किंमत २५ रुपये

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# Ayurvidya

# आयुर्विद्या

Peer Reviewed Indexed
Research Journal of 21st Century
Dedicated to Ayurved...

।। श्री धन्वंतरये नम: ।।

राष्ट्रीय शिक्षण मंडळ, संचालित

# आयुर्विद्या

मासिक

ISSN - 0378 - 6463

Rashtriya Shikshan Mandal's

# AYURVIDYA

Magazine


शंखं चक्रं जलौकां दधतमृतघटं चारुदोर्भिश्चतुर्भि: ।
सूक्ष्मस्वच्छातिहृद्यांशुकपरिविलसन् मौलिमम्भोजनेत्रम् ।।
कालाम्भोदोज्वलाङ्गम् कटितटविलसच्चारुपीताम्बराढ्यम् ।
वन्दे धन्वन्तरितं निखिलगदवन प्रौढदावाग्निलीलम् ।।
नमामि धन्वंतरिमादिदेवं सुरासुरैरवन्दितपादपङ्कजम् ।
लोके जरारुग्भयमृत्युनाशनं धातारमीशं विविधौषधीनाम् ।।


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परीक्षांमध्ये यशस्वी विद्यार्थ्यांचे हार्दिक अभिनंदन!

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**AYURVIDYA**
Magazine

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To

**Editor - AYURVIDYA MASIK**
583 / 2, Rasta Peth, Pune - 411 011.
**E-mail :** ayurvidyamasik@gmail.com
**Phone :** (020) 26336755, 26336429 **Fax :** (020) 26336428
Dr. D. P. Puranik - 09422506207 Dr. A. S. Inamdar - 09422003303
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## संपादकीय

# "COVID 19" व मृत्युचे तांडव!

**डॉ. दिलीप पुराणिक**

अधून मधून जागतिक स्तरावर वेगळ्या वेगळ्या कारणांनी महासंकटे किंवा महाआपत्ती ओढविलेल्या आहेत. ह्यालाच इंग्रजी परीभाषेत Global Calamity किंवा Global Catastrophe असे संबोधले जाते. अगदी अलीकडच्या काळात म्हणजे एकविसाव्या शतकातही जगातील काही भागात अशा महाआपत्ती कोसळलेल्या पहावयास मिळतात. ह्यातील काही महासंकटे ही 'अस्मानी' (natural) सदरात मोडणारी तर काही 'सुल्तानी' (man made) सदरात मोडणारी होती. एक मात्र नक्की की ह्या महासंकटांनी मानवाच्या मृत्युंनी अक्षरशः थैमान घातले आणि अनेक मानवजीवन व त्याबरोबरच करोडोंच्या संपत्तीची राख रांगोळी झाली.

एकविसाव्या शतकात जी महासंकटे जगभरात ओढविली व ज्या संकटात मानव जीवनांची व साधन संपत्तीची हानी झाली त्यामध्ये प्रामुख्याने उल्लेख करावा लागेल पुढील संकटांचा. टेक्सास प्रांतात **'Hurricane'** वादळाचा. ह्या वादळाने सुमारे बारा हजार मानव जीवनांचा बळी घेतला. त्यानंतर डिसेंबर २००४मध्ये सामुद्रिक भूकंपाने **'त्सुनामी'**च्या रूपाने भारतीय महासागरात आलेल्या संकटाने इंडोनेशिया, श्रीलंका, दक्षिण भारत व थायलंडमध्ये सुमारे २ ते ३ लाख मानवांना आपला जीव गमवावा लागला. त्यानंतर सन २००८ मध्ये अफगाणिस्तानात आलेल्या बर्फाच्या महाभयंकर वावटळीत (blizzard) सुमारे एक हजार मानवी मृत्यू झाले. एकविसाव्या शतकाच्या अगदी सुरवातीस साऊथ आफ्रिकेत आलेल्या महापुरात हा:हाकार माजून अनेक मृत्यू ओढवले. सन २०११ मध्ये पूर्व आफ्रिकेत पडलेल्या भीषण दुष्काळात तर सुमारे अकरा लाख लोक भरडले गेले. सन २००३मध्ये युरोपात आलेल्या उष्णतेच्या लाटेत सुमारे पस्तीस हजार मृत्यू ओढवले. अगदी अलीकडे म्हणजे २०१० मध्ये Haiti मध्ये झालेल्या भीषण भूकंपात सुमारे तीन लाख लोकांचा बळी गेला.

वर उल्लेख केलेल्या अस्मानी संकटांनी जगाने 'मृत्युचे तांडव' बघितले. परंतु एकविसाव्या शतकात जगभरात ओढविलेल्या रोगराईने असेच 'मृत्युचे तांडव' जगाने अनुभवले. विशेष म्हणजे आजही हे 'तांडव' थांबलेले नाही. आधुनिक विज्ञान व वैद्यकीयाने प्रचंड प्रगती केलेली असूनही हे मृत्यूचे थैमान थांबविता आलेले नाही. जगाच्या विविध भागात अथवा देशात आलेल्या रोगराईच्या लाटेत (Pandemic) असंख्य मृत्यू ओढवले आहेत. विषाणूंमुळे (virus) निर्माण झालेल्या रोगांचा ह्यामध्ये समावेश होतो.

'इबोला' ह्या विषाणूंमुळे उद्भवलेल्या साथीत सन २०१३ पर्यंत सुमारे आठ हजार मृत्यू ओढवले आहेत. H1N1 ह्या विषाणूमुळे झालेल्या 'स्वाईन फ्ल्' ह्या व्याधीने कहर केला असून त्यामुळे लोकांच्या मनात प्रचंड धास्ती निर्माण केली आहे. हा विषाणूजन्य व्याधी अजूनही अधून मधून डोके वर काढतो व आपली 'दहशत' निर्माण करतो. SARS (Severe Acute Respiratory Syndrome) मुळे सन २००३ मध्ये जगातील पंचवीस देशात त्याची लागण झाली आणि सुमारे आठशे मृत्यू ओढवले.

ह्या सर्वांवर कडी केली ती नुकत्याच चीनमध्ये उसळलेल्या corona ह्या विषाणूमुळे उद्भवलेल्या COVID 19 ने. ह्या विषाणूने चीनमधील वुहान शहरात एकच हलकल्लोळ माजविला आहे. NOVEL CORONA संवर्गातील ह्या विषाणूचा डिसेंबर २०१९ मध्ये प्रादुर्भाव होवून त्यामुळे उद्भवलेला रोग प्रामुख्याने चीनमध्ये सिमीत असला तरी जगातील इतर देशात ह्या रोगाचे रुग्ण सापडत आहेत. प्रामुख्याने सर्दी, पडसे, खोकला, ज्वर, स्नायुदुखी व अंगदुखी ह्यापासून सुरु झालेला हा संसर्गजन्य व्याधी श्वसनमार्गाला व्यापून न्यूमोनिया होवून श्वसनक्रियेस बाधा आणतो आणि एकूण रुग्णाच्या प्रतिकारशक्तीस क्षीण करतो व शरीराचे इतर महत्त्वाचे किडनीसारखे अवयव निकामी करीत रुग्णास मृत्यूच्या खाईत ढकलतो. चीनमध्ये आत्तापर्यंत सुमारे ऐंशी हजार रुग्णांना ह्या विषाणूची बाधा झाली असून दोन हजारांवर मृत्यू झालेले आहेत.

वैद्यकीय तज्ज्ञांचे व शास्त्रज्ञांचे अथक प्रयत्न रोगाची साथ आटोक्यात आणण्यासाठी चालू आहेत. जगभरातील संशोधन संस्था (Research Institutes) ह्या रोगावर प्रतिबंधक लस निर्माण करण्यासाठी प्रयत्नशील आहेत. परंतु सर्व चाचण्या पूर्ण करून सदर लस उपलब्ध होण्यास बराच कालावधी लागणार आहे. त्यामुळे प्राप्त परिस्थितीत सर्व वैद्यकीय तज्ज्ञांना व्याधी आटोक्यात आणण्यात यश लाभो हीच श्री धन्वंतरी चरणी प्रार्थना.

# त्रिवृत लेहाची विरेचनाद्वारे विविध कुष्ठातील उपयोगिता

**वै. शितल गजेंद्र यादव,**
एम.डी., पंचकर्म

**वै. राहुल काथवटे,** सहयोगी प्राध्यापक,
पंचकर्म, टिळक आयुर्वेद महाविद्यालय, पुणे.

**प्रस्तावना –** त्वचा हा शरीरात सर्वव्याप्त बाह्य स्तरावरील इंद्रिय असुन दुष्ट झालेले दोष शरीरातील त्वचादि चार धातूंना कुत्सित/विकृत करून त्वचेच्या ठिकाणी वैवर्ण्य व विकृती निर्माण करतात त्या व्याधीस आयुर्वेदोक्त कुष्ठ असे संबोधले जाते. कुष्ठ हा व्याधी दर्शनपरीक्षा गम्य असून त्वचा हे वायु महाभुताचे व्यपदेश स्थान आहे. म्हणून या व्याधीस 'स्पर्शनघ्नानाम्' असे संबोधित केले जाते. चरकसंहितेत प्रमेह व्याधीनंतर कुष्ठ व्याधीचे वर्णन केले आहे.

**'हविः प्राशात् प्रमेह कुष्ठानां।' (च.नि.८/११)**

कुष्ठ हा बहुदोषावस्थाजनित व्याधी असून यामध्ये निदानपंचकाचा अभ्यास योग्य पद्धतीने करून आयुर्वेदोक्त शमन व शोधन चिकित्सेची योजना केल्याने मिळणारा उपशय हा व्यापक व उत्तम फलदायी अशा स्वरूपामध्ये मिळतो. चिकित्सा करताना व्याधीनिदान, लक्षणे व संप्राप्तीमधील अवस्था व त्यांचा दोषधातुमलांशी संबंध ही समीक्षा करून वैद्य रुग्णास फलदायी चिकित्सेपर्यंत नेऊ शकतो.

कुष्ठ या व्याधीमध्ये सुश्रुताचार्यांनी या वारंवार शोधन चिकित्सा सांगितली आहे. यामध्ये विरेचन शोधन कर्माचा तारतम्यांनी विचार केला तर विरेचनाने कर्मसिद्धि प्राधान्याने व सुलभ होऊ शकते.

**उद्देश –** कुष्ठ व्याधीमध्ये विरेचन कर्माचे कार्मुकत्व सिद्ध करावे.

**ग्रंथोक्त विवेचन–**

**निरुक्ती –** कुष्णाति वपुः। कुष् + हनि कुषाति। (शब्दकल्पद्रुम्)

**व्याख्या –** त्वचः कुर्वन्ति वैवर्ण्य दुष्टाः कुष्ठमुशन्ति तत्।
कालेनोपेक्षितं वस्मात्सर्व **कुष्णाति तद् वपुः।।** (अ.हृ.नि.१४)
देहास कुत्सित/विकृत करणाऱ्या व्याधीला कुष्ठ असे म्हणतात.

**दोष–दूष्य विचार –**
वात – उदान, व्यान पित्त – भ्राजक कफ – क्लेदक
**दूष्याः –** त्वक, शोणित, मांस, लसिका
**धातु विचार –** रक्तप्रदोषज
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**अभिव्याप्ती** – त्वगादयश्चत्वारः
**स्रोतस विचार –** १. रसवह स्रोतस २. रक्तवह स्रोतस
३. मांसवह स्रोतस ४. स्वेदवह स्रोतस
**निदान विचार –**
**आहारज हेतू –** विरोधी अन्नपान, द्रव स्निग्ध गुरुणि, अतिभुक्त्वा उपसेवीनाम् शीताम्बुसेविनाम्, नवान्न, दधि, मत्स्य, अति लवण, अमल निषेवणाम्, माष, मूलक,पिष्टान्न, तिल, क्षीर, गुडाशिनाम्
**विहारज हेतू –** छर्दिं च प्रतिघ्नताम्, व्यायाम्, व्यवायं, निद्रा, दिवास्वाप
**मानसिक हेतू –** अतिसंताप, श्रम, भय
**विशेष हेतू –** पंचकर्मापचारिणाम्, पापं कर्म, गुरूजनांचा अपमान
(तक्ता क्र. १ पहा)
**संप्राप्ती –**

त्रयोदोषाः युगपत् प्रकोपमापद्यन्ते
↓
त्वगादयश्चत्वारः ऐथिल्यमापद्यन्ते
↓
शिथिलेषुः दोषाः प्रकुपिताः दृथानमधिगम्य
↓
त्वगादीन् दुषयन्तः
↓
त्वचः कुर्वन्ति वैवर्ण्य
(वैवर्ण्य, रौक्ष्य, ईषत्कंडु, स्वेदनत्व, स्पर्शहानि)
↓
कालप्रकर्षाद् रक्तादिषु भवति
(रक्त, मांस, लसिका व शेष मेदादि धातु)
↓
रसगत – वक्त्रशोष, कार्कश्य
रक्तगत – त्वकस्वापो, रोमहर्ष, स्वेदाधिक्य, पूय
मांसगत – पिडकोद्गम्, स्फोट, स्थिर मण्डल
↓
इति कुष्ठ व्याधिः

**कुष्ठ रुग्णामधील विरेचनाचा अभ्यास–** १) एकूण १० रुग्णांमध्ये स्नेहपानपुर्वक विरेचन व पश्चात् संसर्जन क्रम या

| (तक्ता क्र. १) | | |
|---|---|---|
| **हेतु** | **संप्राप्ति** | **लक्षणे** |
| विरोधी अन्नपान, द्रव स्निग्ध गुरुणि, पंचकर्मापचारिणाम्, चिलचिमं च पयसा | दोषोत्क्लेश – स्रोतोरोध – विमार्गगमन | सुप्तता, श्लक्षणता |
| अतिभुक्त्वा, उपसेवीनाम् शीताम्बुसेविनाम | स्रोतोरोध | अस्वेदनम् |
| नवान्न, दधि, मत्स्य | धातुस विदग्धत्व – रक्त विदग्धत्व | वैवर्ण्य, परिदाह, आरक्तता, अतिस्वेदनम् |
| माष, मूलक, पिष्टान्न, तिल, क्षीर, गुडाशिनाम् | क्लेद उत्पत्ती | स्राव |
| व्यायाम्, व्यवायं, छर्दिं च प्रतिघ्नताम् | वायूची विकृत गतीने दोषांचे त्वगादि स्थानात विमार्गगमन कोष्ठ–शाखागती | लोमहर्ष, निस्तोद, शूल |
| निद्रा, दिवास्वाप | कफप्रकोप+आमवृद्धि | कंडू, त्वकजाड्य, गौरव |
| अतिसंताप, श्रम, भयं | पित्तवातप्रकोप | रौक्ष्य, पारुष्य |
| अति लवण, अम्ल निषेवणाम् | तैक्ष्ण्यात–धातुशैथिल्य–मांसछेदन | वैवर्ण्य, मत्स्यशकलादि विकृती |
| पापं कर्म, गुरूजनांचा अपमान | व्याधी विशेष हेतू | कुष्ठ व्याधीचे कृच्छसाध्यत्व |

पद्धतीने चिकित्सा दिली असून त्यांच्यामध्ये विरेचन पूर्व व पश्चात लक्षणांमधील उपशय–अनुपशय याचे विवेचन इथे केले आहे. महातिक्तक घृत, महाकल्याणक घृत, दाडिमादि घृत या स्नेहांची रुग्णाची प्रकृती, निदान व वातादि दोषानुसार आभ्यंतर स्नेहपानासाठी निवड केली होती. व ५ ते ७ दिवस वर्धमान मात्रेत स्नेहपान दिले. त्यानंतर स्नेहविराम दिला व बाह्य स्नेहन व स्वेदन केले. यामुळे शाखेतील दोष कोष्ठात येण्यास प्रवृत्त होतात. सम्यक स्नेहन लक्षणे दिसल्यानंतर रुग्णास त्रिवृत लेहाने विरेचन कर्म केले. त्रिवृत हे विरेचनासाठीचे श्रेष्ठ द्रव्य लेह स्वरूपामध्ये अधिक सुलभ ठरले. या ठिकाणी विरेचनार्थ अष्टांग हृदयोक्त कल्पस्थानातील त्रिवृत लेहाचा वापर केला आहे. पश्चात शुद्धिनुसार संसर्जन क्रम रुग्णास दिला. रुग्णाची प्रथम तपासणी स्नेहपानपूर्व व पूनर्तपासणी संसर्जन क्रम पश्चात केली. व लक्षणांचे निरीक्षण नोंदणी केली.

