



Review Article

PAIN MANAGEMENT IN PRIMARY DYSMENORRHOEA AND ENDOMETRIOSIS- AYURVEDIC PERSPECTIVE

Asitha.H

Medical officer on contract, Govt.Ayurveda dispensary, Bharanikavu, Alappuzha, Kerala, India.

ABSTRACT

Pain is generally described as an unpleasant sensation and a universally understood sign of disease. Around 80% of women experience pain during periods from adolescent period right up to menopause. Dysmenorrhoea literally means painful menstruation. Primary dysmenorrhoea is one where there is no identifiable pelvic pathology. The pain begins a few hours before or just with the onset of menstruation and lasts for 24-48 hours. Secondary dysmenorrhoea is normally considered to be menstruation –associated pain occurring in the presence of pelvic pathology. Pain starts 7-8 days before menstruation. Endometriosis is one of the main causes of secondary dysmenorrhoea. Dysmenorrhoea can be correlated to *Udavarta* and endometriosis to *Vatiki*. In *Udavarta*, *Sanga* and *Vimargagamana* of *Vata* and derangement of *Kapha pitta* is responsible for pain. In *Vatiki* there is *Apana vata vimargagamana*, *Vyana vata* and *Pitta* vitiation causes *Artava dusti* and *Dusta artava sthana samsraya* in *Kha vaigunya* sites. So administration of drugs and treatment modalities crackling these factors involved in the etiopathogenesis do the work. Ayurvedic classic textbook along with available modern literatures were referred to make a clear view regarding the concept of pain and the main *Yonirogas* causing pain during menstruation and its management.

KEYWORDS: Dysmenorrhoea, Primary Dysmenorrhoea, Endometriosis.

INTRODUCTION

The international association for study of pain defines pain as an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage^[1]. Arunadatta while commenting on *Ashtanga hridaya* mentioned that *Rujati iti roga*, means *roga* is that which causes pain. *Susruta* mentioned *Vyadhis* are the root cause of *Dukha samyoga*. Both *Kaya* and *Mana* can be considered as *Adhistana* of *Ruja*.

Menstrual period is a physiological phenomenon which occurs throughout the reproductive life of a woman. If this period of time remains uneventful is a bliss, though majority of women experiences certain degree of pain and distress. Even though primary dysmenorrhoea is not a real threat of life it can affect the quality of life and can cause disability and inefficiency. Dysmenorrhoea is the principal cause of recurrent short term work and school absenteeism in young girls and women. It can also cause mental problems in some of the women due to their reduced participation in different social activities.

Pelvic pain in women has both gynaecological and non-gynaecological cause. Pain of gynaecological origin may be due to primary dysmenorrhoea or due to any other underlying pelvic pathology. Menstruation associated pain occurring in the presence of pelvic pathology is secondary dysmenorrhoea. The common causes of secondary dysmenorrhoea are endometriosis, adenomyosis, uterine fibroid, endometrial polyp, chronic pelvic infection, uterine fibroid may cause dysmenorrhoea due to associated pelvic congestion or endometriosis.

The prevalence of dysmenorrhoea worldwide ranges 15.8-89.5% with a higher prevalence in adolescent girls^[2]. Endometriosis affects 10-15% of women of reproductive age.^[3] Among these 70% of women suffer from chronic pelvic pain.

Due to its importance there are different pharmacological and non-pharmacological treatment methods like NSAIDs, herbal dietary management, yoga, acupuncture etc., but still this periodic agony of women remains as a burden to be managed. In this scenario, Ayurveda owes a cheaper and long-lasting protocol that leads to a better pain management system. In Ayurveda classics primary dysmenorrhoea

is considered as *Udavarta* and endometriosis as *Vatiki*.

Nirukti

The word *Vedana* is derived from the root 'Vid' which means an experience. Experiences may be positive or favourable and negative or unfavourable. Favourable experience is *Sukha* and the unfavourable one is *Dukha*.

Synonyms

In classical texts of Ayurveda different terms such as *Ruja*, *Ruk*, *Vedana* and *Shoola* are commonly used for describing pain.

Perception of pain

The knowledge of *Sukha* and *Dukha* occurs as a result of the co-ordinated action of *Atma*, *Mana*, *Budhi*, *Indriya*, *Indriyarta* and *Karma*.

Adhishtana of Ruja

The seat or *Adhishtana* of *Vedana* is *Mana* and *Indriyasahita sareera* except the *Kesa*, *Roma*, *Nagagra*, *Malamutra*. Both *Kaya* and *Mana* can be considered as the *Adhishtana* of *Ruja* explicating the two extremes of concept of pain: pain as emotion and pain as a specific somatic sensation.

