PATHOLOGY AND BACTERIOLOGY
PATHOLOGY

Following pathological conditions of lacrimal passage are likely to be found and dacryocystography helps in determining these lesions:

I. Congenital anomalies.
II. Insufficiency of lacrimal passages.
III. Inflammatory conditions.
IV. Cyst and diverticula.
V. Tumours.
VI. Stenosis of lacrimal passages.
VII. Foreign body in lacrimal passages.
VIII. Dacryocystoliths (Calculi).

Gross abnormality affecting the lacrimal passage as a whole are due either to a fundamental observation in the development of processes forming the face or a disturbance of their development by the pressure of amniotic bands.

I. CONGENITAL ANOMALIES:

A. Anomalies of puncta and canaliculi -

1. Epithelial buds from the upper end of the rod which determine the sac and duct may fail to develop.

2. It may run on wrong direction.
3. It may fail to canalize.

4. Even if they are developed, the overlying surface epithelium may fail to perforate so that the puncta are not formed.

5. Supernumerary puncta and canaliculi.

6. Anomalies in shape and position of puncta.

B. Anomalies of lacrimal sac and duct -

1. Atresia of naso-lacrimal duct.

2. Congenital fistulae of lacrimal sac.

II. INSUFFICIENCY OF THE LACRIMAL PASSAGES:

Failure in the conduction of tears in the absence of organic obstruction of the drainage passages:

1. Insufficiency of lacrimal puncta.

2. Insufficiency of lacrimal sac.

3. Valvular insufficiency most important in valve of Hasner at the lower end of the canal which guards the duct from cavity of nose.

III. INFLAMMATION OF THE LACRIMAL PASSAGES:

1. Canaliculitis.

2. Dacryocystitis - inflammation of the lacrimal sac and duct. Dacryocystitis is of two types -

   i) Acute,
3. It may fail to canalize.

4. Even if they are developed, the overlying surface epithelium may fail to perforate so that the puncta are not formed.

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It is again of three types:

a. Acute suppurative dacryocystitis.
b. Acute suppurative pericystitis.
c. Gangrenous pericystitis.

Dacryocystography is contra-indicated in acute dacryocystitis.

CHRONIC -

It is divided in three clinical types:

a. Catarrhal.
b. Encysted mucocele or chronic suppurated forms.
c. Chronic pericystitis.

Dacryocystitis may also be classified in following ways:

2. Non-specific granulomata (Pseudo tumour).
3. Trachomatous dacryocystitis.
4. Tuberculous dacryocystitis.
5. Leprotic dacryocystitis.
7. Mycotic dacryocystitis.
8. Parasitic dacryocystitis.
IV. **CYST AND DIVERTICULA**: 

1. Cyst of canaliculus.
2. Cyst and cystic diverticula of lacrimal sac.

V. **TUMOURS OF LACRIMAL PASSAGES**: 

1. Tumour of canaliculi –
   Granuloma or pseudo tumour.
2. Tumours of lacrimal sac –
   a) Pseudo-tumours - Granulomatous.
   b) Epithelial tumours - 4 types:
      i) Papilloma
      ii) Adenoma
      iii) Pleomorphic adenoma
      iv) Carcinoma
   c) Mesenchymal tumours –
      i) Sarcoma
      ii) Fibroma
   d) Reticulosis
   e) Malignant melanoma

VI. **STENOSIS OF LACRIMAL PASSAGES**: 

Four common sites are –

1. The punctum.
2. Canaliculi at their common junction with the lacrimal sac.
3. In the sac and duct, particular at the junction of the two.

4. At the lower ostium.

VII. FOREIGN BODY IN THE LACRIMAL PASSAGES:

e.g. Eye lashes.

VIII. DACRYOLITHS (CALCULI):

BACTERIOLOGY

Bacteria of the lacrimal sac are of the nasal rather than conjunctival origin. Most common and important is pneumococcus.

This organism may occur pure, or in association with others and is found both in acute and chronic infections. Other organisms, e.g. Streptococci and staphylococci are also found.

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