२) सदर अभ्यासामध्ये किटीभ, विपादिका, चर्मदल, एककुष्ठ, पामा, मण्डल, विचर्चिका हे निदान असलेले रुग्णांचा समावेश यामध्ये आहे.

३) तसेच शूल, वैवर्ण्य, रुक्षता त्वकजाद्य, पारुष्य, दाह, आरक्तता, कंडू, स्राव्, तकविदारण, मत्स्यशकलादि लक्षणांचे निरीक्षण इथे केले आहे. व विविध कुष्ठाच्या प्रकारात विरेचन कर्माने मिळालेला उपशय व अनुपशय याचा अभ्यास केला आहे.

४) यांमध्ये वर्धमान आभ्यंतर स्नेहपानाने वृद्ध झालेले, स्रोतसातील चिकटुन बसलेले दोष/लीन दोष स्नेहपानाने द्रवीभुत् होऊन कोष्ठात येतात. (शाखा–कोष्ठगती) होते. यांमध्ये रौक्ष्य, वैवर्ण्य, कंडू, इ. लक्षणांमध्ये अल्प उपशय मिळाला. स्नेहपानादरम्यान रुग्णांमध्ये सम्यक् स्निग्ध लक्षणे दिसून आली. सम्यक् स्निग्ध लक्षणे निर्माण झाल्यानंतर स्नेहविराम देऊन तत् पश्चात रुग्णास त्रिवृतलेहाने विरेचन व विरेचनोपग मृद्वीका फांट दिला व रुग्णास संसर्जन क्रम दिला.

५) विरेचन हा पित्त–कफदुष्टीचा श्रेष्ठ उपक्रम आहे. तसेच वारंवार शोधन चिकित्सा सांगितली आहे.

**पक्षात् पक्षाच्छर्दनान्यभ्युपेयाद् मासान्मासात् शोधनान्यप्यधस्तात्।**
**शुद्धिर्मूर्द्धिर्न स्यात् त्रिरात्रात् त्रिरात्रात् षष्ठे षष्ठे मास्यसृङ्मोक्षणं च।। (अ.ह्र.चि.१९/९६)**

६) रसवह स्रोतस त्वचेशी संबंधीत आहे. कारण (रससारम् त्वकसारम्) रक्तवह स्रोतसांचे मूलस्थान यकृत–प्लीहा आहे. रक्त व पित्ताचा आश्रयाश्रयी संबंध असल्याने पित्ताचा श्रेष्ठ उपक्रम विरेचन, रक्तासही फलदायी आहे. मांसवह स्रोतसांचे उपधातु स्नायु व त्वक आहे. स्वेदवह स्रोतसांचे दुष्टी हेतू विरोधी अन्नपान आहे. जे की कुष्ठाच्या हेतुंमध्येही विरोधी अन्नपान हा महत्वाचा हेतू आहे.

७) विरेचनांसाठी त्रिवृत हे श्रेष्ठ आहे. **''विरेचने त्रिवृन्मूलं श्रेष्ठम्।'' (च.क.७/३)**

त्रिवृत्त – लेह स्वरूपामध्ये मधुर विपाकी आहे. त्रिवृत रूक्ष, उष्ण वीर्य असल्याने क्लेदनाश करण्यास साहाय्य करते. तीक्ष्ण गुणामुळे हृदय, कंठातील दोषांचे कर्षण करते. दोषांचे आशुतेने हरण करते.

त्रिवृत हे बहुदोषावस्थेत, मध्यम बल रुग्णांसाठी, मध्यम शुद्धीसाठी उत्तम असे सौम्य विरेचक आहे. क्रुर कोष्ठी व्यक्तीस

उपयुक्त आहे.

८) विरेचनापूर्वी स्नेहन–स्वेदन केल्याने स्रोतसांतील चिकटून बसलेले/लीन दोष कोष्ठात सुखाने येतात व कोष्ठात आलेले दोष सुखाने बाहेर पडतात.

**विरेचनाने कुष्ठ संप्राप्तीभंग–**

आभ्यंतर स्नेहपान–घृतपान

↓

सर्वांग स्नेहन स्वेदन

(स्निग्धस्य सूक्ष्मेषु अयनेषु लीनं स्वेदस्तु दोषं नयति द्रवत्वम्)

↓

स्रोतसातील लीन दोष द्रवीभूत होऊन कोष्ठात येण्यास मदत होते.

↓

विरेचक औषधी योग (त्रिवृत लेह)

↓

स्ववीर्येण हृदयमुपेत्थ

↓

आग्नेयत्वाद् –स्थूल, सुक्ष्म स्रोतोभ्यः शरीरगतं दोषसंघातम् – विष्यन्दयन्ति

↓

तैक्ष्णात्–दोषविच्छिन्दन्ति– शस्यते बहुदोषाणां –दोषं हरत्यपि

↓

त्रिवृत लेहाच्या रुक्ष गुणामुळे व उष्ण वीर्यामुळे क्लेद कमी होण्यास मदत होते.

↓

अणुप्रवणाभावात्

↓

पक्वाशय आगम्य

↓

अधोभागप्रभावात् औषधस्य अधः च्वर्तते

↓

त्रिवृत लेहाने सुखाने विरेचन होते.

↓

दुष्ट दोषांचे निर्हरण –लक्षणांत उपशय

↓

त्रयाधीशमन

या रुग्ण अभ्यासात सांख्यिका परिमाणित परीक्षा वापरली असुन, तुलना महत्त्वपूर्ण आली आहे. चिकित्सापूर्व ते चिकित्सापश्चात लक्षणांमध्ये उपशय मिळाला. अशा प्रकारे कुष्ठात विरेचन ही चिकित्सा फलदायी आहे. (तक्ता क्र. २ पहा)

**निष्कर्ष –** १) कुष्ठ या व्याधीत वारंवार शोधनास अत्यंत महत्त्व आहे. विरेचनाने दुषीत् रक्त–पित्त निर्हरण होते.

२) सदर अभ्यासामध्ये किटीभ्, विपादिका, चर्मदल, एककुष्ठ, पामा, मण्डल, विचर्चिका हे निदान असलेले रुग्णांचा समावेश

**(तक्ता क्र. २) निरीक्षण तक्ता –**

| लक्षण | | Arithmetic Mean | Standard Deviation | P Value | Significant |
|---|---|---|---|---|---|
| शूल | Bt | 2.9 | 1.5670 | 0.0075 | Significant |
| | At | 1.2 | | | |
| वैवर्ण्य | Bt | 4.8 | 1.7764 | 0.0021 | Significant |
| | At | 2.4 | | | |
| रुक्षता | Bt | 7 | 1.1353 | 0.0001 | Significant |
| | At | 3.2 | | | |
| त्वकविदारण | Bt | 5 | 1.9120 | 0.007 | Significant |
| | At | 2.9 | | | |
| पारुष्य | Bt | 4.5 | 2.4060 | 0.052 | Significant |
| | At | 2.8 | | | |
| दाह | Bt | 2.2 | 1.0593 | 0.0037 | Significant |
| | At | 0.9 | | | |
| आरक्तता | Bt | 2 | 1.3333 | 0.0418 | Significant |
| | At | 1 | | | |
| कंडु | Bt | 5.2 | 1.6865 | 0.0005 | Significant |
| | At | 2.4 | | | |
| त्वकजाड्य | Bt | 3.3 | 1.4337 | 0.0091 | Significant |
| | At | 1.8 | | | |

**Note : Bt = Before treatment At = After treatment**

यामध्ये आहे. स्नेहपानसमयी रौक्ष्य, वैवर्ण्य, कंडू या लक्षणांमध्ये उपशय दिसून आला.

३) विरेचनामूळे दाह, आरक्तता, शूल या लक्षणांमध्ये बदल दिसून आले.

४) कुष्ठात आयुर्वेदोक्त चिकित्सेने उपशयाचे प्रमाण जास्त आहे.

५) अशा प्रकारे कुष्ठातील हेतु, संप्राप्ति, त्यामुळे शरीरातील बदल व त्यामुळे व्यक्त होणारी लक्षणे यांचा सुक्ष्म व व्यापक विचार ग्रंथात केलेला आहे. या निदानपंचकाचे अध्ययन केल्यास आपणास चिकित्सेने उत्तम उपशय मिळताना दिसतो.

**संदर्भ ग्रंथ–** १) यादवजी त्रिकमजी आचार्य, चरकसंहिता, निदानस्थान, कुष्ठनिदान अध्याय ५, चौखम्बा प्रकाशन, वाराणसी, २०११

२) यादवजी त्रिकमजी आचार्य, चरकसंहिता, चिकित्सास्थान, कुष्ठचिकित्सा अध्याय ७, चौखम्बा प्रकाशन, वाराणसी, २०११

३) यादवजी त्रिकमजी आचार्य, चरकसंहिता, कल्पस्थान, मदनकल्पअध्याय १, चौखम्बा प्रकाशन, वाराणसी, २०११

४) यादवजी त्रिकमजी आचार्य, सुश्रुतसंहिता, निदानस्थान, कुष्ठअध्याय ५, चौखम्बा संस्कृत संस्थान, वाराणसी, २०१५

५) यादवजी त्रिकमजी आचार्य, सुश्रुतसंहिता, चिकित्सास्थान, कुष्ठअध्याय ९, चौखम्बा संस्कृत संस्थान, वाराणसी, २०१५

६) कविराज अत्रिदेव गुप्त, अष्टांग हृदयम्, निदानस्थान, कुष्ठश्वित्रकृमी निदान अध्यायम् १४, चौखम्बा प्रकाशन, वाराणसी, २००९

७) कविराज अत्रिदेव गुप्त, अष्टांग हृदयम्, चिकित्सास्थान, कुष्ठचिकित्सितम् अध्यायम् १९, चौखम्बा प्रकाशन, वाराणसी, २००९

# Dhatugat Avastha In Kushtha With Special Reference To Leprosy

**Dr. Sarika Sonavane,**
PG Scholar, Dept. of Rognidan,
SSAM, Hadapasr, Pune.

**Dr. Anand V. Kalaskar,** M.D. Kayachikitsa-Vikritivigyan (BHU, Varanasi),
Associate. Professor, Dept. of Rognidan,
SSAM, Hadapasr, Pune.

**Introduction -** Leprosy or Hansen's disease is chronic non-fatal infectious disease caused by Mycobacte- riumleprae (M. leprae). The organism mainly affects the cooler parts of body such as skin, mouth, respiratory tract, eye, peripheral nerves, superficial lymph nodes, and testis. In addition, in a group of patients other organs viz. liver, spleen, muscles, bones and joints may get involved. Leprosy is a slow communicable disease and the incubation period between first exposure and appearance of sign of disease varies from 2 to 20 years (average about 3 years).

**Leprosy is of five types -**

1) Indeterminate leprosy
2) Tuberculoid leprosy
3) Lepromatous leprosy
4) Borderline leprosy
5) Neuritic or poly neuritic leprosy

Ayurvedicclassics have considered each type of kushthato be a tridoshajamanifestation. Kushthais one of the vyaddhiof raktavaha strotas. Kushthatypes are mahakushthaand kshudrakushtha. Tridoshaand four dushyasviztwaka, rakta, mamsa, lasikaare involved in samprapti of kushthaand thus form the sap- tadravyasangrahaof kushtha. Mahakushthais significantly characterized by dhatugatavastha. Dhatugataavastha is a condition in which there is involvement of uttarottardhatu, viz. rasa, rakta, mamsa, meda, asthi, majja, and shukra. The dhatugatavastha in kushthais most dreadful condition, which is seen only in mahakushtha. Due to the subsequent involvement of dhatus,disease prognosis shifts towards asadhyata.

According to Dalhanathe word mahaof mahakushthais ability to penetrate in uttarottardhatu (sequential- from rasa to shukra) and kshudrakushthadiffers by not having the ability to penetrate the uttarottar dhatu.

**Material and Method - Materials**

**Sample size -** 60 Patients. (Dr. Bandorwala Leprosy Centre, Kondhwa, Pune)

**Method - Study type -** Observational Analytical Cross sectional

**Study design -** 60 diagnosed patients of leprosy were selected by simple randomized sampling technique by lottery method. Valid, legal, informed, written consent was taken from each patient prior to case taking. Detailed case of patients was taken with the help of specially designed CRF (Case Record Form) Lakshana of dhatugataavasthawas studied in these patients according to our samhitas. Leprosy and dhatugataavastha in kushtha was compared as per designated case record form. Observations were made and analysis of results was done. Conclusion was drawn from the basis of ob- servations and results.

**Inclusion criteria -**

- Clinically diagnosed case of leprosy.
- Age group 18- 60 years of age.
- Gender- Both males and females, irrespective of religion, occupation and socio economical status.

**Exclusion criteria -**

- Other skin diseases viz. scabies, eczema, vitiligo, pemphigus,
- Patients of known chronic diseases like HIV, Tuberculosis, Cancer, and skin Tu- berculosis and skin cancerpatients.
- Pregnant woman.

**Criteria for assessment -**

- 3 cardinal signs of leprosy

1) Hypopigmentation / Erythematous skin lesions. 2) Sensoryimpairment 3) Peripheral nervethickening.

- Types of leprosy =5

1) Intermediateleprosy. 2) Tuberculoidleprosy.
3) Lepromatousleprosy 4) Borderlineleprosy
5) Neuritic/ poly neuriticleprosy

- Dhatugataavasthain kushtha. Reference (Su.Ni. 5/ 25 to30)

**1) Tvak -** Sparshahani, Swedana, Kandu, Vaivarnya, Rukshata.

**2) Rakta -** Tvakaswap, Romharsha, Swedasyaabhipravartana, Kandu,Vipuyaka.

**3) Mamsa -** Bahulya, Vakrashosha, Karkashyam, Pidakoudgamana, Toda, Sphota, Sthiratva.

**4) Meda -** Daurgandha, Updehasya, Puya, Krimiutpatti, Gatranambhedanam.

**5) and 6) Asthi-majja -** Nasabhanga, Kshiraga, Kshatecha, Krimisambhava, Swaropa- ghata.

**7) Shukra -** Kaunya, Gatikshayaanganam, Sambheda, Kshatasarpanam.

**Table 1: Division of patients according to type of leprosy**

| Type of leprosy | No. Of Patients | Percentage |
|---|---|---|
| Lepromatous leprosy | 42 | 70% |
| Borderline leprosy | 15 | 25% |
| Intermediate leprosy | 1 | 1.66% |
| Tuberculoid leprosy | 1 | 1.66% |
| Neuritic leprosy | 1 | 1.66% |
| Total | 60 | 100% |

In this study maximum number of patients i.e. 70% were lepromatous leprosy, 25% patients were borderline type of leprosy, 1.66% patients were intermediate type of the of leprosy.

**Table 2: Division of patients according to dhatugataavastha observed.**

| Dhatugataavastha observed | No. Of Patients | Percentage |
|---|---|---|
| Medodhatugataavastha | 31 | 51.66% |
| Shukradhatugataavastha | 20 | 33.33% |
| Asthi-majjadhatugataavastha | 8 | 13.33% |
| Mamsadhatugataavastha | 1 | 1.66% |
| Total | 60 | 100% |

In this study maximum no of patients were of medodhatugataavasthai.e. 51.66%, 33.33% patients were of shukradhatuavastha, 13.33% patients were of asthimajja dhatugata avastha while 1.66% patients were of mamsa dhatugata avastha.

