Integrated Management of Acute Sciatica

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ABSTRACT

Indian traditional system of medicine Ayurveda, defines health as the soundness of body (sharira), mind (manas) and self (atman). Physiotherapy helps improve patient’s quality of life with massage, exercise and electrotherapy. Music is rhythmic sounds produced by various instruments. Sciatica (Grudhrasi) is a painful condition caused by the compression of lumbar or sacral nerves (L₃-L₅ and/or S₁-S₃) or by compression of sciatic nerve itself. Ayurvedic treatments designed for this case include abhyanga (oil massage) with Mahanarayana taila and Dashamula kwatha seka along with Interferential therapy (IFT), an electrotherapy modality in physiotherapy. Throughout the entire treatment session music for healing and meditation CD was played for 10 consecutive days. Abhyanga and seka are to alleviate pain (vatahara treatment) and IFT facilitates analgesic effect and promote healing process. Ragas/tunes like Madhyamavati, Shankarabharanam, Hindola and Kalyani etc. are significant for their soothing effects and tranquilize the mind. The pathway for pain is through spinothalamic tract; inhibition of pain may be by blocking its transmission, interrupting with heat (abhyanga and seka) and external sensory stimulus (IFT). The auditory stimulus through auditory nerve reaches auditory cortex and enhance to calm down the cortex activity resulting in manah prasannata (calming down/pleasantness of mind). Integrated system of approach; Ayurveda, Physiotherapy and Music therapy; is an innovative experiment with above mentioned treatments that are given externally without any internal medicament is discussed in this paper.

Key Words: Dashamula kwatha seka, mahanarayana taila abhyanga, interferential therapy, music therapy, sciatica, grudhrasi and integrated approach
INTRODUCTION
Pain is defined as an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage. [1] Sciatica is a set of symptoms including pain caused by compression or irritation of one of five spinal nerve roots (L₁–S₂) that give rise pain in the lower back, radiating to various parts of the leg and foot. Pain may be associated with numbness, muscular weakness, pins and needles or tingling sensation and difficulty in moving or controlling the leg. Typically the symptoms are felt on one side of the body, pain can be severe in prolonged exposure to cold weather. [2] Symptoms exhibited in sciatica are similar to condition described a condition known as ‘Grudhrasi’ in Ayurveda, where in this condition is caused by aggravated vata dosha. Hip is first afflicted by stiffness, pain and prickling sensation in the waist, back, thigh, knee and calf region. All these areas get twitching sensation frequently. Grudhrasi is of two types depending on dohas aggravated: one caused due to aggravation of vata alone and other caused by aggravation of both vata and kapha dosha which also have drowsiness, heaviness and anorexia in associated with those of symptoms mentioned above cause only by vata. [3] Mahanarayana tailī [4] abhyanga and Dashamula [5] kwatha seka are Ayurvedic preparations and procedures indicated for vata vyādhi. IFT was used for analgesic effect and stimulation of local circulation. Music therapy is one of the alternative therapeutic treatments; it is the planned and creative use of music to attain and maintain health. Music had been used as a healing force for centuries. [6] Music therapy goes back to biblical times, when David played the harp to rid King Saul of a bad spirit. As early as 400 B.C., Hippocrates, Greek father of medicine, played music for his psychologically ill patients; Aristotle described music as a force that purified the emotions. In the thirteenth century, Arab hospitals contained music rooms for the benefit of the patients. [7] Music therapy began in the aftermath of World wars I and II. Musicians would travel to hospitals, particularly in the United Kingdom, and played music for soldiers suffering from war-related emotional and physical trauma. [8] After an extensive research, with 72 melakarthas, 365 different ragas were recorded exclusively for healing purpose, among them few ragas like Madhyamavati, Shankarabharanam, Kalyani, Hindola, Hamsanandi, Vasantha etc. were selected to be played throughout the duration of each treatment. [9]

CASE REPORT
Patient aged 69 years willing for integrated approach and strongly against any internal medication had been selected for this study. Patient had severe low back pain radiating to left lower limb since 4 days, after unusual exertion of standing and walking for 8 hours continuously for three consecutive days presenting with pricking type of pain radiating to left lower limb of acute onset along with difficulty in lying down straight and turning around in bed. Patient could not lie down in the same posture for more than half an hour. Pain aggravated on lying straight on back with extended legs in supine position and lying down turning to one side with both legs flexed relieved the pain. Patient was restless and had to change position repeatedly in every 30-45 minutes. There was no previous history of sciatica. Radiological findings showed changes at L₄-S₁ region, more at L₄-L₅. On examination Straight leg raising (SLR) test was positive. The Roland-Morris low back pain and disability questionnaire showed severe disability. [10] Treatment was designed to relieve the pain with an integrated approach.

