Veterinary Ayurveda – Theories and Practices

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Content

• Streams of Medicines
• Introduction to Ayurveda
• Principles & Theories of Ayurveda
• Pharmacology of Ayurveda
• Veterinary Ayurveda
• Success remedies of Ayurveda for Animal Health.
• Scope of Ayurveda for Veterinary Practice
Various Streams of Medicine

• **Non-Codified** – Folkmedicine (Ethno-Medicine)/Ethnoveterinary Medicine.

• **Codified classical stream** – Ayurveda, Siddha, Unani and Tibetan medicine.

• **Allied systems** - Yoga and Naturopathy.

• **Systems of Foreign origin** – Homeopathy, Western biomedicine (Allopathy).
Folk Stream/Ethnoveterinary

- Presence all over the World
- Diverse and Varied
- Oral and undocumented
- Eco system and Ethnic specific
Relevance of Folk/Ethno Knowledge

• The discovery of Quinine, a drug from Cinchona tree was possible from the lead from a Peruvian LHT.
• Promising drug Artemesia is being sought from a Chinese LHT.
• The solution for Hepatitis B and C is being developed from Indian LHT (*Phyllanthus amarus*). Turmeric, Neem are examples.
Ayurveda - Codified System

• Ayurveda is a holistic system of medicine that is indigenous and widely practiced in India.
• First recorded in the Vedas, The world’s oldest extant literature. {Veda means Knowledge} and more than 5,000 years old.
Definition and Description of Ayurveda

Ayurveda is literally translated as ‘Science of Life’ but it can also be described as ‘the way of living with awareness and promoting longevity.’

“Hita ahitam sukham dukham aayustasya hitaahitam
Maanam ca taccha yatroktam aayurveda sa uchyate”

- Ca. Su. 1/41

It tells us which substances, qualities and actions are life-enhancing, and which are not – Ca. Su 30.23
Aims & Goal of Ayurveda

“Swasthasya - Swasthya Rakshanam

Aturasya – Vikara Prashamanam” - Ca. Chi.1

• Alleviating (reducing) the disease of the ailing.
• Preserving the health of the healthy Individual
WHO definition of Health

“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”.

Ayurvedic Definition of Health

“Sama dosha sama agnischata sama dhatu mala kriya prasanna atma indriya mana swastha iti abideyate”

1) Balanced (Sama)
   a) Doshas (Vata Pitta Kapha)
   b) Agni (digestive fire),
   c) Dhatu (body tissues)
   d) Mala kriya (excretions)

2) Equilibrium status of (prasanna)
   a) Soul (atma),
   b) 5 sense 5 organs of actions (indriyas)
   c) Mind (mana)

Ref: Su. Su. 15/48
Implies Balance – Equilibrium – Homeostasis of 3 Physiological Functions, Metabolism, Body Tissues, Excretory Functions, Senses, Mind & Soul (Self)

- **Functions (Dosha)**
  - Vata: Irregular (Vishamagni)
  - Pitta: Intense (Teekshnagni)
  - Kapha: Suppressed (Mandagni)

- **Metabolism (Agni)**
  - Plasma (Rasa)
  - Blood (Raktha)
  - Muscle (Mamsa)
  - Fat (Meda)
  - Bone (Asthi)
  - Marrow (Majja)
  - Reproductive tissue (Sukra)
  - Vital essence (Ojas)

- **Tissues (Dhathu)**
  - Faeces (Puresha)
  - Urine (Mutra)
  - Sweat (Sweda)

- **Excretion (Mala)**

- **Senses (Indriya)**
  - Balanced
  - Reduced (Hina)
  - Irregular (Mitya)
  - Excess (Ati)

- **Mind (Manas)**
  - Satwa
  - Rajas
  - Tamas

- **Soul (Atma)**
  - Desire (Iccha)
  - Aversion (Dwesha)
  - Comfort (Sukha)
  - Discomfort (Dukha)
  - Initiation (Prayatna)
  - Intellect (Buddhi)

Disease implies disequilibrium of above listed biological processes
Complete health requires Healthy Nutrition & Healthy Lifestyle

Proper food & exercise  ➔ Health Body  ➔ Healthy Mind  ➔ Meditation, Music

Essential nutrients from Rasayana  +  Good conduct
Basic Theories and Principles of Ayurveda

- Sankhya philosophy: Manifest from unmanifest.
- Panchamahabhootha theory: 5 elements theory.
- Loka purusha samyatha: Macrocosm and Microcosm.
- Concept of 3 Dosha (humors), 3 Guna (Mind), 7 Dhatu (Tissue), 3 Mala (Excretory)
- Concept of Agni and Aama: Digestion & Metabolism.
- Svastha (Health): Dinacharya, Ruthucharya and Svasthavrutha.
- Nadi pareeksha: (Pusle diagnosis).
- Prakruti: The biological constitution of individual.
- Understanding of Drug materials (Dravyaguna).
- Basic Techniques of Preparations of Herbs (Bhaishajya Kalpana)
- Rasayana (Rejuvenation Therapy).
- Sodhana (Purification therapy).
8 Branches of Ayurveda