**Table 3: Division of patients according to medodhatugataavastha**

| Type of leprosy in medodhatugataavastha | No of Patients | Percentage |
|---|---|---|
| Borderline leprosy | 15 | 48.39% |
| Lepromatous leprosy | 14 | 45.17% |
| Tuberculoid leprosy | 1 | 3.22% |
| Neuritic leprosy | 1 | 3.22% |
| Intermediate leprosy | 0 | 0% |
| Total | 31 | 100% |

The study shows that 31 number of patients had the medodhatugataavasthaof which 48.39% patients were borderline type leprosy, 45.17% patients were lepromatous type of leprosy, 3.22% patients were tuberculoid type of lep- rosy and 3.22% patients were neuritic type of leprosy.

**Table 4: Division of patients according to asthi-majjagataavastha**

| Type of leprosy in asthimajjadhatugataavastha | No. Of Patients | Percentage |
|---|---|---|
| Lepromatous leprosy | 8 | 100% |
| Borderline leprosy | 0 | 0 |
| Indeterminate leprosy | 0 | 0 |
| Tuberculoid leprosy | 0 | 0 |
| Neuritic leprosy | 0 | 0 |
| Total | 8 | 100% |

In asthimajja dhatugata avastha total 8 patiens i.e. 100% belonged to be of lepromatous leprosy.

**Table 5: Division of patients according to shukradhatugataavastha**

| Type of leprosy in shukradhatugataavastha | No. Of Patients | Percentage |
|---|---|---|
| Lepromatous leprosy | 20 | 100% |
| Borderline leprosy | 0 | 0 |
| Indeterminate leprosy | 0 | 0 |
| Tuberculoid leprosy | 0 | 0 |
| Neuritic leprosy | 0 | 0 |
| Total | 20 | 100% |

In shukradhatugataavasthatotal 20 patients i.e. 100% were found to be of lepromatous leprosy.

Table 6: Division of patients according to mamsadhatugataavastha

| Type of leprosy in mamsadhatugataavastha | No. Of Patients | Percentage |
|---|---|---|
| Tuberculoid leprosy | 1 | 100% |
| Lepromatous leprosy | 0 | 0 |
| Borderline leprosy | 0 | 0 |
| Indeterminate leprosy | 0 | 0 |
| Neuritic leprosy | 0 | 0 |
| Total | 1 | 100% |

In mamsadhatugataavasthatotal 100% patients belonged to tuberculoid type of leprosy.

Table 7: Division of patients according to lakshana of mamsadhatugataavastha.

| Mamsa dhatugata avastha lakshanas | No. Of Patients | Percentage |
|---|---|---|
| Bahulya | 1 | 100% |
| Vakrashosha | 0 | 0 |
| Karkashtha | 0 | 0 |
| Pidakoudgamana | 0 | 0 |
| Toda | 0 | 0 |
| Sphota | 0 | 0 |
| Sthirtva | 0 | 0 |
| Total | 1 | 100% |

It is evident from study that, in mamsadhatugataavastha1 number of patients i.e. 100% were of ba- hulyalakshana.

**Table 8: Division of patients according to lakshanas of medodhatugataavastha**

| Medodhatugataavastha | No. Of Patients | Percentage |
|---|---|---|
| Dourgandhyamupdehascha | 25 | 80.64% |
| Gatranambhedanam | 9 | 19.36% |
| Puya | 0 | 0 |
| Krimiutpatti | 0 | 0 |

It is evident that maximum number of patients 25 (80.64%) were of daurgandya mupdehasyalak- shana and 9 (19.36%) patients were of gatranambhedanamlakshana.

**Table 9: Division of patients according to lakshanas of asthimajjadhatugataavastha**

| Asthi-majjadhatugataavastha | No. Of Patients | Percentage |
|---|---|---|
| Nasabhanga | 8 | 100% |
| Akshiraga | 6 | 75% |
| Kshatechakrimisambhava | 0 | 0 |
| Swaropaghata | 0 | 0 |

It is evident from the study that maximum numbers of patients were of nasabhanga lakshana and 6 (75%) number of patients of akshiragalakshana.

**Table 10: Division of patients according to lakshanas of shukradhatugataavastha**

| Shukradhatugataavastha | No. Of Patients | Percentage |
|---|---|---|
| Kaunya | 20 | 100% |
| Gatikshaya | 18 | 90% |
| Anganamsambbheda | 0 | 0 |
| Kshatasarpanam | 0 | 0 |

It is evident from the study that maximum 20(100%) number of patients were of kaunyalakshana and 18 (90%) number of patients were of gatikshayalakshana.

**Discussion -** Leprosy anddhatugataavasthain kushthawere compared as per case record form. It can be said that mamasadhatugata avastha can be correlated to tuberculoid type of leprosy, medodhatugata avastha can be correlated to border- line type of leprosy, asthimajjadhatugata avastha and shukra dhatugata avastha can be correlated to lepromatous type of leprosy.

**Conclusion -** On the basis of review of literature and observations made by this study, which was con- ducted on randomly selected 60 diagnosed patients of leprosy, the following conclusion can be drawn.

It can be concluded that out of 60 selected patients, the incidence of medodhatugata avastha; correlated to border line type of leprosyis found to be more than other dhatugata avastha followed by shukra dhatugata avastha, asthimajja dhatugata avastha both correlated to lepromatous type of leprosy and mamsa dhatugata avastha correlated to tuberculoid type of leprosy.

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# A Review On Clinical View Of Developmental Anamolies Of Eye

**Dr. Sonali A. Narke,** M.S. Shalakyatantra (Netra)

**Dr. Chandana. A. Virkar,** M.S. (Shalakya) H.O.D and Proferrsor, C.A.R.C, Nigdi, Pune.

**Introduction -** In the human embryo ,the eyes are formed by a delicate and complex process problems. This process can lead to congenital (present at birth) eye malformation. These conditions are relatively rare, occurring in approximately 5 per 1000 live births. The opthalmologist should be aware of the importance of the proper psychological approach to the parent of a child with an ocular abnormality. He also should know the urgent need for early corrective surgery in a child with a coloboma of the eyelid, bupthalamos or complete congenital cataracts in order to spare the child and its parent's real psychic trauma.

This review puts light on such congenital eye malformations and the need for urgent plan of management regarding such anamolies.

**Objectives:-** 1) To survey the literature review on developmental anamolies of eye. 2) To synthesize the information regarding developmental anamolies of eye into summary. 3) To critically analise the information gathered, by identifying gaps in current knowledge; by showing limitations of theories on congenital anamolies of eye.

**Review of Literature:-**

**Developmental Anomalies Of The Eye**

**Eye made up from 3 germinal layers**

- Neuroectoderm (the optic sulcus,which later becomes the optic vesicle in the 4th week)
- Surface ectoderm the first sign of lens on the day 32.
- Migrated neural crest cells which are the stem cells of the anterior chamber during 7th week.
- The mesodermal embryonic layer contributes the vascular endothelial cells and the extraocular muscles visible in the 4th week.

**Developmental anomalies classification**

- Agenesis: developmental failure
- Hypoplasia: developmental arrest

• Hyperplasia: developmental excess
• Cryptophthalmos: abnormal development
• Failure to divide or canalise
• Dysraphia: failure to fuse
• Persistence of vestigial structures.

**Developmental anomalies of the eye as whole**

• Anophthalmos: When eye is absent or only a cystic remnant of the eye is present.
• Embryologic basis: Represents complete failure of the budding of optic vesicle.
• Early arrest of the development of the optic vesicle.
• Aetiology: Presence of teratogenic agent at the time of embryogenesis.
• PAX 6 gene association .
• Exposure to LSD
• 14q22-23 association..
• Treatement: Use of hydrophilic or inflatable orbital implants.
• Safety glasses.

**Microphthalmos**

• When axial length of an adult is less than 21 mm or 19 mm in a one year old child .

1) May or may not be associated with microcornea. 2) Associated with abnormal formation of the posterior segment. 3) Classification; Simple- not associated with other ocular abnormalities. Complex when ocular abnormalities are present. 4) Colobomatous 5) Non colobomatous.

• Can be autosomal dominant, autosomal recessive, x linked recessive, xp22, 31
• Ocular associations

1) Anterior segment anomalies i.e. peters and reiger's anomaly. 2) Cataract 3) PHPV 4) Retinal disorders . 5) Aniridia 6) Colobomas. 7) Associated with orbital cysts.

**Microphthalmos**

• Systemic associations

1) MIDAS syndrome[microphthalmos, dermal aplasia, sclerocornea]xp22.3 2) Delleman syndrome; skin tags, punched out lesions of the skin, mentalretardation, hydrocephalus, orbital cysts. 3) Mental retardation 4) Macrosomia 5) Facial clefts 6) Ectodermal dysplasia. 7) Microcephaly

**Cryptophthalmos**

**Failure of differentiation of eyelid structures.**

**Complete :** The eyelids are replaced by a layer of skin without lashes or glands, skin fused with the microphthalmiceye, no conjunctival glands.

**Incomplete cryptophthalmos -** 1) Lid coloboma (medially) 2) Small conjunctival sac 3) Exposed cornea.

Abortive form upper lid fused with upper cornea and conjunctiva, may be colobomatous.

**Nanophthalmos**

• Small eye, hypermetropia, a weak but thick sclera with abnormal collagen, a tendency to form angle closure glaucoma.

1) Abnormal presence of fibronectin

• Cylopia and synophthalmos

1) Fusion of two eyes ,along with failure of development of cerebral hemispheres, maldevelopment of mesodermal structures.

• Diplophthamos: double eye centrally

**Developmental anomalies of the lid embryology**

• During the first month the optic vesicle is covered by a thin layer of surface ectoderm .
• During the 2nd month active cellular proliferation of cells form circular fold of mesoderm lined on both sides by ectoderm .
• The mesodermal portion of upper eye lid arises from fronto-nasal process and that of lower lid from maxillary process.
• The process of fusion of eyelids by an epithelial seal begins at 8 weeks and the lids start separating at 6th and 7th month.

**Developmental anomalies of the lid**

• Cryptopthalmos: the epIthelium that gives rise to cornea and the conjunctiva does not differentiate and gets fused with the skin from the forehead and the cheek. 1) Complete no lacrimal sac' 2) Syndactyly 3) Eyebrow absent 4) Microphthalmic eye 5) Abnormal genitalia.
• Incomplete rudimentary lid.

1) Presence of lacrimal sac

• Abortive type - 1) Normal lower lid 2) Abnormal upper eye lid's forehead skin directly fusing with the superior cornea and the conjunctiva.
• Coloboma of the lid - 1) Embryology is basically a clefting defect failure of the eye lid folds to form and fuse, if minor it results in localized coloboma, and if major they result in cryptophthalmos. 2) Most commonly seen in the nasal half of the eyelid, there can also be multiple colobomas of the lid. 3) Rx complete ocular examination. a) Forced duction test. b) Eye lid reconstruction. c) Band excision.

**Developmental anomalies of the lid**

• Ablepharon - 1) Absence of eye lids,associated with IUGR known as neulaxova syndrome. 2) Rx to preserve cornea with lubricants and early eye lid reconstruction.
• Ankyloblepharon - 1) Partially or completely

fused eye lids. 2) Horizontal fissure decreased.
3) Occur with ectodermal defects such as cleft lip and cleft palate. 4) Ankyloblepharon filiformadnatum 1 or more skin tags join the two eye lids centrally with normal horizontal palpebral fissure. 5) Rx surgical excision of the tags.

• Tarsal kink : Congenital horizontal kinking of the tarsus causing secondary upper eye lid entropion. Rx repositioning of the anterior lamella of the eye lid.

• Distichasis : Presence of second row of lashes exiting from the mouth of meibomian glands
1) Associated with webbed neck 2) Cardiac defects
3) Vertebral defects 4) Bifid uvula 5) Rx lid splitting with cryo-therapy to the posterior lamella

• Electrolysis

• Blepharophymosis : small eyelids with horizontal palpebral aperture reduced - 1) AD 2) Associated with ptosis, telecanthus 3) Gene association 3q22.3-23. 4) strabismus 5) Rx frontalis sling procedure

**Developmental anomalies of the lid**

• Epicanthus : Folds of the skin coming from the upper eyelid to the medial canthus

• Classified according to the area of origin -
1) Preseptal 2) Pretarsal 3) Orbital

• If arising from lower lid they are called epicanthus inversus - 1) Rx ZPlasty

• Telecanthus : increased distance between the medial canthus

• Normal interpupillary distance - 1) Rx shortening of medial canthal tendons

• Hypertelorism : overgrowth of bone inter-orbital width

• Epicanthus

**Embryology in brief of the anterior chamber**

• After separation of the lens from surface ectoderm it forms the future anterior epithelium of the cornea.
1) First phase

• Mesenchymal tissue accumulates between the surface ectoderm and the lens capsule.

• This mesenchymal tissue gives rise to corneal endothelium by 8th week.

• Descemet's membrane is secreted by the endothelial cells. 1) The Second phase of mesenchymal activity results in development of stroma. 2) Third phase leads to formation of anterior chamber.

• Trabecular meshwork gets mature by 32nd week of intrauterine life.

**Developmental anomalies of Cornea**

• Megalocornea : 1) Simple : a) Cornea size is of adult size at birth or 13mm at 2 yrs. b) X linked disorder. c) IOP not raised. d) Endothelial cell density is normal. e) Corneal thickness is normal. f) Associated with cataract, lens dislocation, corneal dystrophy, low myopia. g) Systemic associations. h) Ichthyosis. i) Marfan's syndrome. j) MMR syndrome.
2) Complex associated with other ocular abnormality like glaucoma.

**Developmental anomalies of Cornea**

• Microcornea : Corneal diameter smaller than 10mm
1) Simple microphthalmos - a) Axial length of eye 2 SD below the mean b) Corneal diameter normal

• Complex - a) Microcornea plus Microphthalmos

• Keratoglobus : 1) AR disorder 2) Characterized by generalized thinning and anterior bulging of cornea

**Developmental anomalies of Cornea**

• Keratoconus : The central or paracentral area undergoes thinning giving cornea a cone shape

• Cornea Plana : Abnormality of curvature of cornea associated with coloboma and sclera cornea

**Developmental anomalies of Cornea**

• Agenesis of Bowman's layer : 1) Sclerocornea : Congenital peripheral corneal opacification with vacularization - a) Associated with micro-cornea or cornea plana. b) Increase in IOP. c) Strabismus.
d) Nystagmus: If central cornea becomes opaque.
e) Rx Glaucoma should be excluded and if present should be treated with medication.

• Agenesis of Bowman's layer (contd) :

• Peter's Anomaly : 1) Bilateral. 2) Central. 3) Sclerisation of limbus.4) Associated with Glaucoma
5) Microcornea. 6) Cornea Plana. 7) Coloboma.
8) Dysgenesis of Iris.

• Peter's Plus Syndrome - 1) Ocular anomaly with short stature. 2) Cleft lip/palate. 3) Abnormal ears.
4) Associated with foetal alcohol syndrome.

• Management : 1) EUA for glaucoma - a) If unilateral with normal IOP and no axial corneal opacity in less involved eye no treatment required.
b) If IOP high then medical treatment followed by trabiculectomy, cyclodestructive surgery. c) Dense bilateral corneal opacity requirelensectomy, vitrectomy, PK.

**Developmental anomalies of Cornea**

• Choristoma : congenital overgrowth of normal tissue at abnormal location - a) Dermoidchoristoma
b) Lipodermoidchoristoma. c) Epibulbardermoid.

• Posterior keratoconus : discrete posterior corneal indentation seen. a) Rx Spectacle correction.

**Angle anomalies**

• Posterior embryotoxon : Prominent schwalbe's line more so temporaly - 1) Associated with increased IOP. • Alagille's Syndrome- a) Congenital bile duct hypoplasia. b) Deep set eyes. c) Cardio vascular defects.

2) Axin field anomaly - a) Posterior embryotoxon.

b) Bridges of Iris tissue crossing the angle to schwabe's ring.

