MATERIAL AND METHODS
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In this study a series of dacryocystograms were taken in patients who were of both sexes and of all age groups.

All the cases were from Department of Ophthalmology, M.L.B. Medical College, Jhansi (U.P.).

Radiographic examination was undertaken to determine the exact location and the types of blockage. As a control, for purpose of comparison, dacryocystography was performed in few normal eyes.

In every case, a detailed history of the symptoms, duration, presence of associated disease in the nose and sinuses was taken. Particulars regarding acute exacerbation, nature of discharge were noted. In patients who gave history of trauma preceding the onset of symptoms, the nature of trauma were recorded. In cases of congenital and infantile dacryocystitis particulars regarding family history and presence of any other abnormalities in the child were given attention.

A careful examination of the eyes in general and the lacrimal excretory system, nose and sinuses in detail
were conducted. In all the cases following points were
given through consideration:

1. Position of the lid:  A. Eversion,
   B. Inversion.

2. Presence and absence of puncta and their patency.

3. Patency of lacrimal canaliculi.

4. Presence of swelling over sac area and its extent.

5. Presence or absence of discharge and its nature,
   if regurgitation was present, the punctum through
   which it regurgitated was noted.

6. Presence or absence of lacrimal fistula and if present
   its extent and location.

7. Patency of naso-lacrimal duct.

8. Any associated diseases in the nose or sinuses like
   deviated septum, polyps, atrophic rhinitis, rhinitis
   or sinusitis.

**Contents of the Dacryocystography Tray:**

1. Punctum dilator,

2. Lacrimal canula,

3. Xylocaine 4%

4. Lipiodol ultra fluid,

5. Sterile tray,
6. 5 c.c. syringe,
7. Sterile gauze pieces,
8. Torch.

**METHOD :**

**Preparation of the patients :**

Anaesthesia is effected with xylocaine 4% drops locally in the conjunctival sac 2 drops every 5 minutes, 3-4 times. Patient lying supine on x-ray table. The lower canaliculus is then dilated by punctum dilator through the punctum. A lacrimal canula with 5 cc. syringe fitted with nozzle is inserted in the lower canaliculus as far as the nasal wall of the sac. After withdrawing the canula slightly 0.5 - 1 cc. Conray 280 or Conray 420 fluid is injected under gentle and even pressure till the patient gets the taste of fluid. The excess of dye that regurgitated through the upper or lower punctum was wiped off. Skiagrams were taken very quickly in different projections immediately after the injection.

**PROJECTION :**

**P.A. View -**

Immediately after injection of the contrast medium in supine position the patient was made prone Nose chin position at an orbitomeatal angle approximately 40° with the horizontal was made. Central rays were directed through
the infra-orbital margin of the injected side about \( \frac{1}{2} \)" away from mid line. In this projection the lacrimal duct will be parallel with the table top so that there will be no distortion of the radiographic image. Lateral view was taken by turning the head towards the injected side. Central rays were directed as in P.A. projection. In both these projections skiagrams were taken using potter-bucky diaphragm.

An attempt has been made to find out the normal emptying time. Another skiagram was taken after 15 minutes of injection. If the lacrimal passage was still not empty, next skiagram was taken after 30 minutes of injection.

**EXPOSURE FACTOR**

60 - 70 K.V.P. and 100 M.A.S. for P.A. projection and 50 K.V.P. and 60 M.A.S. for lateral were the factors used for skiagrams taken at 100 cms. focus film distance in potter-bucky diaphragm. In magnified projection the skiagrams were taken without bucky at 125 cm. focus film distance and 30 cm. object film distance with slightly more penetration. The focal point of the X-ray machine was of 1 mm. diameter with three phase generator.

**CONTRAST MEDIUM**

Ideal contrast medium should have following qualities:
1. It should coat the mucosal lining of lacrimal passages uniformly and produce homogenous shadow.

2. It should not empty out quickly.

3. It should avoid globules formation.

4. Should be easy to inject.

5. Should give good radiographic density.

6. Should be readily available in market.

7. It should not cause any reaction.

8. It should be non-irritating.

9. It should be tasteless and thus agreeable to patient.

We have used following contrast media:

1. Conray 280

2. Conray 420.

They are homogenous, non-irritant, eventually absorbed if not discharged, and not toxic.

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