1. Kaya chikitsa: General medicine
2. Koumarabhritya: OBG & Paediatrics
3. Bhutavidya: Microbiology & Psychiatry
4. Shalakya Tantra: Ophthalmology & ENT
5. Shalya tantra: Surgery
6. Agada tantra: Toxicology
7. Rasayana Tantra: Rejuvenating medicine
8. Vajikarana: Virulogy including Genetics
## Panchamahabhuta – 5 Elements

<table>
<thead>
<tr>
<th>Mahabhutha</th>
<th>Properties</th>
</tr>
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<tbody>
<tr>
<td>Akasa (space)</td>
<td>Sabda [Sound]</td>
</tr>
<tr>
<td>Vayu (air)</td>
<td>Sparsa [touch]</td>
</tr>
<tr>
<td>Agni (energy)</td>
<td>Roopa [Vision]</td>
</tr>
<tr>
<td>Aap (water)</td>
<td>Rasa [Taste]</td>
</tr>
<tr>
<td>Prithvi (solids or earth)</td>
<td>Gandha [Smell]</td>
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</table>
Tridosha theory (3 humors)

- Vata, Pitta and Kapha, are the functional units of the body.
- Kapha molecules constitute the cellular as well as intracellular structure of the body and maintains the internal environment of the body. They impart strength and stability to the body.
- Pitta molecules are responsible for all the biochemical reactions and metabolic processes of the body. All the enzymes and hormones belong to the category of pitta molecules.
- Vata molecules control the movements of pitta and kapha molecules and controls all the functions and activities of life. The active components of vata molecules constitute the neurological impulses.
Triguna – 3 Characters of Mind

- Satvik
- Rajasik
- Tamasik

Relationship of Pancha mahabhuthas with Doshas & Gunas

<table>
<thead>
<tr>
<th>Pancha mahabhutha</th>
<th>Dosha</th>
<th>Gunas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vayu + Akasa</td>
<td>Vata</td>
<td>Rajas</td>
</tr>
<tr>
<td>Agni</td>
<td>Pitha</td>
<td>Satwa, Rajas</td>
</tr>
<tr>
<td>Prithvi + Ap</td>
<td>Kapha</td>
<td>Tamas</td>
</tr>
</tbody>
</table>
Trimalas – 3 excretory products

3 Types of Wastes (malas): The main waste products of food are

- Pureesha (Faeces)
- Mootra (Urine)
- Sweda (Sweat)
Dhatus (tissues) are the structural units of the body.

- Rasa (Plasma),
- Rakta (Blood),
- Mamsa (Muscle),
- Medas (Adipose tissues),
- Asti (Bone),
- Majja (Bone marrow),
- Shukra (Reproductive tissue)

forms pillars of the body, responsible for providing nourishment, growth and support to the body and mind.
Disease pathogenesis and Manifestations

Etiology/Nidana
- Premonitory symptoms/Poorva Roopa
  - Symptoms/Roopa
  - Manifestation of a Disease/Samprapthi
    - Differential Diagnosis/Upashaya

Sanchaya/Increase
- Prakopa/Aggravations
  - Prasara/Spreading
    - Sthana Samsraya/Finding suitable location
    - Vyaktha/Manifestation

Bheda/Syndrome
Treatment principles

“Swasthasya swastha Rakshanam Aturasya Vikara Prashamanam” Ca Su 1

Maintenance of health in Healthy individual and treating the diseased one.

Medical Interventions

- Purifying
- Pacifying

Surgical interventions

Rejuvinatives
Dravya Guna Shastra - Ayurveda Pharmacology

1. **Rasa**: Taste of the Herb/Drug, there are 6, each suggestive of the composition, properties and biological activity of the substance.

2. **Guna**: Qualities possessed by matters which are incapable of independent actions.

3. **Virya**: The potency of a substance immediately after ingestion.