Causes of Pain

Arunadatta while commenting on Ashantaga hridaya mentioned that *Rujati iti roga*, means *roga* is that which causes pain^[4]. According to *Susruta*, *vyadhis* are the root cause of *Dukha samyoga*^[5]. Among *Tridoshas* vitiated *Vata* is responsible for pain.

Role of Vata in Causing Pain

As per the saying *Saveshu Eteshu Shooleshu Prayena Pavanah Prabhu*^[6], by *Madhavakara*, *Vata* is the sole responsible for pain. It is responsible for generating and spreading of pain. This vitiation of *Vata* occurs in two ways, *Dhatukshayajanya vata prakopa* and *Margaavarodha janya vata prakopa*. Similarly the *Ruksha guna* and *Chala guna* of *Vata* are mainly responsible for the manifestation of pain. Specific *Vata* can be considered as responsible for pain in a specific region such as: generalized pain is caused by *Vyana vayu*, headache by *Prana* and *Vyana vayu* abdominal pain by *Samana* and *Apana vayu* and chest pain by *Vyana* and *Prana vayu*.

Chikitsa

The treatment modalities such as *Sneha karma*, *Sweda karma*, *Agnikarma*, *Raktamoksha* by *Jalouka*, *lepana karma*, *Vasti* are described for the relief of pain due to various pathology. For the treatment of pain *Acharya Charaka* mentioned *Angamarda prasamana*, *Shoola prasamana* and *Vedanasthapaka mahakasaya*.

Concept of Pain

Pain is a universally understood sign of disease; it is also the most common symptom that causes people to seek medical attention. In Medical dictionary of Farlex pain is defined as an unpleasant feeling that conveyed to the brain by sensory neurons.^[7] It occurs when the brain receive the signals from the point of pain through the sensory nerves. It may have a physical origin as a result of illness or injuries or it can have an emotional origin. Pain differs from the five classical sensory senses as it is both discriminative sensation and a graded emotional experience associated with actual or potential tissue damage. It is a submodality of somatic sensation.

Etymology of Pain

The word pain is derived from the Latin word "poena", which means punishment, penalty retribution, and indemnification.^[8]

Characteristics of Pain

One main component of pain is its subjectivity. A stimulus to two individuals can result in two different reactions. So what could be painful to one person, can be less so to another. Pain threshold is the lowest intensity at which a given stimulus is perceived as painful; it is relatively constant across the subjects for a given stimulus. Pain tolerance, on the other hand is the greatest level of pain that a subject is prepared to endure. Tolerance varies much more widely across the subjects. Clinically pain tolerance is of much more importance than pain threshold.^[9]

Mechanism of Pain Pathway

Nociception

Nociception is the detection of painful stimuli. It occurs through the membrane bound neuronal receptors at the nerve terminals that are getting activated by the exposure to specific noxious stimuli. This signal is then converted into an action potential and is propagated to the dorsal horn of the spinal cord. The noxious stimulation is communicated through the peripheral and central nervous system.^[10] Nociception involves phases like transduction, transmission modulation and perception.

Pain in Primary Dysmenorrhoea

The uterus is richly supplied by both sympathetic and parasympathetic nerves, through the inferior hypogastric and ovarian plexuses. Sympathetic nerves from T12, L1 segment of spinal cord produce uterine contractions and vasoconstriction. The parasympathetic nerves (S2, S3, S4) produce uterine inhibition and vasodilation. However, these effects are complicated by the

pronounced effects of hormones on genital tract.^[11] Pain sensation from the body of uterus pass along the sympathetic nerves and from the cervix along the parasympathetic nerves.

The stimulation of pain fibres in the uterus causes activation of the afferent pain pathways transmitted up to the central nervous system. In addition there is some evidence of a direct effect on pain fibres themselves in cases of dysmenorrhoea. This theory is based on the potential effect of ischemia on pain fibres. Vasoconstriction leads to ischemia and it is thought that type C pain neurons are stimulated by the anaerobic metabolites generated by an ischemic endometrium.^[12] It has also been suggested that leukotrienes can increase the sensitivity of pain fibres.^[13]

Pain in Endometriosis

Secondary dysmenorrhoea is normally considered to be menstruation –associated pain occurring in the presence of pelvic pathology. The pain is dull, situated in the back and lower abdomen usually appears 3-5 days prior to the periods and relieves with the onset of bleeding. It mainly occurs in elderly or parous women. In secondary dysmenorrhoea intermenstrual period not completely free of pain and there will be no systemic discomfort. The most common cause of secondary dysmenorrhoea is endometriosis.