**Anomalies of the Iris**

• Rieger's Anomaly : Hypoplasia of anterior Iris stroma resulting in flat Iris with Iridotrabecular bridges to schwalbe's line. 1) Polycoria. 2) Ectropion uvea. 3) Coloboma of iris. 4) Optic disc anomalies

• Management : Glaucoma if present to be treated medically then surgically.

**Anomalies of the Iris**

• Congenital Iris cysts and cilliary body cysts : Fluid filled in epithilium lining. 1) Iris stromal cysts

2) Pigmented epithilial cysts. 3) Associated with glaucoma. 4) Management excision.

• Photocoagulation

• Injection of sclerosants

**Anomalies of the Iris**

• Brushfield's spots presence of hypercellular areas of iris tissue with surrounding stromal hypoplasia .

• Persistent pupillary membrane incomplete involution of the anterior tunica vasculosalentis membrane attached to the collaratte. Associated with microcornia, megalocornea, microphthalmos, coloboma. 1) Rx surgical removal with iridectomy.

**Anomalies of the Iris**

• Aniridia developmental anomaly characterized with iris hypoplasia, due to anomalous development of the neuroectoderm or the neural crest. 1) Smooth muscles are absent. 2) Angle poorly formed. 3) Retina present only over the areas of parsplana and pars plicata of the ciliary body.

4) Complications are Peripheral Anterior Synechiae with corneal endothelial growth over the angle.

5) Thick fibrovascularpannus[ due to epithelial and bowman's layer abnormality]. 6) Corneal pannus, conjunctivalisation. 7) Systemic Assciation:- Wagr Syndrome., gillespie's syndrome. 8) IOP is normal, if high then abnormal shclemm's canal is to be suspected. 9) Rx trabeculectomy, with use of cycloplegic agent.

**Anomalies of the Iris**

• Iris coloboma results from abnormal closure of the foetal fissure of embryonic optic cup which occurs around 6-8 weeks post conception. Colobomas which do not originate as a defect of the fetal fissure give rise to defects outside the inferonasal quadrant.

• Atypical can be of types as follows - 1) Peripheral

2) Notch in the pupillary border. 3) Pigment epithelium defect. 4) Heterochromia of the iris.

**Anomalies of the Iris**

• Albinism is a hereditary error of metabolism with in the pigment cells. is of two types. 1) Ocular albinism. 2) Oculocutaneous syndrome.

a) Clinical features decreased vision. b) Nystagmus c) Decrease in contrast senstivity. d) Foveal hypoplasia causes nystagmus, refractiveerror, amblyopia. e) Iris translucency. f) Chiasm of the albino has decreased proportion of the uncrossed fibres. g) Tested by hair bulb incubation test that detects tyrosinase level in individuals over 5 years of age.

**Oculocutaneous syndrome**

**10 types of oculocutaneous albinism**

1) Oa 2) X linked recessive 3) AROA 4) OCA

5) OCA1(TYROSINASE DEF) 6) OCA1A (STEELY WHITE HAIR) 7) OCA1B (YELLOW ALBINISM)

8) OCA 1TS(peripheral pigmentation) 9) Oca2 tyrosinase positive oculatenous albinism.10) Adoca 11) Albinism with cyst disease. 12) Oca3.

**Anomalies of the pupil**

1) Micropupil 2) Polycoria 3) Coloboma

4) Peninsula pupil 5) Persistent pupillary membrane.

**Anomalies of the Lens**

• Aphakia :- Occurs when surface ectoderm in developing embryo fails to form a lens placode and vesicle.

• Microspherophakia :- Lens is less in size but is spherical. Occurs due to arrest in the developmental secondary lens fibres or the insertion of the secondary lens fibres.

• Duplication of the lens is an extremely rare disorder due to metaplasia of the surface ectoderm which prevent the lens placode from invaginating into a single lens vesicle.

• Lens coloboma a wedge shaped defect or indentation in the lens or only a flattening of a segment of the lens or in a region where the zonules have failed to develop, Mostly seen in the lower portion of lens.

**Anomalies of the Lens**

• Lenticonus axial deformities of the anterior or the posterior surfaces. Anteriorlenticonus associated with allport's syndrome.

• Remanent of the anterior tunica vasculosa are

residues from the vascular network which surround the lens ,leading to formation of PPM.

• Mittendorf dot is a remanent of the posterior tunica vasculosalentis seen as a white dot inferonasal to the posterior pole of the lens.

**Developmental anomalies of the trabecular meshwork**

• Any interference of the neural crest tissue cell formation or migration and differentiation of the cells leads to trabecular dysgenesis .

• Trabeculo-dysgenesis :- The irido trabecular junction is abnormal with normal looking iris. A pale membrane with vessels running from iris to the schwalbe's line (barkans membrane)

1) A flat iris insertion, either anterior or posterior to the scleral spur. 2) A concave iris insertion where iris stroma continues upto trabecular meshwork.

3) Rx- goniotomy

• Irido-trabeculodysgenesis includes posterior embryotoxon, axenfeld's anomaly, rieger's anomaly (abnormality of the iris stroma) and aniridia.

• Retention of the primary endothelial tissue on the iris and across the anterior chamber angle, with excessive basement membrane formation, causing arrest of the angle structure formation.

• Rx Trabeculectomy Yag argon laser.

**Embryology of the vitreous**

• Develops from the vascularised mesenchymal tissue .

• 1st phase separates lens vesicle from neuroectoderm of the optic cup. (primary vitreous)

• 2nd phase at 9 weeks, viteous becomes avascular (secondary vitreous)

• Vitreous lying between the ciliary body and lens becomes separated from secondary vitreous to run from ciliary processes to lens (tertiary vitreous).

• Persistent hyaloid artery - artery extending from the optic disc to the back of the lens. Anteriorremanants give rise to mittendorf spot.

• Vitreous cysts arise from the remanants of the hyaloid artery.

• PHPV - failure of the primary vitreous from regressing, leading to presence of fibrous plaque adherant to the back of the lens extending from one ciliary process to another.

• Posterior type - presence of a retinal fold from optic disc to oraserrata with condensation of vitreous and retinal detachment.

• C/F leucocoria, microphthalmos, nystagmus, strabismus.

• Rx Prevention of glaucoma Vitrectomy.

**Anomalies of Optic disc**

• Morning glory syndrome due to abnormal closure of embryonic fissure or abnormal development of the distal optic stalk at it's junction with the primitive optic vesicle.

• Appears as a funnel shaped excavation of the posterior fundus that incorporates optic disc. The surrounding retina is elevated with increased number of vessels.

**Anomalies of Optic disc**

• Coloboma of the disc - may be a part of the complete chorioretinalcoloboma or may involve only the proximal portion of the fissure causing deformity of the optic disc alone.

1) Deep central excavation lined with glistening white tissue with blood vessels crossing over the deep edge of the cavity.

• Myelinated nerve fibre normallly starts at the lateral geniculate body to the lamina cribrosa.

1) Appears as white superficial retinal area with frayed and feathered edges that follow orientation of the normal nerve fibre layer.

**Anomalies of Optic disc**

• Tilted disc syndrome (fuch'scoloboma) superior pole of disc appears elevated and the inferior nasal disc is posteriorly displaced. Presence of scleral crescent, situsinversus (a nasal detour of blood vessels) .Patients have myopic astigmatism, bitemporal hemianopia.

• Begmeister papillae - presence of the remanents of hyaloidartery as glial tissue on the disc.

• Megalopapilla - abnormally large disc diameter.

• Optic nerve hypoplasia - decreased number of optic nerve axons of normal architecture.yellow to white ring around the disc called double ring sign.

**Anomalies of Optic disc**

• Optic nerve aplasia

• Optic pits or holes similar to coloboma , usually appear in the inferotemporal quadrant or the central portion of disc.

• Peripapillarystaphyloma posterior bulging of the sclera with optic disc occupying the center of the bowl.

• Double optic disc.

• Pedlar'scolobomacoloboma of the optic disc with overlay of peripapillary retina.

**Retinal anomalies**

• Fundal coloboma - typical coloboma arising from defect in fetal fissure closure .

1) Type 1 partial or complete. 2) Type 2 with or without macular involvement. 3) Type 3 cystic or non cystic.

**Anomalies of the nasolacrimal system**

- Atresia of the lacrimal puncta results from the failure of the upper end of developing structures to canalize.
- Super-numary-puncta.
- Congenital lacrimal fistula epithelial lined tract extending from common canaliculus or lacrimal sac to the skin of lower lid.

**Methodology -** All material collected from from various modern books, internet, articles, review journals.

**Observation :-** The pattern and prevalence of congenital anomalies may vary over time or with geographical location, reflecting a complex interaction of known and unknown genetic and environmental factors including socio-cultural, racial and ethnic variables. With improved control of infections and nutritional deficiency diseases, congenital malformations have become important causes of perinatal mortality in developing countries like India.

**Discussion :-** Understanding the preoperative clinical features of congenital/developmental cataract is very useful for the planning of comprehensive treatment strategies of this vision threatening eye disease. However, studies in large sample size are rare in Asian countries like India.

**Conclusion :-** Proper knowledge of developmental pathogenesis of congenital ocular anomalies is highly important for correct diagnosis and early intervention.

Early detection of congenital defects is the ultimate aim of medical knowledge. Preventive measures can be applied if history is taken properly during evaluation of patient.

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## अहवाल

# आयुर्वेदाचार्य नानल रुग्णालयाचा वर्धापनदिन

राष्ट्रीय शिक्षण मंडळ संचलित आयुर्वेदाचार्य नानल रुग्णालयाचा ५५ वा वर्धापन दिन दि. १५ फेब्रुवारी २०२० रोजी विविध कार्यक्रमांनी संपन्न झाला.

राष्ट्रीय शिक्षण मंडळाचे अध्यक्ष डॉ. वि.वि. डोईफोडे ह्यांच्या हस्ते श्री. धन्वंतरी पूजन करण्यात आले. ह्या प्रसंगी डॉ. भा. कृ. भागवत, डॉ. दि.प्र. पुराणिक, डॉ. भा.ग. धडफळे, रुग्णालय अधिक्षक डॉ. र.ना. गांगल, शल्य चिकित्सक डॉ. न.वि. बोरसे, डॉ. सौ.विनया दीक्षित, डॉ. अपूर्वा संगोराम, प्राचार्य डॉ. स. वि. देशपांडे, डॉ. मंजिरी देशपांडे, दंत चिकित्सक, डॉ. प्रसाद कुलकर्णी तसेच रुग्णालयाचा कर्मचारी वर्ग मोठ्या संख्येने उपस्थित होता.

वर्धापनदिनानिमित्त दंतचिकित्सा शिबीर दि. १५ फेब्रुवारी ते २२ फेब्रुवारी २०२० अखेर आयोजित करण्यात आले. सदर शिबीराचे उद्घाटन राष्ट्रीय शिक्षण मंडळाचे उपाध्यक्ष डॉ. भागवत ह्यांच्या हस्ते झाले. सर्व उपस्थितांनी वर्धापनदिनानिमित्त अधिक्षक डॉ. र. ना.गांगल ह्यांना शुभेच्छा दिल्या.

दंतरोग शिबीराचे उद्घाटन करताना डॉ. भा. कृ. भागवत. चित्रात डॉ. गांगल, डॉ. डोईफोडे, डॉ. कुलकर्णी.

धन्वंतरी पूजन : डावीकडून– डॉ. धडफळे, डॉ. भागवत, डॉ. गांगल, डॉ. पुराणिक, डॉ. डोईफोडे, डॉ. देशपांडे.

डावीकडून– इंटर्न, वैद्य फडणिस, सौ. देडगे, डॉ. गांगल, डॉ. धडफळे, डॉ. डोईफोडे, डॉ. भागवत, डॉ. पुराणिक.

# Study Of Rujakar Marmas Of Urdhva Shakha With Special Reference To Manibandha Marma.

**Dr. Sanjay R. Gaikwad,** M. D. (Ayurved) (Shareer Rachana), Associate professor, Dept. of Shareer Rachana, Rural Institute of Ayurved, Research Center and Hospital, Mayani, Dist- Satara.

**Introduction -** Ayurveda is ancient medical science. It is one of the most reliable and complete medical science which has been proved for more than 5000 years.

'Sharir Rachana'is one of the important branch of Ayurveda. It involves sub-branches such as Garbh sharir, Asthi sharir, Marma sharir, Sandhi sharir, Praman sharir, Sankhya sharir etc. Here the main focus is on Marma sharir.

The Ayurveda science existed such a long and extensive period of time, by its fundamental principles. Without implementation of these principles, any science cannot stand for long time period. Ayurveda has its own principles or concepts, which stand in modern era also. These principles are scattered throughout the science and their study is need of time. Marma is such valuable concept of Ayurveda.

There are specific points in the body which may cause death or severe pain if subjected to trauma, such a vital points of body are called as 'Marma'. Detail knowledge of Marmas in the body is important for surgical point of view.

Procedures like shastrakarma, agnikarma, ksharkarma are used as part of Ayurvedic surgery. If these procedures are conducted on Marmasthanas, it causes either pain, permanent deformity or death. Hence study of Marma is great importance from surgical point of view.

In today's fast life it is very important to protect our Marmasthanas because of heavy road traffic accidents, sport injuries etc; causing injury to Marma. Thus any accidental or surgical trauma to Marma causes pain or permanent deformity or death.

There are 107 different Marmas mentioned in Ayurvedic texts which are classified into 5 types on the basis of their effects as Sadhyapranahar, Kalantar pranhar, Vishalyagna, Vaiklyakar and Rujakar.

**Rujakar marmas -** Agni and vayu mahabutas are maximum on the site of rujakar marma. Both agni and vayu causes severe pain. Due to this, when there is traumatic injury pain occurs.

**There are 08 Rujakar marmas -** 1) Manibandh marma -02 2) Gulf marma -02 3) Kurchashir marma -04

Out of these 02 Manibandh and 02 kurchashir are included in urdhva shakha. Manibandh marma is situated at manibandh sandhi (wrist joint). Anatomically it is sandhi marma.

Traumatic injuries to Manibandh marma is very common in today's life. Incidences of trauma takes place in various sports like volleyball, cricket, tennis, karate boxing, wrestling etc. Trauma to Manibandh marma occurs in various industrial workers. House women when twist their wrist joint during various house work like washing clothes, Ruja (pain) at Manibandha marma may occur. Injury to Manibandha marma may occur in fractures like Colles' fracture.

In this study, Anatomical changes taking place at Manibandha Marma after traumatic injuries are studied in detail and compared with granthokta viddha lakshanas described in Ayurvedic texts.

**Aims and objectives -** • To study Manibandha marma according to ayurvedic view in detail.

• To study Manibandha sandhi sharir (Anatomy) according to modern science.

• To compare anatomical changes taking place at Manibandha marma after traumatic injuries (Marmaghat) to the Granthokta viddha lakshanas of Manibandha Marma as Rujakar Marma.

**Materials and methods -** The subject is studied as follows - 1) Total 30 Patients suffering from traumatic injuries to Manibandha marma (sandhi) from various hospitals, dispensaries and play clubs were selected and considered as experimental group and normal marma of same patient is considered as control group. 2) Only those patients are studied who fulfill the acceptance criteria.

**Selection Criteria - Inclusion Criteria -** 1) patients suffering from traumatic injury to single Manibandha Marma. 2) Age group =20 to 50 yrs.

3) patients are selected irrespective of sex , marital status and socio economic status.

**Exclusion Criteria -** 1) Patients suffering from diseases like Amavata, Vatarakta etc. 2) Patients suffering from congenital Manibandha marma disorder. 3) Patients in which traumatic injury occured in both Manibandha marma.

**Methodology - Phase -1) Literature Research -**

1) All references regarding marma etc. are collected from various ayurvedic texts. 2) All references from modern science (anatomy etc.) are drawn as and when necessary.

**Review of literature -** Marmas are the specific locations on the human body, which when traumatized, will either surely cause death or permanent deformity or extreme pain.

