



### Review Article

#### THE ROLE OF AYURVEDA IN THE MANAGEMENT OF VYANG W.S.R. TO MELASMA

Kaur Manpreet<sup>1\*</sup>, Sharma Anita<sup>2</sup>, Khatik Rohit Kumar<sup>1</sup>, Meena H. M. L<sup>3</sup>

\*1P.G.scholar, <sup>2</sup>Associate Professor & H.O.D., Dept. of Agadtantra, National Institute of Ayurved, Jaipur, Rajasthan.

<sup>3</sup>In charge Research Officer (Scientist-3), Ayurveda Central Research Institute, Jaipur, Rajasthan.

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#### ABSTRACT

In *Ayurvedic* literature all skin ailments are mostly concludes in the title under *Kushtha* and *Kshudra Roga*. The primary meaning of *Kushtha* is *Twak vaivarnta* (discolouration of skin). *Vyanga* is *Kshudraroga* with Painless, small and blackish in colour features. Melasma is an acquired pigmentary disorder characterized by common clinical finding like hyper-pigmented macules on face. In its pathogenesis various factors like genetic predisposition, UV rays, cosmetics and hormonal drugs are play important role. In *Ayurveda* this condition is similar to *Vyang* which is mentioned in *Kshudra rogadhikar*. According to *Ayurveda* it is occur due to excessive anger and hard work. So as the results vitiated *Doshas* mainly *Pitta* along with *Vaata* produce blakish patches on face which is called *Vyang*. *Vyang* is a *Rakta pradoshja vikar* and in its probably *Doshas* involved are *Udaan vaayu*, *Bharajak pitta* and *Dushya Ras* and *Rakta dhatu*, As this condition disturbed our mental and physical state. A good physical appearance and natural colour show us healthy. So for this purpose in *Ayurveda* line of treatment like *Shodhan* (purification), *Shaman chikitsa* and various numbers of *Lepa*, medicated oil and ointment for external application are also mentioned. All accessory factors are also important during management of disease e.g. psychological condition, cosmetics, OCP, some drugs etc. This article review attempts to understand the *Vyang* with modern view of Melasma and to help in treatment of it.

#### \*Address for correspondence

**Dr. Kaur Manpreet**

P.G.Scholar,

Dept. of Agadtantra, National

Institute of Ayurved, Aamer

Road, Jaipur, Rajasthan 302002,

E mail:

[manpreetkaur01101989@gmail.com](mailto:manpreetkaur01101989@gmail.com)

Contact no. 08890740414

#### INTRODUCTION

Melasma is a common pigmentary disorder characterized by symmetrical hyper-pigmented macules on the face. It mainly affects women particularly of reproductive age with Fitzpatrick skin type 4-6 and in darker skin types, such as Hispanics, Asian and African americans<sup>1</sup>. It has a deleterious impact on patient's life quality. The condition can occur in men also. This disorder is the epidemiological data for female and male ratio shows a country dependent difference, such as 21:1 in Singapore and 4:1 in india<sup>2</sup>. The aetiopathogenesis of melasma includes genetic factors, UV exposure, hormonal activity, drugs such as phenytoin and cosmetics etc<sup>3-6</sup>.

*Ayurveda* has mentioned the melasma as *Vyang* in *Kshudraroga* by all Acharyas. The etiological factors, pathogenesis of *Vyang* are explained in *Ayurveda*. In *Vyang vata* and *pitta dosha* is mainly involved. They along with each other due to causative factors suddenly produce *Vyang* on face region. Because there are not many research articles found in it. Hence the research articles discuss will highlight, evaluate, elaborate and discuss about etiology, pathology and perspective *Ayurvedic* treatment of melasma with special reference to *Vyang*.

#### Aims and objectives

1. To search and re-evaluate the *Vyang* in various *Ayurvedic* literatures with special references to melasma.
2. To evaluate and elaborate the aetiology, pathophysiology of *Vyang*.
3. To elaborate and discuss the management of *Vyang* w.s.r. to melasma.

#### MATERIALS AND METHODS

The article is based on review of *Ayurvedic* texts and research papers. Materials related to *Vyang* and melasma have been collected from *Ayurvedic brihatriyi*, *laghutriyi* and other *Ayurvedic* books. We have also referred modern texts, journals and search various websites to collect information on the relevant topics.

#### Conceptual Study

##### *Ayurvedic* Disease review

According to *Ayurveda* *Vyang* is a *Raktapradoshja vikar*<sup>7</sup>. The proper references for it found in both *Brihatriyi* and *Laghutriyi*, but it is given in shortly. All Acharyas mentioned it in *Kshudrarog*. Main causative factor for *Vyang* is Angar and excessive Hard work<sup>8</sup>. In it probably *Doshas* involved are *Udaanvaayu*, *Bharajak pitta* and *Dushya Ras* and *Raktadhatu*.