In endometriosis pain starts a few days prior to menstruation get worsened during menstruation and takes time even after cessation of period, to get relief of pain (co menstrual dysmenorrhoea). Pain usually begins after few years pain free menses. The site of pain is usually deep seated and on the back or rectum. Pain in women with endometriosis takes different way of exhibitionism in the sense as painful periods, painful intercourse (dyspareunia), painful defecation (dyschezia), painful urination (dysuria).

Cause of Pain

Increased secretion of PGF₂ α , thromboxane β_2 from endometriotic tissue is the cause of pain. The pain varies from pelvic discomfort to lower abdominal pain or back ache. The causes of pain is multifactorial, may be due to peritoneal inflammation, tissue necrosis, adhesion formation, nerve irritation due to deep penetration or due to release of local inflammatory mediators, endometrioma formation.^[14]

Pain Sensitivity in Dysmenorrhoeic Women

Women with dysmenorrhoea, compared with women without dysmenorrhoea, have greater sensitivity to experimental pain both within and outside areas of referred menstrual pain.^[15] This enhanced pain sensitivity is evident even in phases of

the menstrual cycle when women are not experiencing menstrual pain. It illustrates the long term differences in pain perception extend outside of the painful menstrual phase.

Pain and Sleep in Dysmenorrhoeic Women

Studies show that there is existence of an intricate relationship between pain and sleep. Compared with a pain – free phase of the menstrual cycle, when experiencing menstrual pain, women with severe primary dysmenorrhoea had reduced sleep efficiency, reduced rapid eye movement sleep, and increased stage I sleep.^[16] The disturbed sleep observed in women with severe primary dysmenorrhoea during menstruation may heighten their sensitivity to pain.

Ayurvedic Principles and Modalities of Pain Management

Udavarta and *Vatiki* are the two main *Yonirogas* causing dysmenorrhoea. As *Samprapti Vighatanam* is *Chikitsa*, first going through the *Samprapti* and then the *Ghatakas* involved in *Samprapti* and later the *Chikitsa*.

Udavarta

Samprapti – Etiopathogenesis

By *Nidana seva* aggravation of *Vata* and derangement of *Kapha* occurs. The aggravated *Vata* especially *Apana vata* when faces *Marga avarodha* the normal *Gati* of *Vata* is affected and results in *Vimarga gamana*. In addition to this unusual contractions of cervix and body of uterus are associated. Thus along with the *Vimaragamana* of *Vata* there occurs *Vimargagamana* of *Rajas*. Due to this manifestation of severe pain and difficult discharge of frothy *Rajas* took place. All these events are contributing to difficulty in expulsion of *Rajas* or painful expulsion of *Rajas*.

Samprapti Ghatakas

Dosha - Vata, Kapha as Anubhanda dosha (Vata – Vyana, Apana,)

Pitta - Ranjaka, Pachaka

Dooshya - Rasa, Rakta,

Srotas - Artavavaha Srotas

Srotodushti prakara - Sanga, Vimargagamana

Roga marga - Abhyantara

Prabhava sthana - Pakwasaya

Sthana samsraya - Garbhasaya

Vyakta sthana - Garbhasaya

Management

Snehana with *Trivrita sneha* (mixture of *Grita, Taila, Vasa*), *Swedana*, use of *Gramya, Anupa, Audaka mamsa rasa, Vasti* and *Pana* of *Ksheera* prepared with *Dasamula, Anuvasana vasti* and *Uttara vasti* with *Trivrita sneha*^[17]. In *Astanga samgraha* it is

mentioned that *Vatika yonirogas* including *Udavarta* all *Vata hara upakrama* should be done. *Yoni pichu* with *Taila* made up of *Kushta*, *Tagara*, *Devadaru*, *Vartakini* and *Saindhava*.^[18] Medicated oil prepared with decoction of *Rasna*, *Malati*, *Chinnaruha*, *Madhuka*, *Bala*, *Vyaghri*, *Devadaru*, roots of *Chitraka*, *Yuthika* each one *Karsa*, one *Prastha* of oil, cows urine and two parts of cows-milk. Diaper soaked in this oil and put into vagina relieves the pains caused by *Anila*.^[19]

Charaka mentions about *Snehana* with *Trivrita sneha* then *Swedana* and *Dasamulapayobasti*. It can also be adopted in *Vatiki chikitsa*. *Uttara bhasti* with *Vata samana thaila* and *Ghritha* can be done one week prior to menstruation. So before doing *Sthanika chikitsa snehana*, *Swedana*, *Virechana* and *Basti* should be done.