The detail description of Marmas is given by Acharya Sushrut in 6th Adyaya of Sharir Sthan- 'Pratyek Marma Nirdesh Shariropkrama Adyaya'. According to sushrut Samhita, 'Marma' are the points or places in the Body where Mansa, Sira, Snayu, Asthi and Sandhi unite together. These are the points of natural expressions of life i.e. Prana. Trauma to these points can cause life threatening complications. These points are also called as 'Pranayatana'

According to Ashtanghridya, this is the point where irregular beats are felt and on applying extreme pressure these points give rise to pain. These are the sites where 'Prana' principally resides.Twelve types of 'Prana' are described by Ayurveda (Tridosha, Triguna, Panch Indriyas and Aatma) depending upon structures which principally constitute it.

The 'Marma' are vital points which have potentials to kill the individual when traumatized. These are formed by union of Mansa, sira, snayu, asthi, sandhi which when pressed hard, prana is affected. Depending upon the main structure at the site, 'Marma' are classified in five categories.

Injury to any of the Marmasthana can lead to fatal outcome, because 'Marmas' are principal locations, where Prana, satva, Raj, Tam, Agni, Soma and Vayu all are united in body. Because of this, 'Marmas' are called as 'Jivadhar' by Vaghabhattacharya.

Marma has extraordinary relation to prana (the soul) and hence any minor injury to Marma leads to major problems. They are important as a site of life to the living organisms. Knowledge of Marma is a half part of Shalyatanta.

**Phase -2) Clinical Research -** 1) Study is totally based on clinical observations.

2) Patients suffering from traumatic injuries to Manibandha marma are studied accordingly to special rugna patrak ( case format ) designed for the study .

3) The study include the following symptoms such as Ruja, Shotha, Kunthata, Sparsha, Sparsha sahatva , Varna , Vrana etc.

4) The anatomical changes taking place at Manibandha marma after traumatic injuries are studied with help of ayurvedokta trividha pariksha and these findings are co-related with Radiological findings ( X-RAYS )

5) The anatomical changes in injured Manibandha marma are compared with normal Manibandha marma of same patient.

6) The anatomical changes are compared with Granthokta viddha lakshanas of Manibandha marma.

**Application Of The Concept Of Marma -** 1) At the time of surgery to protect the Marmasthanas from being injured. 2) At the time of war to protect oneself and to combat enemies. 3) To rejuvenate self physically and Psychologically. 4) In the prognosis of diseases. e.g. Head Injury.

**Rujakar Marma -**

**There are 8 Rujakar Marma in human body**

| Sr.No. | Name | No. |
|---|---|---|
| 1) | Gulpha Marma | 02 |
| 2) | Manibandh Marma | 02 |
| 3) | Kurcha Shira | 04 |
| | Total No. | 08 |

A Marma which produce pain after injury is called as Rujakar Marma. Rujakar Marma possess Agni as well as Vayu predominant property thus, it is always painful. If injury take place at the periphery of Rujakar Marma site then it would produce only mild pain.

An injury to any of the Rujakara Marmas gives rise to various kinds of pain in the affected organ, which may ultimately bring about a deformity of the same, if placed under the treatment of an ignorance and unskilful Vaidya (Surgeon).

**Rujakar Marmas Of Urdhva Shakha**

**Kurcha Shira Marma (Upper extremity)**

**Measure and Type**

No. - Two, Type - Snayu (Rujakar),

Measure - 1/2 Anguli.

Site - Under the Manibandha Sandhi.

Trauma at this site results in inflammation and pain. And as structurally it is Snayu Marmatype. It results in symptoms of inflammation and swelling.

It is present in both hands. Its Pramana (dimensions)is one Anguli. By the type of Marma, it is Snayu Marma in its structure; and Rujakarais its Viddhata Lakshana.

**Anatomical Structures -** Ulnar collateral ligament and Radial collateral ligament, Transverse carpal ligament, Tendon of flexer Carpi Radialis; Tendon of Abductor Policis Longus. Tendon of Extensor Carpi Radialis Longus; Tendon of Extensor policis Longus and Brevis.(Above 3 Tendons form snuff box)

**Signs if Injured -** Shushrut says that If Kurchshir marma is injured then ruja and shotha (Sprain) occurs, which results from sudden violence applied at this marma directly or indirectly as in street accidents or playing. Injury may cause impairment of the function of the flexion and abduction of the wrist as well as severe bleeding from the Radial artery and severe pain due to injury to the Radial nerve.

**Manibandha Marma -** An injury to the manibandha Marma results specially in inoperativeness (kunthta) of the affected hand.Manibandha marma is located at manibandha sandhi.

**Measure and Type -**

No. - Two, Type - Sandhi, Measure - 2 Anguli.

**Tissue involved -** Wrist joint (radio carpal joint),Distal Radio ulnar joint and Inter-carpal joints and Carpometacarpal joints. Radio-ulnar and Radio-carpal ligaments.

**Anatomical Structure :** Radial and median nerve and artery.

**Signs if Injured -** Injury may cause the loss of function of flexion, extension, adduction and abduction of the hand. It can cause incoordination, dislocation and disfigurement of the hand. It may cause wasting of hand also.

**Observation and Discussion -** For this study 30 Patients having traumatic injuries (i.e. Marmaghata) to any one side at Manibandha Marma (Sandhi) were selected according to inclusive and exclusive criteria. Injured Manibandha Marma was considered as Trial group whereas Normal Manibandha Marma was considered as Control group.

**Table 1 : Age wise distribution of cases**

| Age (Yrs) | 20-25 | 25-30 | 30-35 | 35-40 | 40-45 | 45-50 | Total |
|---|---|---|---|---|---|---|---|
| Frequency | 7 | 5 | 3 | 5 | 7 | 3 | 30 |

**1) Age -** There is no any relation between Age factor and Anatomical changes at ManibandhaMarma (Sandhi) after traumatic injuries (i.e. Marmaghata)

**Table 2 - Sex wise distribution of cases**

Sex - Male , frequency - 19. Female , frequency -11 Total -30.

**2) Sex -** Males are more affected than female because they spent more time away from home for Service, Driving Vehicle, Playing game etc. in danger situation.

**Table 3 - Occupation wise distribution of cases**

| Occupation | Frequency | Occupation | Frequency |
|---|---|---|---|
| Service | 9 | Hosewoman | 3 |
| Farmer | 6 | Player | 5 |
| Worker | 5 | Student | 2 |
| Total | 30 | | |

3) Occupation Anatomical changes taking place at ManibandhaMarma (Sandhi) after traumatic injuries (i.e. Marmaghata) can occur in any person irrespective of occupation.

**Table 4) Distribution of Aghataj Hetu**

| Aghataj Hetu | Frequency | Aghataj Hetu | Frequency |
|---|---|---|---|
| Road Accident | 9 | Working | 2 |
| Fall from Height | 7 | Slip | 7 |
| Playing | 3 | | |
| Total | 30 | | |

| Criteria | Grade | Trial group | Control group |
|---|---|---|---|
| 5) Ruja | none | 0 | 19 |
| | mild | 0 | 11 |
| | moderate | 10 | 0 |
| | severe | 20 | 0 |
| 6) Flexion | Less than | | |
| | 25 degree | 28 | 0 |
| | 25-50 Degree | 2 | 0 |
| | 50-75 Degree | 0 | 16 |
| | 75-90 Degree | 0 | 14 |
| 7) Varna | Normal | 3 | 28 |
| | Bluish | 10 | 2 |
| | Bluish-Reddish | 8 | 0 |
| | Reddish | 9 | 0 |
| 8) Vrana | Yes | 9 | 0 |
| | No | 21 | 30 |
| 9) Strava | Yes | 10 | 0 |
| | No | 20 | 30 |
| 10)Vikruti | Yes | 20 | 2 |
| | No | 10 | 28 |
| 11)**sparsha** | Sheet | 0 | 4 |
| | Anushna | 10 | 24 |
| | Ushna | 20 | 2 |
| 12) **Sparsh** | Normal | 0 | 14 |
| sahtva | Mild | 0 | 16 |

| | | | |
|---|---|---|---|
| | Moderate | 15 | 0 |
| | Severe | 15 | 0 |
| 13)Shotha | Normal | 0 | 16 |
| | Mild | 0 | 14 |
| | Moderate | 18 | 0 |
| | Severe | 12 | 0 |
| 14) sandhi | Yes | 12 | 1 |
| shabdata | No | 18 | 29 |
| 15) radio- | Normal | 10 | 28 |
| Logical | fracture | 17 | 2 |
| findings | **Dislocation** | 3 | 0 |

**4) Aghataj Hetu -** 1) 30% patients had injured due to Road Accident. 2) 22.33% due to Fall from Height. 3) 22.33% due to Slip. 4) 6% due forceful twist while working and 5) 16.66% due to Playing.

It proves that these are various Aghataj Hetu for traumatic injuries (i.e. Marmaghata) to Maniandha Marma( Sandhi) .

Table 5 - Distribution of other criterias

**Gradation of ruja -**

None -[0] No Ruja (pain)at ManibandhaSandhi Marma.

Mild [+] (1) Ruja (pain) at Manibandha Sandhi Marma while working.

Modrate [+ +] (2) Ruja (pain) at Manibandha Sandhi Marma on movement.

Severe [+ + +] (3)- Ruja (pain) at Manibandha Sandhi Marma without movement.

**Gradation of shotha and sparsha sahatva -**

| Name of Lakshan | None [0] | Mild (+) (1) | Moderate (+ +) (2) | Severe (+ + +) (3) |
|---|---|---|---|---|
| Shotha | No | Shotha 1 cm Around Manibandha Sandhi Marma | Shotha 1 to 2 cm aound Manibandha Sandhi Marma | Shotha more than 2 cm around Manibandha Sandhi Marma |
| Sparsha-sahatva | No | Sparsha-sahatva Applying Pressure | Sparsha-sahatva Moderate pressure | Sparsha-sahatva On just touch |

**5) Ruja -** In Trial group, 10 patients had moderate Ruja while 20 patients had severe Ruja. In Control group, 11 patients had mild Ruja, While 19 patients had no Ruja. There was a significant difference in Ruja between Trial group (Injured Manibandha marma) and Control (Normal Manibandha sandhi) at 5% level of Significance i.e. p-value < 0.05.

The Ruja was found Significantly more in Trial group because of traumatic injuries (i.e. Marmaghata), Fracture, Dislocation, Ligament injury, Inflammation etc. Literature also says that Marmaghata to Manibandha marma (i.e. Manibandha Sandhi) causes Ruja.

**6) Kunthata -** There are 4 movements of Manibandha Sandhi - a) Flexion b) Extension c) Adduction d) Abduction.

I calculate the degree of each movement separately by Goniometer of Trial group and Control group. There was a significant difference in each movement between Trial group (Injured Manibandha Sandhi) and Control group. (Normal Manibandha Sandhi) at 5% level of significance i.e. P value < 0.05. The loss of movement and function i.e. Kunthata was found significantly more in Trial group because of traumatic injuries.

**7) Varna (Darshana Pariksha) -** In trial group 3 patients had normal Varna, 10 patients had Bluish, 8 patients had Bluish- reddish Verna while 9 patients had Reddish Varna. In control group ,28 patients had normal Varna while 2 patients had Bluish Varna. There was a Significant difference in Varna between Trial group (Injured Manibandha Sandhi) and Control group (Normal Manibandha Sandhi) at 5% of Significance i.e. P Value < 0.05.

The change in Varna was found significantly more in Trial group because of traumatic injuries (i.e. Marmaghata) Fracture, Dislocation, ligament injury etc.

**8) Vrana (Dorshana Pariksha -** In trial group 9 patients had Vrana while 21 patients had no Vrana.In control group 30 patients had no Vrana.

There was a significant difference in Vrana formation between Trial group (Injured Manibandha Sandhi) and Control group (Normal Manibandha Sandhi) at 5% level of Significance i.e. P Value < 0.05.

The Varna was found significantly more in Trial group because of traumatic injuries (i.e. Marmaghata), Fracture, Dislocation, ligament injury etc.

**9) Strava (Darshana Pariksha) -** In trial group 10 patients had Srava while 20 patients had no Srava. In control group 30 patients had no Srava.

There was a significant difference in Strava between Trial group (Injured Manibandha Sandhi) and Control group (Normal Manibandha Sandhi) at 5% of Significance i.e. P Value < 0.05.

The Strava was found significantly more in Trial group because of traumatic injuries.

**10) Vikruti (Deformity) Darshana Pariksha -** In Trial group 20 patients had Vikruti while 10 patients had no Vikruti. In control group 2 patients had Vikruti while 28 patients had no Vikruti. There was a significant difference in Vikruti between Trial group

(Injured Manibandha Sandhi) and Control group (Normal Manibandha Sandhi) at 5% level of Significance i.e. P Value < 0.05.

The Vikruti in Darshana Pariksha was found significantly more in Trial group because of traumatic injuries.

**11) Sparsha (Sparshana pariksha) -** In Trial group 10 patients hadAnushna Sparsha while 20 patients had Ushna Sparsha. In control group 4 patients had Sheet Sparsha, 24 patients had Anushna Sparsha while 2 patients had Ushna Sparsha. There was a significant difference in Sparsha between Trial group (Injured Manibandha Sandhi) and Control group (Normal Manibandha Sandhi) at 5% level of Significance i.e. P Value < 0.05. The Sparsha was found significantly more in Trial group because of traumatic injuries.

**12) Sparsha Sahatva -** In Trial group, 15 patients had moderate Sparshasahatva while 15 patients had severe Sparshasahatva. In control group 16 patients had mild Sparshasahatva while 14 patients had normal Sparshasahatva. There was a significant difference in Sparsha Sahatva between Trial group (Injured Manibandha Marma (Sandhi)) and Control group (Normal Manibandha marma (Sandhi)) at 5% level of Significance i.e. P Value < 0.05.

The Sparsha Sahatva was found significantly more in Trial group because of traumatic injuries.

**13) Shotha (Sparshana Pariksha) -** In Trial group, 18 patients had modrate shotha. While 12 patients had severe shotha. In control group, 16 patients had normal shotha while 14 patients had mild shotha. There was a significant difference in Shotha between Trial group (Injured Manibandha Sandhi) and Control group (Normal Manibandha Sandhi) at 5% level of Significance i.e. P Value < 0.05.

The Shotha was found significantly more in Trial group because of traumatic injuries.

**14) Sandhi Shabdhata (Crepitus) -** In Trial group 12 patients had sandhi shabdhata while 18 patients had no sandhi shabdhata. In control group 1patients had sandhi shabdhata while 29 patients had no sandhi shabdhata. There was a significant difference in Sandhi Shabdhata between Trial group (Injured Manibandha Sandhi) and Control group (Normal Manibandha Sandhi) at 5% of Significance i.e. P Value < 0.05. The Sandhi Shabdhata in Sparshana Pariksha was found significantly more in Trial group because of traumatic injuries.

**15) Details of Radiological Findings -** 17 patients had fracture, 3 had Dislocation and 10 had Normal Radiological findings from Trial group while all these 30 patients of control group had neither fracture nor dislocation i.e. normal Radiological findings. The details of Radiological Findings were found significantly more in Trial group because of severe traumatic injuries (i.e. Marmaghata)

**Conclusion -** After evaluating the observations and taking into consideration of the statistical analysis and literary review of this study, following conclusions drawn as follows -

1) Traumatic injuries to Manibandha Marma causes various anatomical changes at Manibandha Marma.

2) Ruja, Kunthata, Shotha, Sparshasahatva, Vikruti (Deformity), Sandhi Shabdhata (Crepitus), Change in Varna, Vrana-Utapati, Strava these anatomical changes are found in Trividha Pariksha after traumatic injuries (i.e. Marmaghat) to Manibandha Marma.

3) Fracture and Dislocation is found in Radiological Examination (x-ray) after traumatic injuries (Marmaghat) to Manibandha Sandhi Marma.