Method of preparation of Dashamula kwatha:  Dashamula is a collection of ten ingredients viz. Aegle marmelos (Bilva), Premna integrifolia (Agnimantha), Oroxylum indicum (Shyonaka), Stereospermum suaveolens (Patala), Gmelina arborea (Kashmari), Desmodium gangeticum (Shalaparni), Uraria picta (Prishnaparni), Solanum indicum (Brihati), Solanum surattense (Kantakari) and Tribulus terrestris (Gokshura) with Vatahara and sothahara (analgesic and anti-inflammatory) properties. [4] One kg Dashamula coarse powder (kwatha churna) was taken and mixed by adding 16 lts of water and boiled till it was reduced to half of its initial volume i.e. 8 lts and was filtered to obtain decoction (Dashamula kwatha). The decoction hence prepared was used for seka and every day fresh decoction of Dashamula was prepared. [11, 12]

Procedures administered to the patient: Mahanarayana tailī was made lukewarm by indirect heating and applied over back and both limbs. Abhyanga was done in anuloma gati that is from back towards the feet for 15 minutes with mild pressure over back and both lower limbs. Prepared Dashamula kwatha was maintained at warm temperatures comfortable to the patient. Seka procedure includes pouring of warm decoction continuously over the affected area for 15-20 minutes. Massage with oil promotes oleation (snigdhata) that combats dry property (ruksha guna) of vata dosha. Seka helps in reduction of inflammation, alleviates pain, relaxes the nervous system and expels excess Vata and Kapha. [13] The local increase in temperature facilitates increase in local blood supply; relax the muscles by reducing the spasm and blocking of pain with input of temperature sensation. The ten drugs in the decoction are vatahara dravyas (that reduces aggravated vata). IFT is an external stimulus given to relax the muscle and block the pain. [14] To
enhance the healing process of various ailments along with their respective prescribed medicaments to benefit the patients which do have soothing effects, were played during the entire treatment sessions. Treatment was given for 10 consecutive days with an integrated approach.

RESULTS
Patient had severe tenderness at low back radiating down on posterior aspect of left leg and could not lie straight in supine or prone position and diagnosed as vataja grudhrasi (sciatica). Treatment was designed accordingly to alleviate vata dosha with Mahanarayana taila abhyanga and Dashamula kwatha seka in anuloma gati, from lower back to both lower limbs till feet. IFT was given to back and left lower limb. Entire treatment session of 1 hour had music being played. Patient was often observed being relaxed during treatment sessions listening to music though was restless and suffered disturbed sleep due to pain round the clock for couple of days. Gradual improvement was observed after three days of treatment and complete relief after continuing the same treatment for next one week. The Roland-Morris Low Back Pain and Disability Questionnaire showed 89.7% improvement and SLR was negative after completion of the treatment for 10 days.

DISCUSSION
Neuropathic pain is caused by damage or disease affecting any part of the nervous system involved in bodily feeling (the somatosensory system). The sensory information like pain, temperature, itch and crude touch is transmitted to thalamus from spinal cord through ‘spinothalamic tract’. The pathway decussates at the level of the spinal cord, rather than in the brainstem like the posterior column-medial lemniscuses pathway and cortico-spinal tract. The pain and temperature sensations are transmitted by the dorsal fibres of spinothalamic tract. So probably the pain impulses are blocked when lukewarm Dashamula kwatha seka was performed. Dashamula is a very effective (vatahara and sothahara) analgesic and anti-inflammatory, thus might have helped in reduction of all the signs and symptoms of pain and inflammation. Non-steroidal anti-inflammatory drug (NSAID) is the most commonly prescribed drug for the treatment of inflammatory conditions but the adverse effects are the limitation in their use, Dashamula kwatha seka was used instead of NSAID for treatment in this case. The sheeta (cold) and stabdha gunas (stiff properties) of vata are pacified by ushna (hot) and swedana (sudation) by Dashamula kwatha seka. Local rise in temperature due to Dashamula kwatha seka results in vasodilatation thus improving blood supply locally and releases muscle spasm along with blocking of pain as explained in Fig:1.

Fig:1-Pathway of pain and pain block phenomenon with external stimulus.
REFERENCES

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