

## ii. Congenital and Acquired diseases

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### Definition and General Classification

#### Congenital Diseases

- **Definition:** Conditions present at or before birth, resulting from **genetic** (inherited or de novo mutations), **epigenetic**, **environmental** (intrauterine exposures), or multifactorial influences.
- **Examples:**
  - **Genetic Disorders** (Down syndrome, Thalassemia),
  - **Structural Abnormalities** (Congenital heart defects, neural tube defects),
  - **Metabolic Defects** (Phenylketonuria, galactosemia).

#### Acquired Diseases

- **Definition:** Conditions that develop **after birth**, triggered by **external** (infections, toxins, injuries, lifestyle) or **internal** (immune dysregulation, degenerative changes) factors.
- **Examples:**
  - **Infectious** (tuberculosis, influenza),
  - **Lifestyle-Related** (type 2 diabetes, atherosclerosis),
  - **Autoimmune** (rheumatoid arthritis, lupus),
  - **Malignancies** (lung cancer, breast cancer).

### Modern Biomedical Perspective

#### Congenital Pathophysiology

1. **Genetic Causes**
  - **Single-Gene Mutations:** e.g., cystic fibrosis, hemophilia.
  - **Chromosomal Aberrations:** e.g., Trisomy 21 (Down syndrome).
  - **Multifactorial:** e.g., cleft lip and palate influenced by genes + maternal environment.
2. **Environmental Factors**
  - **Teratogens:** Alcohol, certain drugs (thalidomide), infections (Rubella), radiation in utero.
  - Impact morphological or functional development, leading to congenital anomalies.

#### Acquired Disease Etiologies

1. **Infection**
  - Viruses (HIV, influenza), bacteria (TB), fungi, parasites.
  - Transmission can be direct, via vectors, or opportunistic in immuno-compromised states.
2. **Lifestyle / Non-Communicable**
  - Obesity, insulin resistance, atherosclerosis linked to diet, sedentary habits.
  - Neurodegenerative disorders (Alzheimer's, Parkinson's) with multifactorial or uncertain triggers.
3. **Trauma and Environmental Exposures**
  - Accidents, mechanical injuries, toxins (heavy metals, chemicals), leading to chronic illnesses or organ damage.

### Āyurvedic Interpretation

#### Congenital (Sahaja) Diseases

1. **Sahaja / Ādhidaivika**

- *Caraka Saṃhitā* references congenital conditions as *sahaja* or *pāradāurika* (genetic/familial predispositions).
- Etiology: *Garbha doṣa* (maternal-paternal factors, intrauterine environment), *Kārmic* influences in certain philosophical contexts.

## 2. Examples in Ayurveda

- *Angavikṛti* (limb deformities), *Andhatva* (blindness), *Mūkata* (congenital mutism).
- Management typically supportive, focusing on *rasāyanas* or therapies to strengthen healthy tissues and correct mild *doṣic* aggravations.

## Acquired (Āgantuka / Adhija) Diseases

### 1. Doṣa Imbalance Over Lifetime

- Disease arises from mismatch in diet (*ahara*), lifestyle (*vihara*), seasonal changes, or emotional stress leading to *doṣa* vitiation.
- Infectious-like references exist under *kṛmi* (helminths, microorganisms) or *āganturoga* (external insults, trauma).

### 2. Nidāna Panchaka

- *Nidāna* (causative factors), *Pūrvarūpa* (prodromal), *Rūpa* (manifested symptoms), *Upaśaya-Anupaśaya* (palliative/exacerbating factors), and *Samprāpti* (pathogenesis) frame the progression from *doṣa* aggravation to clinically observable disease.

## Intersection of Congenital and Acquired Realms

### Overlapping Mechanisms

- Modern science recognizes certain “congenital predispositions” that may remain latent until triggered by **environmental** or **lifestyle** factors → merges the lines between purely “congenital vs. acquired.”
- Ayurveda correlates with the notion that *prakṛti* or *sahaja constitution* can predispose individuals to certain diseases, but triggers or manifestation (*vyakti*) often arise from acquired *doṣa* disturbances.

### Examples

#### 1. Type 1 Diabetes

- Genetic predisposition (HLA associations). Autoimmune destruction of  $\beta$ -cells.
- Ayurveda sees *sahaja prameha* for congenital/familial diabetes with early onset, plus acquired forms from *kapha*-aggravating diet.

#### 2. Congenital Hypothyroidism vs. Primary Hypothyroidism

- Inborn TSH receptor/gland defects vs. autoimmune or iatrogenic in adult life.
- Ayurveda might label persistent growth or metabolic issues as *janmaja vikāra* or *apathya-related doṣa vyādhi* if triggered postnatally.

## Clinical and Research Implications

### 1. Diagnosis

- Modern: Genetic tests, fetal ultrasound, newborn screening for congenital conditions; serological or imaging for acquired.
- Ayurveda: Detailed natal history (*garbhopaghāta*) plus *prakṛti*, *doṣa-dhātu-mala* assessment.

### 2. Therapeutic Approaches

- **Congenital:**
  - Allopathic: Surgical corrections, enzyme replacements, gene therapy in near future.
  - Ayurveda: Largely palliative or supportive (*rasāyana* for immunity, specialized *bāla-chikitsā*).
- **Acquired:**
  - Allopathic: Pharmacotherapy, immunomodulators, physiotherapy, etc.
  - Ayurveda: Pancha karma, *doṣa*-based regimens, *rasāyana*, lifestyle modifications.

### 3. Prevention

- Modern: Genetic counseling, prenatal screening, lifestyle interventions to reduce onset of lifestyle diseases.
- Ayurveda: *Garbhini paricharyā* (antenatal guidelines), *rasāyanas* for robust fetal and maternal health, *doṣa*

management to avoid postpartum or early childhood issues.

## Challenges and Future Directions

### 1. Integration in Public Health

- India's maternal and child health programs can incorporate *garbhādhāna saṃskāra*, *masānumasika garbha paricharyā*, etc., bridging modern screening for congenital anomalies.
- Awareness of *doṣa* imbalance in later life diseases fosters early lifestyle correction.

### 2. Research

- Deeper genomic-Ayurvedic synergy to identify congenital risk factors in certain *prakṛti* lineages.
- Large-scale prospective studies exploring how *doṣa*-based vulnerabilities translate to higher incidence of acquired disorders.

### 3. Policy

- Enhanced newborn screening for congenital metabolic errors (CH, PKU) plus robust postpartum *doṣa* management in AYUSH hospitals.
- Training for AYUSH practitioners in modern congenital disease diagnostics to integrate therapies for better outcomes.

## Conclusion

**Congenital** diseases arise from **intrauterine** or **genetic** factors, whereas **acquired** diseases develop after birth due to **environmental, lifestyle, or pathogen** exposures. Modern biomedicine emphasizes **genetic tests, imaging, and screening** for early detection, while **Āyurveda** frames these categories as **sahaja (innate)** vs. **āgantuka (acquired)** or *doṣa*-based classification. A **holistic approach**—harnessing advanced genetic tools, *prakṛti* understanding, prophylactic measures, and synergy of both systems—offers the **most comprehensive** means to **prevent, diagnose, and treat** diseases across the congenital-acquired spectrum.