**Samprapti**

*Samprapti* is defined as the process involved in the pathogenesis of a disease by vitiated *Doshas* which are constantly circulating in the body. As Acharyas says, *Prakupitavata* due to Anger and hard work (*Krodhayaas*) along with *Pitta dosha* in combined form suddenly came to facial region (*Sahasaamukhamagatayam*) and produce blackish (*Shayav*) colour's thin (*Tanukam*) patches<sup>8</sup>.

**Causative Factors**

Mainly anger and excessive hard work<sup>8</sup>.

**Samprapti Ghatak**

*Dosha-Vata-pitta*

*Dushya-Ras, Rakta*

*Adhishthan-Mukhagat Tavak*

*Vyadimarg-Bhahya*

*Srotas-Rasvah, Raktavah*

*Srotodushtiprakar-Sang*

*Agni-Vishamagni*

*Sadhaya-Asadhayata-Sadhaya*

**SYMPTOMS (RUPA)**

1. Sudden onset on face region.
2. Painless, small and blackish in colour<sup>8</sup>.

**CLINICAL TYPES OF DISEASE**

According to the *Doshas* predominance disease may be categorised into 4 sub types.<sup>8</sup>

1. *VATIKA*-Blackish coloured and rough in nature.
2. *PAITTIKA*-Blue coloured in centre and copper coloured in periphery.
3. *KAPHAJA*-Whitish in colour and itchy nature.
4. *RAKTAJA*-In centre copper and on periphery blood coloured associate with burning and tingling sensation.

**MODERN DESCRIPTION OF MELASMA**

Melasma is a most common acquired pigmentary disorder that manifests as symmetric hyperpigmented macules and patches that mainly affects the face. It is of brownish coloured appearance.

This form of facial pigmentation is sometimes called chloasma, but its mean green coloured skin, so for this condition term melasma is preferred. melasma has a deleterious impact on patient's life quality. This disorder is most common in women. But it can occur in men also.

**EPIDEMIOLOGY**

The prevalence of melasma is varies between 1.5% and 33.3% depending on the population<sup>9, 10</sup>. melasma is more common in women than in men. Its prevalence in women is around 50%-70% in pregnancy stage and 8%-29% of women on o.c.pills<sup>11, 12</sup>. In men its prevalence between 20.5%-25.38% of the cases. In men malar pattern is more common than the centrofacial and mandibular patterns.<sup>13-15</sup> A study conducted in male patients with melasma has shown that the levels of testosterone were low indicating a role of subtle testicular resistance in the pathogenesis of melasma<sup>16</sup>. In men with melasma include the use of vegetable oils especially mustard oil on face and diethylstilboestrol

therapy for prostate cancer also a etiological factors<sup>13, 15, 16</sup>.

**Etiology and Pathogenesis**

There are many factors implicated in etiology. These are Genetic backgrounds, UV radiation, pregnancy, OCPs, cosmetics and drugs such as phenytoin<sup>3-6</sup>.

**Genetic Factors**

Racial and familial predisposition suggests that genetic factors contributes to pathogenesis of melasma. It is common in Hispanic and Asian racial groups with Fitzpatrick skin types 3/4<sup>1</sup>. Without limitations of participants, familial occurrence is as high as 56.3% of 302 patients from brazil<sup>17</sup>. The rate of occurrence from different countries and even from same country shows a wide range of differences family history is associated with melasma on epidemiologic study.

**UV RADIATION**

Sun exposure is generally one of the important cause of melasma. Repeated exposure to a sub-erythermal dose of UV radiation stimulates melanogenesis which increasing skin melanin content<sup>18</sup>. UV induced melanogenesis is mediated by direct effects of UV photons on DNA and on melanocyte membranes<sup>19</sup>. Prolonged UV-B radiation exposure causes acute inflammation and elevation of histamine levels, leading to UV-B induced pigmentation<sup>20</sup>.

**SEX HORMONES**

A female preponderance suggests a role for the female sex hormones in the pathogenesis of melasma. It is a un-desirable cutaneous effect of oral contraceptives<sup>21</sup>. In relation to pregnancy, melasma is generally considered as a common physiologic skin change due to hormonal alterations<sup>22</sup>. Estrogens have an significant role in both physiological and pathological skin conditions including pigmentation. A few studies suggest that estrogen increase the mRNA expression of tyrosinase, tyrosinase related protein and the activity of tyrosinase in cultured normal human melanocytes.<sup>23, 24</sup>

**PHENYTOIN**

Pigmentation resembling melasma develops in 10% of patients receiving phenytoin. The drug exerts direct action on melanocytes causing dispersion of melanin granules and also induces increased pigmentation in the basal epidermis. but pigmentation disappears in a few months after withdrawal of drugs<sup>25</sup>.

