STUDY OF RAKTADOOSHTI IN COMPLICATIONS OF MADHUMEHA
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INTRODUCTION
The aims of ayurveda are both to improve the quality of life and increase its span. Its major emphasis is on prevention of disease and promotion of health¹. Ayurveda Samhitas described many diseases in details, “Prameha” is one of them. It finds place in eight ‘Mahagada’ (Major life treating disease).² All types of pramehas if not treated properly ultimately turns into ‘Madhumeha’.³

Madhumeha is subtype of vataj prameha. Madhumeha can be correlated with Diabetes Mellitus from modern science. The term ‘Diabetes ’ is derived from greek word “Siphon like”. Latin meaning of this term is “Honey”. Mellitus being a Latin word “Sweetened with honey” and refers to the presence of sugar in blood and urine.

Diabetes is expected to continue as major health problem owing to its serious complications. There is lack of awareness in society about DM and its complications. Hence study on complications of diabetes mellitus is necessary. In pathology of diabetes there is a long standing metabolic derangement leads to development of clinical complications significantly affecting major systems of human body⁴. Ayurveda classical texts also described updravas (complications) of Madhumeha. It emphasise about updravas of madhumeha such as Putimansapida-ka, shaithilya, murcha etc⁵. Complications of diabetes includes retinopathy with potential vision loss, nephropathy leading to risk of renal failure, Peripheral neuropathy causing gastrointestinal, genitourinary and cardiovascular symptoms and sexual dysfunction. Thus complications of DM are more harmful to patients, therefore study of complications is very important.

“Rakta” (blood) is one of the dushya in madhumeha⁶. Many complica-
tions of madhumeha mentioned in Ayurveda and modern science and raktadushti (vitiation of blood) lakshnas (symptoms) described in ayurveda are same. Dalhanacharya also explained that for pathogenesis of any updrava of madhumeha raktadushti is must.⁷ if we have gone through previous studies on madhumeha it is observed that maximum research work has been concentrated especially on medodushti (vitiation of lipids.). But in pathogenesis of madhumeha and its complications raktadhata which comes prior to meda has much importance.

Now a days, so many modern techniques have been developed for the diagnosis. Various pathological findings can help to assess severity of raktadooshti in pathogenesis of madhumeha and its complications. This article presents the clinical work held at Tilak Ayurveda College, Pune to study the Raktadooshti in complications of madhumeha. This study of assessment of raktadushti in complications of madhumeha can be helpful to avoid complications and save the patients from hazardous effects.

AIMS AND OBJECTIVES
1) To study complications of madhumeha.
2) To study the raktadushti and anshansh kalpana (micro study) of raktadushti in madhumeha and its complication with the help of findings of Raktadushti lakschas described in ayurveda and laboratory pathological investigations.

MATERIAL AND METHODS

MATERIAL
- Sample size: 50 patients of madhumeha with complications
- Source: Tarachand Hospital, Pune

Following materials were used for pathological investigations of the patients:
- Kits with Reagents.
- Ranbaxy Glucose reagent
  a) Sulphosalisilic acid – chem supplier
  b) Benedict’s reagent
  c) Sulphur powder- chem supplier
  d) PH strips
  e) Ranbaxy Cholesterol reagent
  f) Ranbaxy Triglyceride reagent
  h) Ranbaxy HDL reagent
  i) Cyanomethaemoglobin- Ranbaxy

Instruments
1) Test Tubes.
2) Pipette
3) Centrifuge machine
4) Analyser
5) Incubator

METHOD:
- Inclusion Criteria:
  Patients of Madhumeha with complication irrespective of age, sex, marital status, economical status and social status were selected for study.
- Exclusion Criteria:
  1) HIV positive patients
  2) HBsAg positive patients.
- All the details of patients were noted down thoroughly on specially prepared case report formate for the study. Then laboratory pathological investigation: BSL F/P, Haemogram, ESR, Blood Urea, Serum Creatinine, Urine R/M were done on the next day of clinical examinations of patient.
- Comparative study of nature of complications described in ayurveda and modern medicine was done. Also assessment of Raktadushti was performed with the help of pathological finding and Raktadushti lakshnas described in different ayurveda classics.
- Comparision of Raktadooshti lakshnas in text and Updravas observed in patients was done.