4. **Vipaka**: The post-digestion state of a substance/Drug

5. **Prabhava**: Unique biological activity of a substance, and used as therapeutic agents.
Veterinary Ayurveda

• 'May we escape poverty by means of cattle'
  (Rig.10.4.2-10)

• A wild boar knows the herb which will cure it as does the mongoose’. Atharvaveda (IV, 9.2)
Classical stream on Veterinary Ayurveda

- **Atharvaveda** (Section IV): relates to *Pashu Ayurveda*
- **Garuda Puran**: mentions number of Ayurvedic medicines used to cure animal ailments
- **Shalihotra samhita**: contains 1600 *slokas* in 120 chapters and 8 parts on equine medicine
- **Agnipurana**: Treatment of cattles and horses.
- **Matsyapurana**: Treatment of Aqua animals
Principles of Ayurveda is adapting to veterinary practice with understanding of 4 Ayurvedic axioms

- Homeostasis of 3 humors, 7 tissues, 3 excretory is considered as Health state of the animals.
- The root cause of disease is lowering of the Internal fire (Agni) of digestion and metabolism (deficiency of enzymes?).
- Disease can be prevented at its Pre-manifestation stage by maintaining and modifying the balance of the Tridosha in seemingly a healthy individual.
- The treatment principle includes 1. Medical Interventions – Pacifying & Purifying the body. 2. Surgical Interventions. 3. Rejuvenating.
Mastitis (Sthana Vidradhi) – Ayurvedic Approach

- Localized collection of pus caused by suppuration, buried in a tissue, organ or confined space is called as Vidradhi.
- If it is in Sthana then it is Sthana Vidhradhi.
- Which is indicated as swelling, pain, reddish discolouration of Sthana (Breast).
- This is due to vitiation of Doshas (Humours), especially Pitta dosha.
Etiology as per Ayurveda

- Due to stale, very dry, or fermented food.
- Incomplete sleep.
- Wrong food habits or wrong daily routine (in case of cattle, staying confined to the stable, not having a daily roaming routine, etc).
- Not feeding the baby properly (Incomplete milking).
- Injury (external or internal).
Pathogenesis and Disease Manifestation

**Etiology**

- Pitta humor aggravation
  - Other Humors also aggravates
    - Blood gets vitiation
      - Blood carrying channels obstruction
        - Dislodgment of pitta humor combines with vitiated Rasa dhatu
          - Lactiferous channels get vitiated/Sthanya Dhatu Dusti
            - Sthanya Vidhradi/Mastitis
  - Weakens Digestive enzymes
    - Production of Ama (internal toxins)
      - Rasa Dhatu vitiates
Signs and symptoms

- **Local changes:** Reddish/blackish swollen udder with extreme pain and tenderness at times, hard and warm to touch.
- **Milk changes:** Milk is often yellow or curdled, has blood tinge at times, and also a few suspended particles seen in the milk of the affected udder.
3 Stages

- **Samavastha**: When the Pitta doshas have just lodged themselves in the breast – heaviness in the breasts, slight pain, anorexia, etc.

- **Pachyamanavastha**: When the Pitta doshas start getting expressed – tenderness in the breasts, swelling, fever (slight), reddish or blackening of the udder.

- **Pakvavastha**: When the Pitta doshas are fully expressed – extreme pain and tenderness, swelling, fever, etc.
Medical and Surgical Management

Medical Management Includes

Food, Diet and Medicines which Paccifies Pitta Dosha and balances the Tridoshas.

Proven formulation *Aloevera, Curcuma longa* & Calcium hydroxide.

1. Aloe vera is a potent Pitta hara (which pacifies the pitta humour), Krimihara (Anti-microbial) and Vrana ropana (wound healing properties) - *Bhava prakasha Nighantu.*
• **Curcuma longa** is a Tridosha Shamak (Paccifies all humors and maintains homeostasis), Vrana shodhaka (wound cleanser), Shothahara (Anti-inflammatory), Krimighna(Anti-microbial).

• **Calcium Hydroxide** is well known remedy in all inflammatory swellings by external applications and acts as emollient in cracked nipples (Nadkarni, Indian Materia Medica, vol 2, page no 43-44).

• Hence this remedy is effective in Sthana Vidradi (Mastitis) due to its action on **Pitta dosha** it pacifies the pitta dosha and also having the properties of **Krimighna** (Anti-microbial) and **shothaghna** (Anti-inflammatory).
Network Pharmacology

Triphala

- With Sugar
- With Honey
- With Rocksalt
- Black ash
- Oil
- Ghee + honey

- With Hot water
- With Ghee
- As Powder
- Decoction
- Face pack

- Acid peptic disease
- Laxative
- Kapha diseases
- Pitta diseases
- Vata diseases
- Sensitive gums
- Asthma
- Liver diseases
- Non healing ulcers
- Complexion promoter
- Eyesight promoter
Fig. 2: Pharmacology Networks of A) *E. officinalis* (EO), B) *T. bellerica* (TB) and C) *T. chebula* (TC) which connect bioactives (yellow ellipses), targets (blue diamonds) and diseases (red triangles).
Books Authored

User Guide on Ethno-Veterinary Practices

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