps in perception of taste.^[2] According to Siddha system of medicine, there is inter relationship between the six tastes known as *Arusuvai* (Sweet, Pungent, salt, sour, astringent and bitter),

Pancha boothas (earth, water, fire, space and air) and tridhosam (Vatha, Pitha and Kapha). The tip of the tongue has higher threshold for sweet taste. Hence sweet is perceived at the tip of the tongue than other tastes. Similarly perception of salt along its posterolateral edges, sour along the mediolateral edges, and bitter on the back of the tongue. The posterior part of tongue perceives bitter taste formed by *Vayu*(air) and *Aagaya bootham*(space)] which alleviates *Vatha* humor. The anterior part of tongue perceives sweet formed by *Prithvi* (earth) and *Appu* boothas taste (Water) which alleviates *Kabha* humor. The medio lateral and postero lateral parts of Tongue perceives Sour formed by *Prithvi* (earth) and *Theyu* (Fire) boothas and salt taste [formed by *Appu* and *Theyu* boothas] which alleviates Pitha humor. From this association, anterior 1/3rd of Tongue is considered to be Kabha humor representation. It is a hypothetical point. Similarly posterior 1/3rd and middle 1/3rd of Tongue are considered to represent the derangement of Vatha and Pitha humor. As per Sage Agasthiyar, presence of fissure in tongue is an indicator of Vatha humour derangement.^[2-4]



Figure. 5. Photographs of samples showing zonal distribution of midline fissure of tongue.

In this study with Group– I, out of 100 cases, 78% of cases had low back ache, 11% had respiratory disorders, 9% had Knee pain and 2% had cervical pain. In Group I, the major humor that is deranged is vatha humor [low back ache, knee pain and cervical pain]. Group I also indicates the derangement of kabha humor as few of the subjects were also presented with findings like cough, sneezing, asthma, etc. In Group– II, out of 30 low back ache cases, 70% had mid- line fissure in tongue and 30% had no fissure in tongue. This is a significant result which shows the high prevalence of mid line fissure among low back ache cases. In Group– III, out of 50 general patient populations, 78% had no mid-line fissure and 22% had mid-line fissure in tongue. This study with Group III was taken as a control group to know the prevalence of midline fissure among the general patient population and to confirm the

association of Midline fissure with Low back pain. Among the three groups, though MLF was observed in all the three zones as shown in (Fig-5), Group I which consisted of 100 cases with mid line fissure had MLF most commonly on the zone-3 (Posterior 1/3 of the tongue) which represent the derangement of vatha humour.

In recent years, Low back pain is well documented to be an extremely common health problem.^[5-7] It has an extensive impact not only on the individual but also on their families, communities, health-care systems and profession. The burden of pain, limitations and restrictions in activity and participation career burden, use of health-care resources and financial burden may be particularly devastating among low socio economic population.^[8] Hence from the study results it is clearly evident that mid line fissure in tongue is closely related to derangement of vatha humour and Low back pain and may provide an early diagnostic clue for Low back pain.

CONCLUSION

From the study, an association has been found between Mid-line fissure & low back ache condition. The midline fissure in tongue is found to be a strong indicator of derangement of Vatha and had provided a significant diagnostic clue in the study, so that proper line of treatment and precautions can be adopted through this inexpensive and non-invasive complimentary screening method.

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