OBSERVATIONS AND RESULTS:
Total 50 patients were studied during this study. Clinical and other findings obtained from them are presented as follows:

### Table No. 1 - Showing distribution of Hetusevana (Causative factors) Common for Raktaadooshti and Madhumeha Observed in patients

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Hetu</th>
<th>Total</th>
<th>Percentage (%) (n =50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Navannapann sevan (new grains)</td>
<td>47</td>
<td>94%</td>
</tr>
<tr>
<td>2</td>
<td>Mandakdadhi (Curd)</td>
<td>39</td>
<td>78%</td>
</tr>
<tr>
<td>3</td>
<td>Kashay( Katu tikta (bitter)</td>
<td>34</td>
<td>68%</td>
</tr>
<tr>
<td>4</td>
<td>Gramya Ahar sevana</td>
<td>26</td>
<td>52%</td>
</tr>
<tr>
<td>5</td>
<td>Aqudak anoop mansa sevana (fish)</td>
<td>26</td>
<td>52%</td>
</tr>
<tr>
<td>6</td>
<td>Dravannpan sevana (consumption of liquid diet)</td>
<td>20</td>
<td>40%</td>
</tr>
<tr>
<td>7</td>
<td>Sura sevana (Alcohol consumption)</td>
<td>18</td>
<td>36%</td>
</tr>
<tr>
<td>8</td>
<td>Avyayam (lack of exercise)</td>
<td>35</td>
<td>70%</td>
</tr>
<tr>
<td>9</td>
<td>Diwa swapanam (Day time sleep)</td>
<td>32</td>
<td>64%</td>
</tr>
</tbody>
</table>

### Table No. 2 - Showing distribution of updravas in patients

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Updravas</th>
<th>Total</th>
<th>Percentage (%) (n =50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dauurblya (weakness)</td>
<td>10</td>
<td>20%</td>
</tr>
<tr>
<td>2</td>
<td>Trishana(excess thirst)</td>
<td>39</td>
<td>78%</td>
</tr>
<tr>
<td>3</td>
<td>Arochak(testlessness)</td>
<td>24</td>
<td>48%</td>
</tr>
<tr>
<td>4</td>
<td>Avipak (indigestion)</td>
<td>24</td>
<td>48%</td>
</tr>
<tr>
<td>5</td>
<td>Jwara (fever)</td>
<td>17</td>
<td>34%</td>
</tr>
<tr>
<td>6</td>
<td>Daha (Burning)</td>
<td>22</td>
<td>44%</td>
</tr>
<tr>
<td>7</td>
<td>Putimanspidaka (Rash with Pus)</td>
<td>09</td>
<td>18%</td>
</tr>
<tr>
<td>8</td>
<td>Vidradhi (Abcess)</td>
<td>03</td>
<td>6%</td>
</tr>
<tr>
<td>9</td>
<td>Alaji (Redish Rash)</td>
<td>01</td>
<td>6%</td>
</tr>
<tr>
<td>10</td>
<td>Atisara (Diarrhoea)</td>
<td>07</td>
<td>2%</td>
</tr>
</tbody>
</table>

### Table No. 3 - Complications of Diabetes mellitus Observed in Patients

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Complications</th>
<th>Total</th>
<th>Percentage (%) (n =50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Metabolic changes</td>
<td>20</td>
<td>40%</td>
</tr>
<tr>
<td>2</td>
<td>Skin disease</td>
<td>11</td>
<td>22%</td>
</tr>
<tr>
<td>3</td>
<td>Diabetic neuropathy</td>
<td>20</td>
<td>40%</td>
</tr>
<tr>
<td>a)</td>
<td>Ptosis</td>
<td>2</td>
<td>4%</td>
</tr>
<tr>
<td>b)</td>
<td>Distal symmetrical neuropathy</td>
<td>8</td>
<td>16%</td>
</tr>
</tbody>
</table>
c) Thoracolumbar neuropathy 2 4