4) Granthokta Viddha Lakshana of Manibandha Sandhi Marma i.e. Ruja, Kunthata are found after traumatic injuries (Marmaghat) to Manibandha Sandhi Marma.

5) When radiological findings are positive i.e. fracture, Dislocation is in x-ray then Ruja, Kunthata, Shotha, Sparshasahatva, Vikruti etc. these Lakshanas are seen in Trividha Pariksha of patient. It proves that the anatomical changes taking place at Manibandha Marma after traumatic injuries (Marmaghat) found in Trividha Pariksha are in Co-relation with Radiological Findings (X-ray).

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# Conceptual Review On Causative Factors (Hetu) Of Obesity (Sthaulya)

**Vd. Anushri S. Deshmukh,** MD Scholar (Kriya Sharir)

**Dr. Minakshi A. Randive,** Prof. and H.O.D. Kriya Sharir Dept.,TAMV,Pune.

**Introduction -** The term life style disorders refers to those diseases which we gain as a part and parcel of our lifestyle. In ayurveda, lifestyle of a person is described in detail in the chapters namely Dinacharya and Rutucharya. In Yogratnakara the additional information about Ratricharya is also explained, which is really helpful for the person to become healthy.

In today's era, due to change in daily routine food habits are also changes. This change in 'Ahar and Vihar' give rise to many lifestyle disorders. Obesity (sthaulya) constitutes one of them; having prevalence rate of 20-40% in developed countries. Also obesity can affect people of any age group or any gender. Hence, this review is to evaluate progression of causative factors (hetu) towards obesity (Sthaulya).

**Aim -** To analyze the causative factors (hetu) in progression of obesity (Sthaulya) conceptually.

**Objectives -** • To review the causes of Obesity (Sthaulya) from Ayurvedic Samhitas and Modern literature. • To analyze the progression of causes towards the disease.

**Material and Methods -**

**Material -** Ayurvedic compendia, Modern literature through textual reference books, articles published on internet.

**Method -** This is review in which causes of obesity according to ayurvedic and modern literature are discussed. An overview about obesity, its assessment and relatives threats are also summarized

**Literary review - Definition -** Obesity may be defined as an abnormal growth of the adipose tissue due to enlargement of fat cell size (hypertrophic obesity) or increases in fat cell number(hyperplastic obesity) or combination of both.

**Types of obesity -**

• **Android obesity -** Distribution of fats occurs at abdominal region. This type has increased risk for other diseases due to obesity.

Apple shape obesity/ Abdominal obesity/ Upper body obesity. There is involvement of fat cells of upper body like abdomen, chest and arms.

• **Gynoid obesity -** Distribution of fat is more evenly and peripherally distributed around the body. This type is less serious than other.

Pear shape obesity/ Gluteal femoral obesity/ Lower body obesity. There is involvement of fat cells of lower part of body like hip and thighs.

**Causes of obesity according to Ayurvedic Samhita -** तदतिस्थौल्यमतिसम्पूरणाद्गुरु
मधुरशीतस्निग्धोपयोगादव्यायामदव्यवायात्
दिवास्वप्नाद्धर्षनित्यत्वादचिन्तनाब्दीजस्वभावाच्चोपजायते।
**(च.सू.२१/४)**

अनपेक्षितमात्रादी सेविते कुरुतस्तु ते।
अतिस्थौल्यातिकार्श्यादीन् वक्ष्यन्ते ते च सौषधाः।।
**(अ.सं.सू.२४/१३)**

**Causes of obesity according to modern texts -**

• Age - Chances of obesity increases with the age. • Gender - females are more prone than males. • Genetic factors • Familial tendency • Physical inactivity • Endocrine factors • Drugs - Corticosteroids, insulin, contraceptive pills • Food habits - Eat between the meals, taking sweet food, refined food and fats • Psychosocial factors - emotional disturbances.

**Factors which are inversely proportional to obesity -** • Education • Socio- economic status

**Assessment of obesity:**

A] Body weight - Most probably used method is BMI

1) BMI ( Quetelet's index) $\frac{\text{Wight (Kg)}}{\text{Height (m)}^2}$

2) Ponderal index $\frac{\text{height (cm)}}{\sqrt[3]{\text{Cube root of bod weight (kg)}}}$

3) Brocas index height (cm) upon 100

B] Skin fold thickness - It is rapid and non invasive method. Several varieties of calipers are used for this. Measurement is taken at all four sites - mid triceps, biceps, subscapular and suprailiac region.

Assessment - Sum of the measurement should be <40 mm in boys and <50 mm in girls.

C] Waist circumference and Waist: Hip ratio (WHR) It is an approximate index of intra abdominal fat mass and total body fat.

1) There is an increased risk of metabolic complications with waist circumference >102 cm in Men and >88 cm in Women.

2) High WHR (>1.0 in Men and >0.85 in women) indicates abdominal fat accumulation.

**Classification of obesity according to BMI:**

| | BMI |
|---|---|
| Under weight | <18.50 |
| Normal range | 18.50 - 24.99 |
| Over weight | = 25.00 |
| Pre obese | 25.00 - 29.99 |
| Obese class I | 30.00 - 34.99 |
| Obese class II | 35.00 - 39.99 |
| Obese class III | = 40.00 |

**Relative threats due to obesity :**

**Greatly increased risk -** NIDDM, Dyslipidaemia, Insulin resistance, Breath lessness, sleep apnea, Gall bladder diseases

**Moderately increased risk -** CHD, HTN, Osteoarthritis, Hyperuricaemia and gout

**Slightly increased risk -** Impaired fertility, PCOS, Reproductive hormone abnormalities, Lowback ache etc.

**Discussion - Causes of obesity according to Ayurvedic Samhita -** According to Acharya Charaka causes of obesity (sthauluya) are as follows : In Charaka Samhita while giving information about eight types of condemned people they include obese person as one of them. And detail description about the same is also given in that chapter only.

**१) अतिसम्पूरणात् – अतिभोजनात** (over intake)

**मात्रावत् आहार – मात्रावद्धयशनमशितमनुपहत्य प्रकृतिं बलवर्णसुखायुषा योजयत्युपयोक्तारमवश्यमिति। (च.सू.५/८)**

**---मात्रावद्धि – आयुरेव विवर्धयति केवलं, न चोष्माणमुपहन्ति, अव्यथंच परिपाकमेति (च.वि.१/२४(३))**

Above are the effects of Matravat Ahar which include increase in strength, color, tone of the body. Also it increases the life. These things happen due to food taken in proper quantity which does not affect the agni and so digestion occurs unaffectedly. Rather it also helps to increase agni.

**यथाग्न्यभ्यवहारोऽग्निसन्धुक्षणानां... (च.सू.२५/४०)**

In case of over intake it affects agni and produce agnimandya. It produce prakopa of all three doshas.

**अतिमात्राशन – आमप्रदोषहेतूनाम् (च.सू.२५/४०)**

**अजीर्णाध्यशनं – ग्रहणीदूषणानाम् (च.सू.२५/४०)**

**अतिमात्रं पुनः सर्वदोषप्रकोपणमिच्छन्ति कुशलाः। (च.वि.२/७)**

Atimatra ahar
↓
Anavaha, Rasavaha, Purishvaha Srotas dushti
↓
Agnimandya
↓
Amanirmiti
↓
Apachit ahar rasa
↓
Apachit Dhatu Utpatti
↓
Apachit Meda Dhatu Utpatti
↓
(Uttarottar Dhtvagni Mandya)
↓
Sthaulya

2) **अति गुरू, मधुर, शीत, स्निग्धोपयोगाद –**

Excessive intake of heavy, sweet, cold and unctuous food , all of them causes dushti of Rasavaha srotas. Mansavaha srotas dushti occurs due to unctuous food in excess quantity.

**स्निग्धगुरुमधुरपिच्छिलशीत....श्लेष्माप्रकोपमापद्यते।। (च.नि.१/२५)**

**गुरुभोजन –दुर्विपाककराणाम् (च.सू.२५/४०)**

**...गुरुणि पुनर्नाग्निसन्धुक्षणस्वभावान्यसामान्यात्, अतश्चातिमात्रं दोषवन्ति..।। (च.सू.५/६)**

Hence it concludes that Guru ahar (heavy meal) in excess produces agni mandya. Also it produces prakopa of kapha dosha and so it affects digestion.

**मधुररस–**

**कुरुतेऽत्युपयोगेन स मेदः कफजान् गदान्।**

**स्थौल्याग्निसादसन्यास मेह गण्डार्बुदादिकान्।।** (अ.ह्र.सू.१०/९)

Excess quantity of sweet food produces Medaj and Kaphaj roga. There is direct reference about producing sthaulya due to Madhur rasa in excess quantity, by producing Agni mandya, Kapha dushti and Meda dhatu dushti.

**अतिशीत ( Cold Food) -** It increases both Vata and Kapha dosha. It has total opposite chracteristics of Ushna guna of agni which affects the digestion.

**अतिस्निग्ध** - It produces Kapha prakopa.

**पाण्डुता गौरवं जाड्यं पुरिषस्याविपक्वता।**

**तन्द्रारुचिरुत्क्लेशः दृयादतिस्निग्धलक्षणम्।।** (च.सू.१३/५९)

Though these symptoms are explained in Snehadhyay , they can be applicable for food also.

Hence altogether they produce dushti of rasavaha, mansavaha and medovaha srotas. It produces agnimandya and kapha prakopa. As a result it affects the mansa samhanana producing mansa shaithilya. Apachit meda dhatu in which there is increase in pichhil guna and kleda guna of kapha produces meda shaithilya. Both of them results in sthaulya.

3) **अव्यायाम** (Lack of Physical Exercise ) -

**व्यायाम – स्थैर्यकराणाम्**

**...दोषक्षयोऽग्निवृद्धिश्चः व्यायामादुपजायते।। (च.सू.७/३२)**

**श्लेष्मक्षयो अभिप्रेतः यदिऽग्नि कर्तुत्वेन त्रिदोषक्षयोऽपि (च.सू.७/३२ चक्र.टिका) .... दीप्तोऽग्नि मेदसः क्षयः..।। (अ.ह्र.सू.२/१०)**

All of these are effects of exercise which causes agni vrudhi, kshay of meda dhatu and kapha dosha (Tridosha kshaya). It also provides stability to body.

But in case of physical inactivity **(अव्यायाम)**

**अव्यायाम –**

**उपहननस्य अग्नेः (च.चि.१४/९)**

**कफस्य प्रकोप (च.नि.१/२५)**

It causes agni mandya, also it produces kapha prakopa. Physical inactivity is hetu of medovaha srotas dushti. All of these together produces apachit meda dhatu resulting in sthaulya.

4) **अव्ययाय** (Abstinence from sexual intercourse) -

**ब्रम्हचर्य–आयुष्यानां (च.सू.२५/४०)**

As there is no sexual intercourse it increases the shukra in the body producing shukra dhatu vrudhi. Shukra inturn converts into oja.

**ओजस्तु तेजो धातूनां शुक्रान्तानां पर स्मृतम्।**(अ.ह्र.सू.११/३७)

When there is shukra vrudhi it also increase the oja.

**ओजो विवृद्धौ देहस्य तुष्टिपुष्टिबलोदयः।।**(अ.ह्र.सू.११/४१)

But when Abstinence from sexual intercourse occurs forcefully it creates shukra dhatu dushti.

**अकाल योनिगमनात् निग्रहात् अतिमैथुनात्।शुक्रवाहिनी दुष्यन्ति...।। (च.वि.५/१८)**

Hence when shukra vrudhi occurs due to dushta shukra , it also affects the oja. Body gets nourish excessively which produce sthaulya.

**5) दिवास्वाप (Days leep) -** One who doesn't sleep at night or diseased person is allowed to sleep during day time but it should be before meals.

According to Acharya Vagbhata and Acharya Charaka it produces Kaph and Pitta prakopa. But according to Sushrutacharya it produces tridosh prakopa. Also it is a hetu of Mansavaha and Medovaha srotas dushti.

**दिवास्वप्न.... कफप्रकोपमाद्यते। (च.नि.१/२५)**

**कफवृद्ध लक्षणे–**

**श्लेष्माऽग्निसदन...आलस्यगौरवम्।।श्लथाङ्गत्वं..। (अ.ह्र.सू.११/७–८)**

Due to kapha there is increase in Gurutva and shaithilya of mansa and meda dhatu, which produces Sthaulya.

**6) हर्षनित्यत्वाच्च (Uninterrupted cheerfulness) -**

**हर्षः प्रीणनानां (च.सू.२५/४०)**

Cheerfulness or happy feeling help to get body nourished properly. Also this feeling is a sign of satisfaction.

**निवृत्तिः पुष्टिकराणां (च.सू.२५/४०)**

Hence when there is uninterrupted cheerfulness it produces extra nourishment which results in sthaulya.

**7) अचिन्तनात् (lack of mental exercise) -**

**चिन्ता–**

**कफोपशमनी (अ.ह्र.सू.७/६३)**

**मेदोऽनिश्लेष्मनाशनी (अ.ह्र.सू.१३/११)**

When there are tensions they results into decrease in Kapha dosha and meda dhatu, which are important to produce sthaulya.

As this did not happen with those who have lack of mental exercise , increases kapha dosha and meda dhatu which causes sthaulya.

**8) बीजस्वभावात् – स्थूलमातापितृजन्यत्वात्**

It is a hereditary character or genetic constitution which transfer to the progeny from its parents through chromosomes. Mutation at chromosomal level may produce obesity and then it will pass to successive generations.

According to Acharya Vagbhata causes of obesity (sthauluya) are as follows:

**अनपेक्षितमात्रादी सेविते कुरुतस्तु ते।**

**अतिस्थौल्यातिकार्श्यादीन् वक्ष्यन्ते ते च सौषधाः।।**

**(अ.सं.सू.२४/१३)**

Here for Sthaulya (obesity) Anapekshit matra means over intake i.e. addhyashana, ajirnadhashyana. The suffix 'di ' includes all possible causes about amount, consistency, type, guna, rasa of the food. It also includes the state of the person it is taking i.e. if he is hungry or not , is there occurrence of jirna aahar lakshan or not.

**Causes of obesity according to modern texts -** Modern texts also describes causative factors of obesity. some of them can be correlate with ayurvedic hetus of sthaulya.

**Following are some correlations :**

**1) Physical inactivity-** avyayam

**2) Genetic factors and familial tendencies-** Bijaswabhavat

**3) Food habits like eat between the meals i. e. over intake-** Atisampurnat

**4) Taking sweet food in excess-** Ati madhur sevan

**5) Refined food and fats-**Atisnigdhopayoda

Other factors include:

**6) Endocrine factors and Drugs-**

**a) Corticosteroids -** If their level increases in the body it produces Cushing disease.

Corticosteroids promote lypolysis through glucagon, GH, Adr and thyroxine. Redistribution of fats occurs as a result of corticosteroids. In which subcutaneous tissues over extremities loses its fat which deposits over face, neck and shoulder and hence person appears obese.

**b) Insulin-** Insulin increases the glucose uptake and store it as fat and glycogen.
It inhibits lypolysis in adipose tissue.

**c) Hypothyrodism-** T4 and T3, these are the hormones which indirectly enhance the lipolysis by potentiating the action of catecholamine's and other lipolytic hormones. In case of Hypothyrodism, there is decrease in the level of T4 which results in weight gain.

**7) Psychosocial factors-** (emotional disturnabces)

Emotional disturbances occurs due to stress, hormonal disturbances or as a sign of depression, anxiety, frustration and loneliness etc.

As overeating is one of the symptom of above mentioned psychological conditions, person starts gaining weight.

**Factors inversely proportional to obesity -**

**1) Education -** As people getting educated there is increase in the awareness about health and so the level of obesity decreases.

**2) Socio-economic status -** When people get financially rich, due to social status they have

to look slim. Also they able to manage to take proper nutritious food and gym like exercising activities. Hence they get rid from the obesity.

