

Available online on 15.09.2019 at <http://jddtonline.info>

## Journal of Drug Delivery and Therapeutics

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Review Article

### Anatomical Abnormalities Related to Some Specific Conditions: An Ayurveda and Modern Review

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#### ABSTRACT

The ayurveda term “*Sharir Rachana*” deals with anatomical and physiological considerations of human body. The study of *Sharir Rachana* and *Kriya* is very essential for understanding pathological perspectives of various diseases. The *Shalya* and *Shalaky Chikitsa* also depend upon the anatomical awareness of human body. There are some pathological conditions which involve anatomical and physiological disturbance. The anatomical abnormalities not only considered responsible for pathogenesis of some diseases but these anatomical variations may also observed as symptoms of few diseases. Considering importance of anatomical abnormalities in pathological conditions present article describing some specific disease conditions and their anatomical abnormalities. Article emphasized anatomical abnormalities related to the diseases of *Garbha* (congenital), skin, liver and vein.

**Keywords:** *Ayurveda, Sharir Rachana, Anatomy, Physiology and Abnormalities*

**Article Info:** Received 10 July 2019; Review Completed 12 Aug 2019; Accepted 18 Aug 2019; Available online 15 Sep 2019



#### Cite this article as:

Jain S, Hirudkar V, Khond KA, Anatomical Abnormalities Related to Some Specific Conditions: An Ayurveda and Modern Review, *Journal of Drug Delivery and Therapeutics*. 2019; 9(5):207-209 <http://dx.doi.org/10.22270/jddt.v9i5.3668>

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#### Introduction

The ayurveda one of the traditional science of health care management described importance of *Sharir Rachana* and *Kriya Sharira*. The ancient anatomical knowledge provides great understanding about the physiological functioning and diseases of human body. Various ayurveda texts emphasize specific aspects related to the anatomy and physiology of human body. In this regards *Charak* has emphasized different points of *Rachana Sharir* as *Marma Sharir*, *Sushruta* emphasized *Shalya Chikitsa* and provides detailed information about *Sira*, *Marma Sharir* and *Mrutashodhan Paddhati*, etc. *Wagbhatta* has mentioned about *Dhamani Marma* and *Mahastrotas*. *Bhavaprakash* has emphasized *Yoni Nadi Visheshata* while *Madhvanidan* correlated *Rachana Sharir* with different *Vyadhis* [1-5]. The understanding of anatomical abnormalities is very important for the treatment of various diseases. Anatomical variations can also be considered as symptoms of some specific pathological conditions. Present article summarizes anatomical abnormalities related to the some pathological conditions.

Article emphasized anatomical abnormalities related to the congenital disorders and diseases of skin, liver and vein.

#### *Garbhaj Anatomical Vikritiya*

Ayurveda philosopher suggested that quality of *Bija* play important role towards the formation and development of normal *Grabha*; if defective *Beeja* involve in fertilization then anatomical abnormalities in *Grabha Sharir* may observed. *Garbhaj vikritiya* mainly involves *Bija Dosha* & *Matrij Vikriti*, the abnormal anatomy of fetus involve deformities in shape size like snake, scorpion or pumpkin like shape of fetus. The other major anatomical abnormalities of fetus are dwarf, crooked-legs and deform shaped of eyes. These all abnormalities in fetus may arise due to the *Bija Dosha* & *Matrij Vikriti*. Similarly formation of defective skin of fetus can take places through hereditary consequences. Defects in *Ashaya*, ovary & fallopian tube can also leads fetal anomalies [6, 7].

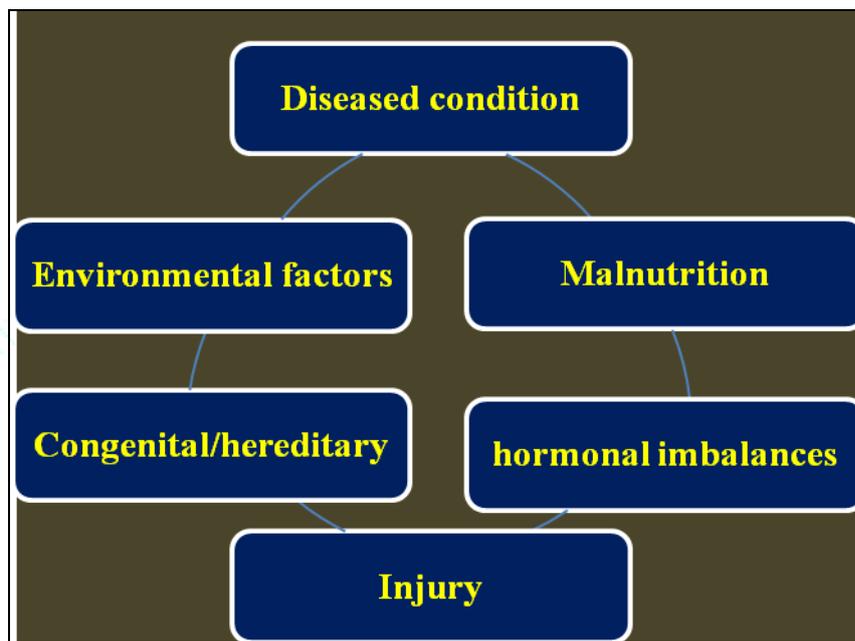
The modern science in this regards some congenital abnormalities of limb like; amelia and meromelia. Similarly congenital humpback can occur due to the hereditary defect

in growth of bone and spina bifida. **Table 1** presented some types of congenital anomalies mainly related to the

disturbances in anatomical development. **Figure 1** depicted some causes of anatomical abnormalities.