Shamana Yogas

Saptasaram kasayam, *Sukumaram kasayam* *Dhanwantaram kasayam*, *Maharasnadi kasayam* *rasnadi ksheerapaka*, *Vajopakunkikadi kalka*, *Rajapravartini vati*, *Kumaryasavam*, *Asokarishtam*, *Dhanwantaram tailam*, *Sukumara ghritham*, *Higuvadi churnam* are some of the *Samana yogas*.

Vatiki

Samprapti – Etiopathogenesis

Due to the *Vata vardhaka nidana seva* there occurs *Vata kopa*, *Vata dushti apana* and *Vyana vata* causes *Artava dushti*. *Vimargagamana* of *Dushta artava* occurs and later *Sthana samsraya* at *Kha Vaigunya* sites like *Kadi*, *Uras* etc. *Vata* in association with *Pitta* causes pain due to inflammation and hormonal imbalance and *Vata* with *Kapha* association causes adhesion and scar tissue formation.

Samprapti Ghatakas

Dosha: Vata- Pradhana dosha (Apana vata, Vyana vata)

Pitta and Kapha - Anubandha dosha

Dushya: Dhatu – Rasa, Rakta

Upadhatu – Artava

Srotas: Artavavaha srotas

Sroto dushti lakshana: Vimarga gamana

Prabhava sthana: Garbhasaya

Sthana samsraya: Kadi pradesha, Phuphusa, Scar, Sakti etc.

Management

After doing proper *Agni deepana* and *Ama pachana* start *Snehapana* with *Vata samana sneha sravyas* like *Narayana tailam*, *Sukumara ghritham*, *Mahanarayana tailam*, or *Karpasasthyadi thailam*. After proper *Snehana-swedana*, *Virechana* and *Vasti* with suitable drugs are advocated. After *Sodhana* administration of *Uttaravasti* is the next step.

Sukumara ghritham, *Narayana tailam*, *Mahanarayana tailam*, *Karpasasthyadi tailam*, *Dhanwantaram tailam* are some of the *Yogas* suitable for doing *Uttaravasti* in *Vatiki*. *Swedana* procedures like *Avagaha* in *Dasamula kashaya* prior to menstruation also found to be effective in reducing pain. After *Sodhana* and *Sthanika chikitsa*, *Rasayana chikitsa* is administered to regain *Dhatu bala*. *Lasuna*, *Satapushpa*, *Satavari rasayanas* can be administered for regaining *Dhatu bala*.

Shamana Yogas

The *Yogas* having *Anulomana* in property is more suitable in this condition. *Chiruvilwadi Kashayam*, *Gandharvahastadi kashayam*, *Saptasaram kashayam*, *Sukumaram kashayam*, *Abhayarishtam*, *Danthyarishtam*, *Asokarishtam*, *Punarnavasavam*, *Hinguvachadi churnam*, *Yavaksharam* are some of the *Shaman yogas* used.

DISCUSSION

Nidana parivarjana is considered as *Chikitsa* so proper abstinence from *Nidanas* causing *Dosha* imbalance, following *Pathya ahara* and *Vihara* and avoiding *Apathyas* contributing disease is advocated along with administration of medicines.

In *Udavarta* administration of *Vata kapha* alleviating drugs and treatment is fruitful. So *Vata Kapha samana* with *Pitta vardaka* and *Ushna teekshna guna* facilitates *Raja pravartana*. Thus there is easy expulsion of *Artava* and relieves pain.

In *Vatiki* two steps of treatment is adopted. *Langana chikitsa* aiming *Agnideepana* and *Ama pachana*. After attaining *Agnideepana* and *Ama pachana* go for *Brihmna chikitsa*, it is for *Vata samana*. *Vatahara chikitsa* is mainly for alleviating pain. *Anubandha doshas kapha* and *Pitta* is to be normalised. *Kaphahara* helps in lysis of adhesions if present and *Pittahara* is done till *Paittika* symptoms subside.

CONCLUSION

Any addictive analgesics, antispasmodic administered for longer use for controlling pain is not good enough for health. This issue can be well addressed by Ayurvedic way of pain management. By doing treatment prior to menstruation the menstrual period in the following cycles will be painless or with mild degree of pain compared to previous cycles.

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***Address for correspondence**

Dr. Asitha.H

Medical officer on contract,
Govt. Ayurveda dispensary,
Bharanikavu, Alappuzha, Kerala.
Mobile: 8281573597
Email: asithahari@gmail.com

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