But in case of people with low socio-economic group they are unable to get such nutritious food every time. Also due to high energy requirement for physical activity and to maintain culture status these people generally have large body size.

**Conclusion -** As obesity (Sthaulya) is a lifestyle disorder. In the above mentioned causes except hereditary quality i.e. familial tendencies and genetic factors all other factors can be modified for the better health.

All other factors are occur due to our daily routine and food habits. So according to ayurveda it can be classified as - **प्रज्ञापराधजन्यव्याधी**

By practicing Yoga or doing exercise daily, maintaining mental health and managing our food habits we can interrupt the cycle towards obesity.

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## डॉ. सिद्धार्थ परचुरे ह्यांचे दुहेरी यश

**अभिनंदन!**

कायचिकित्सा विभागातील सहाय्यक प्राध्यापक डॉ. सिद्धार्थ सुहास परचुरे ह्यांना **National Seminar on "Ayurvedic Management of skin Disorders'** ह्या अंतर्गत दि. ३-२-२०२० रोजी सादर केलेल्या शोध निबंधास अध्यापक संवर्गात द्वितीय पारितोषिक प्राप्त झाले.

तसेच **Birdies Club** तर्फे घेण्यात आलेल्या बॅडमिंटन स्पर्धेत श्री. अजय रावेल ह्यांच्या साथीत प्रथम पारितोषिक प्राप्त झाले.

आयुर्विद्या मासिक समितीतर्फे डॉ. सिद्धार्थ सु. परचुरे ह्यांचे दुहेरी यशाबद्दल अभिनंदन!

**डावीकडून - डॉ. सिद्धार्थ परचुरे, श्री. रविल व Birdies Club चे पदाधिकारी**

# राष्ट्रीय शिक्षण मंडळ
# पंचवार्षिक निवडणूक (२०२०-२०२५)

राष्ट्रीय शिक्षण मंडळाच्या नियामक मंडळासाठी व आयुर्वेद रसशाळा समिती व मेहेंदळे दवाखाना समिती ह्यासाठीच्या पंचवार्षिक निवडणूका नुकत्याच पार पडल्या. सर्व निवडणूका बिनविरोध झाल्याचे निवडणूक अधिकारी ॲड. विनोद बापट ह्यांनी जाहीर केले व पुढील सदस्य निवडून आल्याचे जाहीर केले.

**नियामक मंडळ –**

**संवर्ग – पेट्रन –**


१) डॉ. पुराणिक दिलीप प्रभाकर २) ॲड. पाटील श्रीकांत नारायण

**संवर्ग –सिंपथायझर –**


१) डॉ. डोईफोडे विजय विश्वनाथ २) डॉ. परचुरे सुहास नारायण

**संवर्ग – सामान्य सभासद –**


१) डॉ. सातपुते मधुकर रामचंद्र २) डॉ. धडफळे भालचंद्र गणेश

**संवर्ग – फेलो –**

१) डॉ. भागवत भालचंद्र क्रष्णाजी

**संवर्ग – आजीव सभासद –**


१) डॉ. गांगल रमेश नारायण २) डॉ. गव्हाणे संजय गुलाबराव

**संवर्ग – अध्यापक/वैद्यकीय अधिकारी –**

१) डॉ. हुपरीकर राजेंद्र शशीशेखर

**आयुर्वेद रसशाळा समिती**


१) डॉ. कुलकर्णी प्रमोद वासुदेव २) डॉ. रानडे मंदार

**मेहेंदळे दवाखाना समिती**

१) डॉ. घनवट शेखर मुरलीधर

टिळक आयुर्वेद महाविद्यालयाचे प्राचार्य हे नियामक मंडळाचे पदसिद्ध सदस्य असल्याने त्यासाठी निवडणूक होत नाही.

**सर्व यशस्वी उमेदवारांचे आयुर्विद्या मासिक समितीतर्फे हार्दिक अभिनंदन व हार्दिक शुभेच्छा!**

# राष्ट्रीय शिक्षण मंडळ – ९६ वा वर्धापनदिन समारंभ – दि.९ फेब्रुवारी २०२०

डॉ. दिलीप पुराणिक

राष्ट्रीय शिक्षण मंडळाच्या ९६ व्या वर्धापनदिनानिमित्त टिळक आयुर्वेद महाविद्यालयाच्या एन. आय.एम.ए. सभागृहात दुपारी ४ वाजता भव्य समारंभाचे आयोजन करण्यात आले होते. समारंभास प्रमुख अतिथी म्हणून सुप्रसिद्ध शल्यचिकित्सक व प्रख्यात लेखक डॉ. अनिल गांधी उपस्थित होते. समारंभाचे अध्यक्षस्थान डॉ. विजय डोईफोडे ह्यांनी भूषविले. मान्यवरांचे हस्ते श्री धन्वंतरी पूजनाने समारंभाची सुरुवात झाली. प्रमुख अतिथी डॉ. गांधी व अध्यक्ष डॉ. डोईफोडे ह्यांचे हस्ते आरोग्य प्रदर्शनाचे उद्घाटन झाले.

भव्य व सुशोभित एन.आय.एम.ए. सभागृहात व्यासपीठावर डॉ. डोईफोडे, डॉ. गांधी, राष्ट्रीय शिक्षण मंडळाचे उपाध्यक्ष डॉ. भा.कृ.भागवत, सचिव डॉ. दिलीप पुराणिक, कोषपाल डॉ. गांगल, डॉ. राजेंद्र हुपरीकर व डॉ. स. वि. देशपांडे, डॉ. परचुरे, डॉ. सातपुते, डॉ. धडफळे, ॲड. पाटील स्थानापन्न झाले होते.

श्री धन्वंतरी स्तवनाचे मंगल चरण आळविल्यानंतर डॉ. दि. प्र. पुराणिक ह्यांनी प्रास्ताविक भाषणात राष्ट्रीय शिक्षण मंडळ व मंडळाच्या घटक संस्थांनी गेल्या ९६ वर्षात केलेल्या प्रगतीचा आढावा घेतला व उपस्थितांचे हार्दिक स्वागत केले.

**मा. डॉ. अनिल गांधी यांचे हस्ते जीवन गौरव पुरस्कार स्विकारताना मा. डॉ. साठ्ये व सौ. साठ्ये.**

समारंभाचे अध्यक्ष डॉ. डोईफोडे व प्रमुख अतिथी डॉ. अनिल गांधी ह्यांच्या यथोचित सत्कारानंतर सर्व मान्यवरांचे हस्ते मंगलदीपाचे प्रज्वलन करून समारंभाचे औपचारिक उद्घाटन करण्यात आले.

पुण्यातील सुप्रसिद्ध नेत्रचिकित्सक डॉ. सुधाकर महादेव साठ्ये हे ह्यावर्षीच्या **''जीवन गौरव पुरस्काराचे''** मानकरी होते. त्यांच्या कारकिर्दीचा आढावा घेणाऱ्या सन्मानपत्राचे वाचन डॉ. मिहीर हजरनवीस ह्यांनी केले. त्यानंतर डॉ. गांधी व डॉ. डोईफोडे ह्यांच्या हस्ते बुद्धिमत्तेचे प्रतिक पुणेरी पगडी, शाल, सन्मानपत्र, भेटवस्तू, पुष्पगुच्छ व रोख रु. अकरा हजार अशा स्वरुपात डॉ. सु.म. साठ्ये ह्यांना प्रतिष्ठेचा जीवन गौरव पुरस्कार वितरीत करण्यात आला.

सत्कारास उत्तर देतांना डॉ. साठ्ये ह्यांनी राष्ट्रीय शिक्षण मंडळाप्रती कृतज्ञता व्यक्त केली.

**'आयुर्विद्या इंटरनॅशनल २०२० Volume I** व **E-Ayurvidya'** चे प्रकाशन डॉ. गांधी व डॉ. डोईफोडे ह्यांच्या हस्ते करण्यात आले.

प्रमुख अतिथी म्हणून मनोगत व्यक्त करताना डॉ. गांधी ह्यांनी राष्ट्रीय शिक्षण मंडळाने केलेल्या विकासात्मक प्रगतीचा गौरवपूर्ण शब्दात उल्लेख केला. तसेच ९६ व्या वर्धापन दिनानिमित्त आयोजित केलेल्या आरोग्य प्रदर्शनाची व डॉ. सु.म. साठ्ये ह्यांच्या आयुर्वेदातील संशोधनात्मक योगदानाची प्रशंसा केली.

राष्ट्रीय शिक्षण मंडळाचे वतीने आयोजित केलेल्या **''नानल चषक''** आंतरवैद्यकीय महाविद्यालयीन राष्ट्रीय स्पर्धांच्या आयोजक डॉ. मंजिरी देशपांडे ह्यांनी स्पर्धांचा भारतभरातील वैद्यकीय महाविद्यालयीन विद्यार्थ्यांचा उत्स्फूर्त

**मंगलदीप प्रज्ज्वलन करताना डावीकडून – डॉ. सातपुते, डॉ. परचुरे, डॉ. भागवत, डॉ. गांगल, डॉ. पुराणिक, डॉ. गांधी, डॉ. धडफळे, डॉ. डोईफोडे, डॉ. हुपरीकर, व डॉ. स. वि. देशपांडे.**

प्रतिसाद स्पर्धांना लाभल्याचे सांगितले व सविस्तर अहवाल सादर केला. स्पर्धेतील पारितोषिक विजेत्यांना व्यासपीठावरील सर्व मान्यवरांच्या हस्ते पारितोषिकांचे वितरण करण्यात आले. वैद्य वृंदा साठ्ये लिखीत 'अग्निकर्म चिकित्सा' पुस्तकाच्या हिंदी आवृत्तीचे प्रकाशन अध्यक्ष डॉ. वि.वि. डोईफोडे ह्यांच्या हस्ते करंण्यात आले.

अध्यक्षीय भाषणात डॉ. डोईफोडे ह्यांनी राष्ट्रीय शिक्षण मंडळाने केलेल्या प्रगतीचा आढावा घेतला व भविष्यात संस्थेला प्रगतीच्या उच्च शिखरावर नेण्याची ग्वाही दिली.

डॉ. भालचंद्र भागवत ह्यांनी आभार प्रदर्शन केल्यानंतर समारंभाची टाळ्यांच्या गजरात सांगता झाली.

डॉ. मिहीर हजरनवीस व डॉ. विनया दीक्षित ह्यांच्या खुमासदार शैलीतील सूत्रसंचलनामुळे समारंभाच्या भव्यतेत व आकर्षकतेत मोलाची भर पडली.

# Report of the National Seminar on Ayurvedic Management of Skin Disorders (Twak Vikara)

**Dr. Mihir Hajarnavis**

**National Seminar on Ayurvedic Management of Skin disorders** was organized jointly by RSM's Center for Postgraduate Studies and Research in Ayurved of Tilak Ayurved Mahvidyalaya and Association of Integrated Medical Specialists of India on 2nd and 3rd February 2020. The scientific sessions and poster presentations were held on 2nd February 2020. The scientific session began with feast of knowledge by the lecture of Vd.Prashant Suru, a renowned Ayurvedic practitioner from Pune. He delivered his lecture on the Panchabhautik aspect of Skin Disorders. The panchamahabhuta theory, classification of herbs as per mahabhuta and case studies were presented in this lecture. Prof. S. V. Deshpande was the chairperson for this lecture.

This lecture was followed by the **Inaugural function.** Dr. V. V. Doiphode, President of Rashtriya Shikshan Mandal presided over the function. Dr. Vijay Warad, renowned Paediatric and allergy specialist was the Chief Guest for the function. He presented his views and experiences in the treatment of skin allergies. Dr. B. K. Bhagwat, Vice President R.S.M., Dr. D. P. Puranik, Director, C.P.G.S and R.A. and Secretary, R.S.M, Dr. V. N. Shendye President, A.I.M.S of India and Dr. S. V. Deshpande, Principal, T.A.M.V, were present on dais for the function.

The next scientific session was on The Ayurvedic management of Psoriasis. Dr. Sunil Vasistha, a senior Ayurved Consultant from Ahmedabad shared his experiences with case studies on this topic. Prof. Mukund Erande and Prof. Minakshi Randive were in the chair, co chair respectively for the session.

Vaidya Ramdas Avhad from Kopargaon, Ahmedenagar delivered his thoughts on Panchakarma practices in Skin disorders. He shared his experiences on panchakarma treatment- vaman, virechana, raktamokshan and other therapies in various skin ailments with case studies. Prof. Maya Gokhale and Prof. Manish Bhoyar were in the chair, co chair

**Inaugural Function: From Left - Dr. S.V. Deshpande, Dr. B.K. Bhagwat, Dr. V.V. Doiphode, Dr. Vijay Warad, Dr. D.P. Puranik, Dr. V.R. Dixit, Dr. M.S. Hajarnavis.**


**Release of Ayurvidya Issue dedicated to Skin Disorders. From Left - Dr. V.N. Shendye, Dr. S.V. Deshpande, Dr. B.K. Bhagwat, Dr. V.V. Doiphode, Dr. Vijay Warad, Dr. D.P. Puranik, Dr. V.R. Dixit, Dr. S.V. Patil, Dr. M.S. Hajarnavis.**

for the session.

Vaidya Pramod Kulkarni, Ayurvedic Twacharog consultant delivered his lecture with experiences related to eczema, ringworm, fungal skin diseases on the topic Ayurvedic management of Kshudra Kustha. Prof. N. V. Borse and Prof. Nilima Amrute were in the chair, co chair for the session.

The last scientific session was on the Clinical and Cosmetic Management of Facial Skin Disorders. Vaidya Sarita Vaidya delivered the lecture on this topic with live demo on the facial skin treatments. Prof. Minal Lad, Prof. Apoorva Sangoram were the chair, co chair for the session. There were around 400 delegates registered for the seminar. The organizing committee was felicitated at the hands of Prof. Dr. D. P. Puranik and Dr. V. N. Shendye after the seminar. Prizes of posters were given.

The posters were presented on different aspects of Ayurvedic Management of Skin disorders. Prof. Vidya Undale and Vaidya Sachin Kadlag were the examiners for posters.

Paper presentations were organized on 3/2/2020. Total 110 papers were presented. 24 papers by teachers and 86 papers in the PG students category were presented.

Vaidya Nilesh Kulkarni and Vaidya Laxman Lavgankar received the first prize, Dr. S. S. Parchure second prize and Dr. Vidya Naik third prize in teachers category. Prof. Vrinda Kaknurkar, Prof. Manjiri Deshpande, Prof. Indira Ujagare, Prof. Nilesh Kulkarni, Prof. Minakshi Randive, Prof. Anil Deshpande, Prof. Sangeeta Salvi and Prof. Mohan Joshi were the judges for the paper presentations.

Prof. Saroj Patil, Prof. Mihir Hajarnavis and Prof. Vinaya Dixit worked as Programme Directors for the seminar. Dr. D. P. Puranik was the 'Mentor' of event.

**Congratulations**

## Prof. Dr. Rajendra Huparikar appointed on Symbiosis University

**Dr. Rajendra Huparikar**

Recently, Prof. Dr. Rajendra Huparikar, Head of Panchakarma Dept. of Tilak Ayurved Mahavidyalaya has been nominated as Member of Governing Body of Symbiosis University of Applied Sciences, Indore. Dr. Rajendra Huparikar, has also been nominated as Member of Symbiosis Skills and Open Univeresity, Pune and Member of Board of Management of Skills and Open University, Pune.

Prof. Rajendra Huparikar is working as Executive Director of R.S.M.'s Chetan Dattaji Gaikwad Institute of Management studies.

Rashtriya Shikshan Mandal, Tilak Ayurved Mahavidyalaya, C.D.G.I.M.S, RIHSM and Ayurvidya Masik Samiti Congratulates Prof. R.S. Huparikar for the Nominations.

## Prof. Dr. Manjiri Deshpande nominated as Faculty on KLE University

**Dr. Manjiri S. Deshpande**

Dr. Manjiri S. Deshpande, Associate Professor of Rognidan, TAMV has been nominated as Member of the Faculty of Ayurved of KLE Academy of Higher Education And Research, Deemed To Be University, Belagavi, Karnataka. This appointment is for a period of two years. w.e.f. 1st Jan 2020.