**Table 1:** Congenital abnormalities related to the anatomical disturbances as per modern science.

Major types of congenital abnormalities	Disease	Descriptions
Structural abnormalities (absence of body part or improper formation of organs)	<i>Spina bifida</i>	Improper closing of membranes and backbone around spinal cord
	<i>Hypospadias</i>	Abnormal position of bladder tube in male child
	<i>Cleft lip</i>	Abnormal gap between the upper lip
	<i>Ventricular septal defect</i>	Abnormal connection between the both ventricles of heart



**Figure 1** Some causes of anatomical abnormalities

**Anatomical abnormalities related to the skin (Twak Roga)**

Anatomical or physiological abnormalities in skin can also lead some common diseases like; *Vridhhi*, hyper pigmentation, discoloration and deformity in skin texture.

The first outermost layer of skin *Avabhasini* is mainly considered as *Twak Roga Adhithana*, the defect in this layer can affect complexion, *Aradrata bhava* and deform texture of skin.

The second layer of skin; *Lohita* considered *Adhithana of Roga* like; *Nyacha*, *Tilkalka* & *Vyanga*. The skin diseases related to the systemic circulation can be manifested through this layer since it holds *Rakta dhatu*.

The pathogenesis of *Twak Roga* such as; *Charmadal*, *Ajagalika* & *Mashak* can initiated anatomically through the third layer of skin *Shweta*. The deformity in granular cell can also occur due to the abnormalities in this layer of skin.

The anatomical and physiological abnormalities in fourth layer of skin can lead diseases like; *Kustha*, *Shivtra* and *Kilas*.

The leucoderma is another pathological manifestation related to the fourth skin layer.

The skin abnormalities like; *Visarpa*, *Alaji* & *Vidradhi* mainly arises from the fifth layer of skin; *Vedini*. Any anatomically deformities in this layer affect skin sensitivity towards the external perceptions.

The anatomical enlargement or excessive growth of skin like; *Granthi*, *Galganda* and *Arbuda* mainly occurs through the sixth layer of skin; *Rohini* which lies beneath the fifth layer [8, 9].

**Anatomical abnormalities related to the digestive organ Yakrit**

The major disease of liver is Jaundice (*Kamala*), the acute conditions leads temporary changes in liver while chronic infections can cause severe anatomical deformities like; liver cirrhosis. The others common histopathological conditions associated with liver involve nodular, hubnailed shape and cut surfaces. The enlarged and yellow liver can be seen in fatty cirrhosis while rusty liver observed in

hemochromatosis and enlarged green liver occurs during biliary obstruction [10, 11].

*Kumbha Kamala* is another pathological condition of liver involving *Bheda* of *Koshtaasrita kamala*, patient may possess oedema and ascitis thus liver enlargement may observe.

Micronodular cirrhosis in liver involves formation of 2m nodules which are separated by fibroussepta.

Macronodular cirrhosis involves formation of large nodules separated by scars which distributed irregularly throughout the liver.

The vanishing duct syndrome involves dissecting nodule with portal vein and portal artery but no bile duct.

Micro and macro nodular cirrhosis involves regenerative nodules which arise in the midst of scars. The round nodules in liver with fibrous capsule occur during obstruction of bile flow.

The dysplastic and malignant changes of liver nodules and compression of vessels by enlarged liver or nodule can causes clinical features like portal hypertension, hepatic encephalopathy and Ascitis.

### Anatomical abnormalities related to the circulatory system

*Sira* (vein), *Dhamani* (arteries) and *Strotas* (channels) are the major components of circulatory system, there are various disorder involving abnormalities in *Sira* and *Dhamnies*. The anatomical deformities in *Sira*, *Dhamani* and *Strotas* can lead severe health risk including death. However the common anatomical problems related to the vessels occurs from the birth as congenital disorders. The literature revealed anatomical variation in vein such as; absence of right portal vein and diversification in portal trifurcation, absent of portal bifurcation is rare; however such types of variation not cause serious health problems.

Addition to above mentioned condition there are some anatomical diversification which can lead health problems such as; absence of valve in portal vein, internal haemorrhoids, portal vein thrombosis, enlargement of vessels and variation in wall thinning, etc. are some cases of abnormalities related to the circulatory system.

Abnormal vascular dilatation of vein is another condition in which diameter exceeded form 1.5 cm to 1.9 cm which ultimately resulted vein aneurysm. The dilatation of portal vein mainly occurs around the main trunk and in hepatic portal branches. These types of dilation can lead disturbed blood flow in heart and supply to digestive system also get affected [12].

### Conclusion

Ayurveda literatures encompass various information related to the *Sharir Rachana* and abnormalities related to the anatomical aspects of body. The study suggested that knowledge about *Sharir Rachana* and anatomical positioning of organs helps physician to understand disease pathogenesis. The anatomical deformities cause various health ailments and some diseases possess anatomical abnormalities as symptoms. The understanding of anatomical abnormalities is very important for the treatment of various diseases. The success of *Shalya* and *Shalaky Chikitsa* also depend upon the anatomical awareness of human body.

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