d) Compressive neuropathy 2 4

e) Diabetic autonomic neuropathy. 2 4

f) All joint pain, swelling, loss of movement 4 8

4 Diabetic foot syndrome 8 16

5 Heart disease 10 20

a) IHD 7 14

b) CCF 3 6

6 Diabetic nephropathy 3 6

7 Diabetic Retinopathy 4 8

8 CVA 4 8

9 Atherosclerosis 2 4

10 Abscess 2 4

11 Frozen shoulder 1 2

• STATISTICAL ANALYSIS :

X² test is used for statistical analysis of data which show significance of presence of raktadooshti in maximum complications of madhumeha.¹¹

DISCUSSION

1) Maximum no of patients i.e. 90% were found after the age of 40 yrs as the onset of diabetes mellitas type II is at the middle age. This may be related to chronicity of Hetusevan and prolonged time for manisfestation of disease.

2) Among all above hetus Navannapan, mandakdadhi, gramya ahar and anoop audak mansa are also responsible for Raktadushti as stated in all samhitas.¹²

(Ref. Su. Su. 45/55-67). While milk products are responsible for vitiation of kapha dosha, Dravannpan which was present in 40% patients vitiates raka by increasing aquatic nuture of raka.

3) In this study Trushna,Shaithilya, Arochak, Avipak, Daha,jwara, are the up-dravas of madhumeha present in maximum number of patients¹⁴. These up-dravas also described as raktadooshti lakshnas in Ayurveda,Thus it suggests that raktadooshti is must for pathogenesis of above updravas of prameha.¹⁵

4) The diabetic patients develop raised level of glycated haemoglobin which yields comparatively less amount of oxygen (hypoxia). Thus patients show air hunger or dyspnoea after exertion i.e. Shwas as complication.

5) Maximum patients showed complications like metabolic changes, Skin disease, Diabetic neuropathy, Diabetic foot syndrome, Ischemic heart disease and Retinopathy.The symptoms of all above complications shows much similarities with raktadooshti lakshnas which indicates importance of raktadooshti in pathogenesis of complications of madhumeha¹⁶.

6) All metabolic activities need blood as medium hence all metabolic disorders due to DM are because of vitiation of blood.

7) According to Ayurved pathogenesis of all skin diseases vitiation of Rakta is must.¹⁷

8) Pathogenesis of Diabetic neuropathy, Diabetic foot syndrome, Ischemic heart disease and Retinopathy is not possible without vitiation of blood which suggests importance of raktadooshti in
pathogenesis of complications of
DM.  

CONCLUSION

• Madhumeha is disease characterized by prabhoot, avil mootrata, Tanu madhurya and mootra madhurya.

• About 60% patients had diagnosed with the complication of madhumeha.

• Obese patients are more prone for developing complications.

• Raktadushti is must for developing complications such as putimansapida-ka, Vidradhi, aruchi, avipak, Trishna, Daaha, Amlika, Jwara, shosha, Mur-cha, Daurballya, Kampa and Panduro-ga.  

• Raktadushti is also indirectly responsible for developing complications such as shwasa, mansopachay, Hrudishula, Hrudgraha and makshikoupsarpan.

• Patients having all above complications have uncontrolled hyperglycemia and dislipidemia.

• Statistical analysis shows Raktadushti is significantly present in development of complications Neuropathy, Nephropathy, Retinopathy, skin diseases, metabolic changes and diabetic foot syndrome.

• Patients of nephropathy and retinopathy show albuminurea since 5-8 years persistently.

REFERENCES


3. Acharya Sushrut. Sushrut Samhita.Ambika Dutt Shastri Edi-

4. Davidson’s Principles and practice of Medicine 20th edition chapter 21 Page no 820


10. Davidson’s Principles and practice of Medicine 20th edition chapter 21 Page no 819


14. Table no 2 showing distribution of updravas found in patients.

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