Tilak Ayurved Mahavidyalaya, C.P.G.S. & R.A. and Ayurvidya Masik Samiti congratulate Dr. Manjiri Deshpande for this prestigious appointment.

## अभिनंदन!

# टिळक आयुर्वेद महाविद्यालयास पुणे म.न.पा. आयोजित स्पर्धांमध्ये पारितोषिके प्राप्त

**प्रा. डॉ. अपूर्वा संगोराम**

पुणे महानगरपालिका वृक्ष प्राधिकरणातर्फे आयोजित ४० व्या फळे, फुले, भाजीपाला प्रदर्शनानिमित्त विविध स्पर्धांचे आयोजन करण्यात आले होते. या प्रदर्शनाचे उद्घाटन श्री. मुरलीधर मोहोळ, महापौर, पुणे यांच्या हस्ते झाले.

या प्रदर्शनामध्ये टिळक आयुर्वेद महाविद्यालयाच्या द्रव्यगुण व वनस्पती उद्यान विभागाने वनौषधी उद्यान स्पर्धा, औषधी व सुगंधी कुंड्या संग्रह, वृक्ष संवर्धन व संरक्षण इ. स्पर्धांमध्ये सहभाग नोंदवला.

या स्पर्धांमध्ये टिळक आयुर्वेद महाविद्यालयाच्या द्रव्यगुण व वनस्पती उद्यान विभागास औषधी वनस्पती संग्रह, प्रथम व तृतीय क्रमांक, औषधी वनस्पती उद्यान, द्वितीय क्रमांक, औषधी संवर्धन व संरक्षण गटास तृतीय क्रमांक, तसेच त्वचा विकारांवर उपयुक्त वनस्पति स्टॉल विशेष सहभाग, सन्मानचिन्ह इ. पारितोषिके मिळाली.

या प्रदर्शनानिमित्त टिळक आयुर्वेद महाविद्यालयाच्या द्रव्यगुण विभागाने त्वचा विकारांवर उपयुक्त वनस्पति या विषयावर प्रदर्शन आयोजित केले होते. त्वचा विकारांवर उपयुक्त वनस्पतींची एकत्रित माहिती मॉडेल, चार्ट्स, फोटोग्राफ इ. च्या माध्यमातून प्रदर्शित केली होती. या निमित्ताने **'घरोघरी वनौषधी'** ही पुस्तिका, **'आरोग्यदीप दिवाळी अंक २०१९'**, सवलतीच्या दरात उपलब्ध करण्यात आले. या प्रदर्शनास नागरिकांचा उत्कृष्ट प्रतिसाद लाभला.

दि. १६ फेब्रुवारी २०२० रोजी संभाजी उद्यानात आयोजित बक्षिस वितरण समारंभात हे पुरस्कार प्रदान करण्यात आले. प्रदर्शनानिमित्त आयोजित बक्षिस वितरण समारंभास वृक्षसंवर्धन समितीचे सदस्य श्री. हाजी गफूर पठाण, श्री. उमाले व उद्यान अधिक्षक श्री. अशोक घोरपडे यांच्यासह इतर मान्यवर उपस्थित होते. महाविद्यालयातर्फे द्रव्यगुण व वनस्पती उद्यान प्रमुख डॉ. अपूर्वा संगोराम, द्रव्यगुण विभाग अध्यापिका डॉ. अस्मिता जाधव, डॉ. प्रज्ञा गाठे, डॉ. गौरी गांगल तसेच द्रव्यगुण विभागाच्या सर्व पदव्युत्तर विद्यार्थ्यांनी हे पुरस्कार स्वीकारले.

या प्रदर्शनास राष्ट्रीय शिक्षण मंडळाचे सचिव डॉ. दि.प्र. पुराणिक, कोषपाल डॉ. र.ना. गांगल, उपप्राचार्य डॉ. सरोज पाटील यांनी भेट देऊन या उपक्रमाचे कौतुक केले, तसेच महाविद्यालयाच्या अनेक अध्यापक, विद्यार्थी यांनीही भेट दिली. या प्रदर्शनात व स्पर्धांच्या आयोजनात द्रव्यगुण व वनस्पती उद्यान प्रमुख डॉ. अपूर्वा संगोराम, अध्यापक डॉ. अस्मिता जाधव, डॉ. स्नेहा जोशी, डॉ. प्रज्ञा गाठे, डॉ. गौरी गांगल तसेच द्रव्यगुण विभागाचे पदव्युत्तर विद्यार्थी, वै. स्वप्नाली, वै. रूपेश, वै. गायत्री, वै. परमेश्वर, वै. सलोनी, वै. शरमीन, वै. सुवर्णा, वै. वृषाली, वै. श्रीया तसेच उद्यानातील माळी श्री. बागुल व श्री. मोरे व द्रव्यगुण विभागाचे कर्मचारी श्री. कुंभार यांचा सक्रीय सहभाग होता.

या यशात राष्ट्रीय शिक्षण मंडळाचे अध्यक्ष डॉ. वि.वि. डोईफोडे, उपाध्यक्ष डॉ. भा.कृ. भागवत, सचिव डॉ. दि. प्र. पुराणिक, कोषपाल डॉ. र.ना. गांगल, प्राचार्य डॉ. सदानंद देशपांडे, उपप्राचार्य डॉ. सरोज पाटील व डॉ. मिहीर हजरनवीस यांचे मार्गदर्शन लाभले.

पुरस्कार स्विकारताना डावीकडून–
डॉ. प्रज्ञा गाठे, डॉ. गौरी गांगल, डॉ. अस्मिता जाधव,
डॉ. अपूर्वा संगोराम.

डॉ. अपूर्वा संगोराम, डॉ. र. ना. गांगल, डॉ. अस्मिता जाधव,
डॉ. प्रज्ञा गाठे व पद्व्युत्तर विद्यार्थी.

डॉ. दि. प्र. पुराणिक, डॉ. सौ. पुरणिक, डॉ. अपूर्वा संगोराम,
डॉ. प्रज्ञा गाठे, डॉ. अस्मिता जाधव व पद्व्युत्तर विद्यार्थी.

# अविष्कार २०१९-२०२०

डॉ. मोहन जोशी

''महाराष्ट्र आरोग्य विज्ञान विद्यापीठ, नाशिक' आयोजित 'अविष्कार २०१९-२०२०' रिसर्च फेस्टिवल या स्पर्धेत टिळक आयुर्वेद महाविद्यालयातील एकूण ११ विद्यार्थ्यांनी सहभाग नोंदविला होता. ६ वेगवेगळ्या संवर्गातून हा सहभाग होता. दिनांक २२ जानेवारी व २३ जानेवारी रोजी विद्यापीठात ही स्पर्धा संपन्न झाली. त्यात अभिमानाची गोष्ट म्हणजे ३० विद्यार्थ्यांमध्ये ८ विद्यार्थी टिळक आयुर्वेद महाविद्यालयाचे होते. ते पुढीलप्रमाणे –

| | Category | | | Rank |
|---|---|---|---|---|
| 1) | H.L.F. | Teacher | Dr. Mohana R. Joshi | 1st |
| 2) | C.M.L. | Teacher | Dr. Asmita M. Narkar | 1st |
| | | PG | Dr. Chandan B. Khairnar | 1st |
| | | PG | Dr. Mahesh V. Raut | 1st |
| 3) | AAH | PG | Dr. Vaibhavi V. Pathak | 1st |
| | | UG | Mr. Shubham Dhoot | 1st |
| 4) | P.S. | Teacher | Dr. Gauri J. Gangal | 2nd |
| 5) | E & T | Teacher | Dr. Pradnya H. Gathe | 2nd |

या विद्यापीठातंर्गत निवड झालेल्या ३० विद्यार्थ्यांना १४ व्या महाराष्ट्र राज्यस्तरीय आंतरविद्यापीठ संशोधन स्पर्धेसाठी मुंबई विद्यापीठामध्ये दि. २८ जानेवारी ते दि. ३१ जानेवारी या कालावधीत पाठवण्यात आले. त्यापैकी टिळक आयुर्वेद महाविद्यालयातून ६ स्पर्धकांचा समावेश होता.


डावीकडून दुसऱ्या डॉ. नारकर

'१४ व्या महाराष्ट्र राज्य आंतरविद्यापीठ संशोधन स्पर्धेत' एकूण महाराष्ट्र राज्यातील २० विद्यापीठांचा सहभाग होता. प्रथम सर्व स्पर्धकांकडून संशोधन प्रकल्पावर पोस्टर सादरीकरण झाले व त्यानंतर पुढे powerpoint presentation (अंतिम फेरी) round साठी आपल्या महाविद्यालयातील डॉ. मोहन जोशी, डॉ. अस्मिता नारकर व डॉ. चंदन खैरनार यांची निवड झाली.

त्यानंतर डॉ. अस्मिता मंगेश नारकर यांना अंतिम फेरीत C.M.L. संवर्गातून Teacher या गटातून '१४ व्या महाराष्ट्र राज्य आंतरविद्यापीठ संशोधन स्पर्धा-अविष्कार २०१९-२०२०' मध्ये प्रथम पारितोषिक मिळाले. पारितोषिक म्हणून ट्रॉफी, प्रमाणपत्र व रू. ५०००/- प्राप्त झाले.

अभिनंदन!

## प्रा. डॉ. नंदकिशोर बोरसे ह्यांना Life Time Sushrut Award

टिळक आयुर्वेद महाविद्यालयातील शल्य विभाग प्रमुख डॉ. नंदकिशोर बोरसे ह्यांना नुकतेच मंगल मेडिकल अँड रिसर्च फाउंडेशनतर्फे **"Life Time Sushrut Award'** देवून गौरविण्यात आले.

Anorectal surgery च्या सेमिनार प्रसंगी सदर पुरस्कार डॉ. बोरसे ह्यांनी प्रमुख अतिथी खासदार मा. श्री. अमर साबळे ह्यांचे हस्ते स्वीकारला.

डॉ. बोरसे हे शेठ ताराचंद रामनाथ रुग्णालयाच्या नियामक मंडळाचे सदस्य व कोषपाल म्हणून कार्यरत आहेत.

राष्ट्रीय शिक्षण मंडळ, टिळक आयुर्वेद महाविद्यालय, सेंटर फॉर पोस्ट ग्रॅज्युएट स्टडीज अँड रिसर्च इन आयुर्वेद व आयुर्विद्या मासिक समितीतर्फे डॉ. बोरसे ह्यांचे हार्दिक अभिनंदन!


खासदार मा. श्री. अमर साबळे ह्यांचे हस्ते गौरव स्वीकारताना डावीकडून – सौ. बोरसे, डॉ. न.वि. बोरसे, श्री. साबळे, डॉ. कामठे.

# उपसंपादकीय

## जैविक स्फोटकांच्या उंबरठ्यावर...

– डॉ. सौ. विनया दीक्षित

चीन जगातील सर्वात मोठा व महत्त्वाकांक्षी देश! प्रचंड लोकसंख्या व तंत्रज्ञानातील प्रगती या संघटीत बळांवर साम्राज्याचा विस्तार करण्यास सदैव उत्सुक असा हा देश सध्या corona virus या Zoonotic प्रकारातील विषाणुंमुळे बाधित सर्वात मोठा जनसमुदाय असलेला देश आहे. आजमितीला सुमारे या एकाच देशातील ८०,००० जणांना या विषाणूची लागण झाल्याची सरकारी माहिती आहे व या विषाणूमुळे मृत पावलेल्या चिनी रुग्णांची संख्या अडीच हजारांवर पोहचली आहे.

भारताच्या उत्तरपूर्व सीमांवर जोडलेला हा देश आहे. अनेक भारतीय विद्यार्थी, व्यावसायिक व नोकरदार इथे काम करतात. त्यांच्या सुटकेसाठी भारत सरकार प्रयत्नशील आहे. सर्व आंतरराष्ट्रीय विमानतळावर विषाणूग्रस्त किंवा बाधित रुग्ण ओळखण्यासाठी सुरक्षा चाचणी पथके तैनात आहेत. सध्यातरी 'तीन' भारतीय रुग्णांना बाधा झाल्याचे निष्पन्न झाले आहे व ह्यांना स्वतंत्र वैद्यकीय रुग्णालयीन कक्षांमध्ये सर्वोतोपरी सेवा सुविधा देण्यात येत आहे.

इराण, सिंगापूर, हाँगकाँग, द. कोरिया अशा इतर ४२ देशांमध्ये ही कोरोनाची लागण भयावह गतीने पसरत आहे. श्वासावाटे पसरणाऱ्या या प्रकारच्या विषाणूंची लाट गेल्या काही दशकांत सातत्याने विविध रूपात डोके वर काढत आहे. सार्स, स्वाइन फ्लू आणि आता कोरोना–संपूर्ण जनजीवन अल्पावधीतच धुळीला मिळवण्याचे सामर्थ्य या विषाणूंच्या संसर्गात आहे. जेवढे Global Village संकल्पनेचे फायदे अनुभवले जातात. तेवढेच संपर्क–प्रवास व संसर्गाचे हे अतीतीव्र तोटे ही त्रास देतात.

मानवाची प्रगती आधुनिकतेने चकाकणारी असली तरी नीतीनियम मोडणाऱ्या स्वैराचाराची काळी सावली ही त्यास घट्ट धरून आहे. एडस् काय किंवा आत्ताचा कोरोना काय हे रोग निर्माते व मानवी जीवनाचे विध्वंसक विषाणू प्राण्यांकडून माणसाकडे चुकीच्या मार्गाचा अवलंब केल्यानेच आले आहेत. निसर्गनियमांची पायमल्ली केल्याची सडेतोड शिक्षा निसर्ग चक्रातून समोर येते आहे. चीनच्या वुहान या एका हुबेई प्रांतात आगीप्रमाणे भडका उडालेला हा आजार त्वरेने कितीतरी मैल दूरवर देशविदेशांत झपाट्याने पसरत आहे व सर्वच मानवी जीवनाला ग्रासू पाहात आहे.

या प्रकारच्या स्थितीत मानवाच्या ज्ञानाच्या सीमा, वैद्यकीय क्षेत्रातील अपुऱ्या व्यवस्था व प्रचंड लोकसंख्येच्या रेट्याने चिघळणारे प्रश्न यांच्या दाहक वास्तवाची जाणीव होते. एरवीच्या आधुनिक जीवनशैलीत दुर्लक्ष केलेल्या अनेक घटकांची मोठी किंमत आरोग्य व जीवन मृत्यूच्या स्वरूपात द्यावी लागत आहे. महायुद्धाचेच हे अधिक हानिकारक स्वरूप आहे. संपूर्ण दशकातील वाढत्या संसर्गाचा विचार करता त्वरीत कुठेतरी थांबण्याचा व सुधारणा घडवून आणण्याचा सामूहिक निर्णय देश पातळीवरच आवश्यक आहे. अन्यथा या आरोग्य घातक लाटा पुन्हा पुन्हा उसळतील व मानवी जीवन गिळंकृत करतील. कदाचित रोगांचा अनाकलनीय उद्रम व चिकित्सा यामुळे वैद्यकीय असाह्यता वाढेल व संपूर्ण समाज एका आरोग्य व जीवन घातकी दहशतवादाच्या भोवऱ्यात सापडेल.

हे कल्पनाचित्र नसून सांख्यिकी शास्त्राचे आधारे रेखाटलेले भविष्य आहे. त्याकडे डोळेझाक करणे परवडणारे नाही. Global warming ने बदलते तापमान या प्रकारच्या रोगकारक विषाणूंचा प्रसार करण्यास अधिकच चालना देते आहे. त्यामुळे निसर्गाशी दोन हात करायचे की हात मिळवून यापुढचे जीवन आखायचे व जगायचे हा निर्णयच पुढील भविष्याचे आरोग्य जपेल!