

## **TRUMA OF THE NOSE (NASAL BONE FRACTURE)**

### **CSF RHINORRHOEA, SEPTAL HAEMATOMA AND ABSCESS**

#### **Fracture of the nose**

Usually caused by blows to the front or side of the nose, the commonest causes personal assault, sport injuries, road traffic and personal accident

#### **Classification**

##### **Type 1**

Due to a frontal or frontolateral blow. There is vertical fracture of the nasal septum (chevallet fracture). The thin distal portion of the nasal bone depressed or displaced.

##### **Type 2**

Nearly always due to lateral trauma. The nasal bones are displaced laterally there is no gross depression. There is (C) shaped fracture of the perpendicular plate of ethmoid and the quadrilateral cartilage. The frontal process of the maxilla may be fractured.

##### **Type 3**

This requires a major blow as the fracture has extended to involve the ethmoid complex there is a marked depression. The perpendicular plate of ethmoid rotates backwards and the septum collapsed into the face turning up the tip of the nose and revealing the nostrils.

#### **Clinical features**

- 1-external swelling follows quickly it may be so severe as to obscure the bony deformity
- 2- Black eye common, the ecchymosis is periorbital and subconjunctival.
- 3-Pain not usually severe after the initial impact but there is marked tenderness
- 3-Epistaxis
- 4-nasal obstruction

#### **Diagnosis**

Radiograph important medicolegally but it is of little value clinically.

## **Treatment**

1-Early

If the patient is seen very early before swelling appears ,reduce immediately.

2-Intermediate

When the swelling is marked and the landmarks lost leave until the swelling has subsided.

3-late (7-14 days)

Probably the most satisfactory time to treat is as soon as the swelling has subsided. The reduction of the fracture can be undertaken under local or general anaesthesia.

## **Cerebrospinal fluid rhinorrhoea**

### **Definition**

A flow of CSF from the nose .

### **Aetiology**

1-Traumatic from fractured base of skull involving the anterior cranial fossa with tearing of the dura mater.

2-Spontaneous from destructive lesions involving the floor of the anterior cranial fossa .

### **Clinical features**

Watery fluid drips from the nose. This is the most prominent symptom and the only one. The fluid contains practically no mucous or albumin and dries soft on a handkerchief. It contain glucose. Meningitis may supervene and may first bring the condition to notice.

### **Investigation**

Measurement of glucose in the CSF

$\beta$  2 transferrin measurement by electrophoresis

### **Radiology**

High resolution CTscan to detect ant. Skull base defect and presence of any pathological lesion.

The most accurate method to detect CFS leak by fluorescence mixed with CSF aspirate via lumber puncture and reinjected into lumber CSF

and by using nasal endoscope to detect site of CSF leak which appear green

## **Treatment**

Conservative

- 1-Avoid meningeal infection by systemic antibiotic.
- 2-Avoidance of nose blowing.
- 3-head up position
- 4-fecal softening
- 5-diamox to reduce CSF pressure may be used

Surgical

In case of conservative treatment failure by nasal endoscopy to repair ant. skull base defect.

## **Hematoma of septum**

### **Definition**

A collection of blood beneath the mucoperichondrium or mucoperiosteum of the septum.

### **Aetiology**

The condition is nearly always traumatic in origin. It may be due to:

- 1- Direct blows or falls on the nose, especially in children.
- 2- Operation on the nose, e.g. after SMR.
- 3- Blood dyscrasias, rarely.

### **Clinical features**

Nasal obstruction is usually bilateral and often complete.

Septal swelling is soft and sometimes red.

### **Complication**

1. Septal abscess and cartilage necrosis are due to secondary infection. External deformity such as saddling results.
2. Permanent thickening of the septum may be caused by fibrosis.

## **Treatment :**

1. Simple aspiration may suffice when the hematoma is small. It may have to be repeated.
2. Incision and drainage. Drainage can be maintained by inserting a drainage-tube or by excising a small 'square' of mucoperichondrium on one side.
3. Nasal packing will prevent further oozing of blood beneath the mucoperichondrium.
4. Systemic antibiotic to prevent secondary infection.

## **Abscess of the septum**

### **Aetiology**

-Traumatic, an abscess is usually secondary to hematoma.

-Spontaneous. May follow measles or scarlet fever and may complicate nasal furunculosis.

### **Clinical features**

1. Pain may be severe and throbbing.
2. Nasal obstruction is often complete.
3. Pyrexia will usually distinguish abscess from hematoma.
4. Symmetrical swelling of septum. This is commonly of a dull purplish color. It is tender.

### **Complications**

- 1- External deformity may result from cartilage necrosis.
- 2- Perforation of septum follows sloughing of the mucous membrane and cartilage.
- 3- Meningitis and cavernous sinus thrombosis are rare.

### **Treatment**

1. Incision and drainage as for hematoma,urgently.
2. Systemic antibiotics.
3. Plastic surgical correction of deformities may be required later.