**COSMETICS**

Tar, hydrocarbon derivatives like benzene, xylene and poor quality of mineral oil containing cosmetics play an important role by photo-toxic mechanism<sup>26</sup>.

**OTHERS FACTORS**

Cell to cell interactions play an important role in homeostasis of adult tissues. paracrine factors derived from dermal fibroblasts, abnormalities in dermal vasculature and factors regulating melanosome and ion transport in skin pigmentation may also be involved<sup>27</sup>.

**CLASSIFICATION OF MELASMA**

On the depth of melanin pigments it classify into 3 types.<sup>28</sup>

1. Epidermal-It appears light brown in colour. In this type melanin deposit in basal and supra-basal layers of epidermis. In wood's light examination it show enhancement to contrast. It show good response to treatment.

2. Dermal-It is bluish gray in colour. In it melanin loaded melanophages seen in superficial and mid dermis. In wood's light examination it shows no enhancement. It responds poor to treatment.

3. Mixed-It is of dark brown coloured. There melanin deposition found in the epidermis and dermis. In woods light examination some area shows contrast enhancement. It shows partial response to treatment.

**CLINICAL FEATURES**

Sanche et al classified melasma into three groups.<sup>26</sup>

1. Centro facial:63% cheek, forehead, upper lip, nose and chin.

2. Malar: 21% malar area on face

3. Mandibular: 16% ramus of mandible.

**AYURVEDIC MANAGEMENT**

Ayurvedic management mainly comprises of the followings.

1. Removal of cause (*Nidanparivarjan*)<sup>29</sup>

2. *Shodan chikitsa*<sup>30</sup>

- Bloodletting process(*shiravedan*)
- Massage(*Abhayang*)-*Manjishathadisaneha*<sup>31</sup>, *Kumkumadi Tailam*<sup>32</sup>, *Kasisadighrita*<sup>33</sup>, *Sarshap oil*<sup>34</sup>
- *Nasya -Bhringrajsvaras*<sup>35</sup>

3. *Shamanchikitsa*

**For Internal use**

A. *Gandhpashan churan*<sup>36</sup>

B. *Somraji churan*<sup>37</sup>

C. *Avalgujaadi gutika*<sup>38</sup>

D. *Khadiroudak*<sup>39</sup>

**For external use(*lepa*)**

- *Varnay Mahakashaya*<sup>40</sup>
- *Eladi Gana*<sup>41</sup>
- *Arjuntvagaadi lepa*<sup>42</sup>
- *Savarnkarlepa*<sup>43</sup>
- *Ingudi majja*<sup>44</sup>
- *Manjishthadi lepa*<sup>45</sup>
- *Ayorajadi lepa*<sup>46</sup>
- *Kanak tailam*<sup>47</sup>
- *Aagardhoom tail*<sup>48</sup>
- *Aragsheradi lepa*<sup>49</sup>
- *Kaliyakadi lepa*<sup>50</sup>
- *Shalmali lepa*<sup>51</sup>
- *Yavchurnadi lepa*<sup>56</sup>
- *Masoor lepa*<sup>52</sup>
- *Jaatiphaladi lepa*<sup>53</sup>

- *Navneetadi lepa*<sup>54</sup>
- *Dadhisaraadi lepa*<sup>55</sup>
- *Jeerakadi lepa*<sup>57</sup>
- *Dviharidraadi lepa*<sup>58</sup>
- *Varnak lepa*<sup>59</sup>
- *Rakshoghan lepa*<sup>60</sup>
- *Raktachandanaadi lepa*<sup>61</sup>
- *Utpalaadi lepa*<sup>62</sup>
- *Varuntavakchuran with Ajaadudh(Goat milk)*<sup>63</sup>
- *Anrag lepa*<sup>66</sup>

**Udvartan**

- *Shirish, Lamajjak, Naagkeasr, Lodhra*<sup>64</sup>
- *Haritaki+Lodhra+Neempatra+Karanj+Daadim bark*<sup>65</sup>

**CONCLUSION**

Melasma is a common pigmentary disorder having deleterious impact on patient's life quality. As per *Ayurveda Vyang* is a disease mentioned in *Kshudrarogadhikar*. In *Ayurvedic* treaties there is a good answer to this disease because it has great treasure of single and compound drugs able to breakdown the *Samprapti* of *Vyang*.

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