# Dental anaomalies

Hypodontia: developmental absence of 1 or more teeth;excluding 8

Oligodontia :6 or more developmental absence ;excluding 8

Anodontia :complete developmental absence of teeth

Syndromic hypodontia :

1. Ectodermal dysplasia
2. Down syndrome
3. Ehler Danlos Syndrom
4. Incontinentia pigmenti

Non- Syndromic hypodontia :

1. Genetic cause
2. Local factor:
3. Hormonal influence
4. Chemotheraby/radiation
5. Trauma
6. Osteomyelities
7. Accidental removal of permanent tooth germ during
* Extraction of primary teeth
* The third molar most commonly missing followed by :
* Mandibular 2 premolar
* Maxillary lateral incisor(most commonly missing in primary)
* Maxillary 2 premolar and mandibular incisor

Hypodontia / associated Dental Anomalies:

* Delayed formation and eruption of teeth
* Short Root
* Infraocclusion Of Primary Molar
* Reduction in Tooth Size and form
* Ectopic maxillary canine

Management of hypodontia:

* our role as pediatric dentists:

behavioral management

prevent of caries

management of infraocclussion of primary

intermediate restoration

endodontic care in autotransplantation

resin-retained bridgework

partial or complete removable denture

 Ectodermal Dysplasia

* A disorder involving two or more of the ectodermal structure (skin,nail,hair,teeth,mucus and sweat gland)
* General feature:
1. Fine hair
2. Dry skin
3. Absent sweat gland
4. Frontal bossing
5. Patient are mentally normal
* Dental features:
1. Multiblr Congenital absent of teeth
2. Delayed eruption
3. Conical teeth
4. Salivary gland hypoplasia /dry mouth

Supernumeraries

* 1-2 supernumeraries--🡪ant maxillathen mandibular premolar region

Multiple SN 🡪mandipular premolar region

* Etiology:

Diachotomy theory:tooth bud split in two

Dental lamina hyperactivity theory

Genentic factor

* Classification according to location:

Mesiodense,paramolar,distamolar,parapremolar

 Classification according to morphology:

Conical,Tuberculate,supplemental,odontome

* Diagnosis:

Chance finding

Unilateral retention of primary incisor

Failure eruption of permanent incisor

Wide diastema

Rotation of erupted incisor

Radio examination

* Associated dental problem:
* Failure of eruption of other permanent teeth
* Displacement or rotation
* Cowding
* Dilacerations
* Root resorption
* Associated syndrome:
* Cleft lip and palate
* Cleidocranial dysplasia
* Gardner syndrome
* Management:

If no complication-🡪advise patient of risks

If complication associated-🡪extract

Abnormality of tooth form

* Abnormality of crown form:
* Double teeth
* Accessory cusps
* Invaginated teeth
* Evaginated teeth
* Abnormality of root form :
* Taurodontism
* Accessory root
* Pyramidal root
* Abnormalities of tooth structure :
* Amelogenesis imperficta :
* Affect primary and permanent teeth
* Clinically heterogenous disorder exhibiting enamel defect in the absence of systemic manifestation .
* Intraoral radiograph reveal relative contrast between enamel and dentine or abnormal enamel thickness .
* Classification based on phenotype :
1. Hypoplastic (enamel not formed ,thin teeth )
2. Hypocalcified :

the teeth are yellowish in color due to hypocalcified teeth which make the enamel more translucent

1. Hypomaturation (the least sever form)
* Aims of treatment :
1. Alleviate sypmtoms
2. Improve esthetic
3. Restore OVD
4. Improve masticatory efficiency
* Management as pediatric dentist :

Prevention of caries

Chemotherapeutic agent to reduce sensitivity

SSc on primary and first permanent molar

Direct composite restoration

MIH

* Hypo mineralization of one 1-4 permanent first molar frequently associated with affected incisor
* Diagnosis :

Demarcated opacity

Post eruption breakdown

Atypical restoration

Extracted FPM

* Clinical appearance :
* Demarcated opacity
* Limited to incisor or cuspal 1/3 of the crown
* Clear and distinct border with adjacent enamel
* The enamel surface is intact
* Significant subsurface porosity
* Classification :

|  |  |  |
| --- | --- | --- |
| mild | Moderate  | severe |
| * Demarcated opacity
* No Post eruption breakdown
* No caries
* No sensitivity
* Mild incisor involvement
 | * Atypical restoration
* Demarcated opacity
* PEB 1-2 surface not cuspal
* Normal sensitivity
 | * PEB
* Sensitivity
* Caries
* Defective atypical restoration
* Aesthetic concern
 |

MIH vs enamel hypoplasia

Enamel hypoplasia :

Is a consequence of a deficient enamel matrix formation due to disturbance of ameloblast function during secretory phase appear as superficial defect resulting from reduced enamel thickness

Borders of enamel mostly smooth

MIH :

Where enamel matrix initially formed to its normally shape ,the borders of normal enamel are irregular where post eruptive enamel loss has occurred .

* MIH etiology :
* Birth truma
* Childhood illness (respiratory infection )
* Medication (amoxicillin –one year )
* Pollutant (dioxine )
* Management :
* Risk identification
* Early diagnosis
* Remineralization and desensitization (: to reduce the sensitivity by applying topical fluoride and tooth mousse)
* Prevention of caries
* Restoration or extraction
* Maintenance
* Restorative option
1. 1 GIC
2. 2 RMGIC
3. 3 polyacid modified resin composite
4. 4 resin composite
5. 5 amalgum
6. 6 SSC
7. 7 indirect adhesive or cast onlays or crowns
* Restoring hypomineralized FPM:
* Difficulties:
1. Difficulties in achieving anesthesia
2. Managing the child`s behavior
3. Determining how much affected enamel to remove
4. Selecting a suitable restorative material
* GIC and RMGIC
	+ - 1. Provides placement ease
1. Fluoride release
2. Chemical bonding
* RMGIC is superior to GI with improved:
1. Handling
2. Wear resistance
3. Fracture toughness
4. Fracture resistance
* Resin Composite
* Esthetic
* High wear resistance
* Adhesion
* Technique sensitive
* Material of choice in MIH where:
* Defective enamel is well demarcated
* Supragingival margins
* No cuspal involvement
* Full coronal coverage restoration

When PFM have moderate to sever PEB,performed SSC are treatment of choice

* Partial and full coverage indirct adhesive or cast crown and onlay

Considered in the late mixed and permanent denttition

Placement difficulties include:

* Short clinical crown
* Large pulp
* Long treatment time and high cost
* Limited child`s cooperation
* Restoring hypomineralized permanent incisor:
* Etching the lesion with 37%phosohoric acid
* Bleaching with 5%sodium hypochlorite
* Sealing the surface to occlude porosities and prevent restaining
* Opaque resin then direct RC veneering