CLINICOEPIDEMIOLOGICAL STUDY OF NASOPHARYNGEAL TUMOURS

THESIS FOR THE MASTER DEGREE IN RADIOTHERAPY

BY

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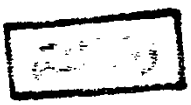

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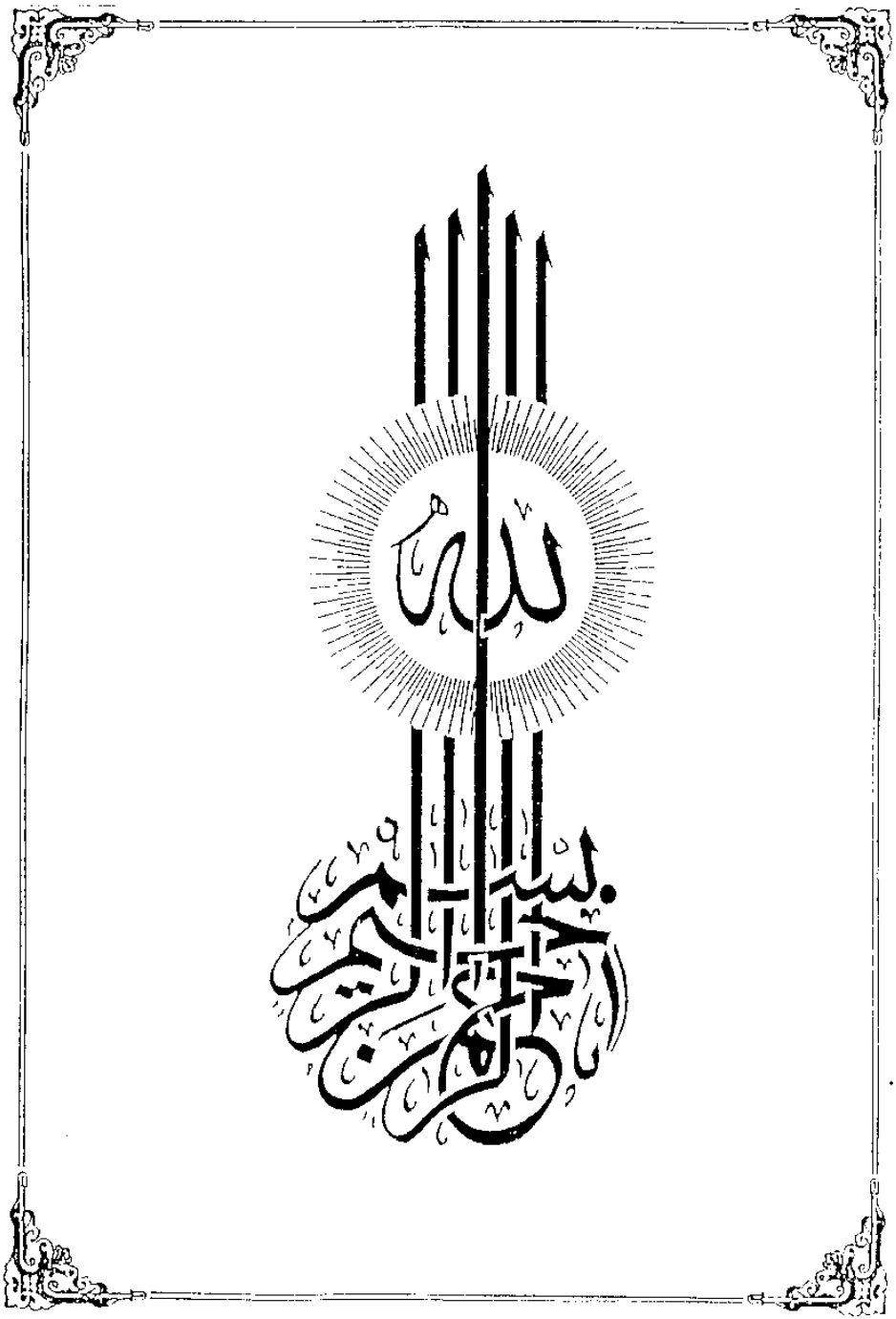

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GENERAL INTRODUCTION

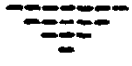
Neoplasia is a very old disease and it has been described by the ancient Egyptians.

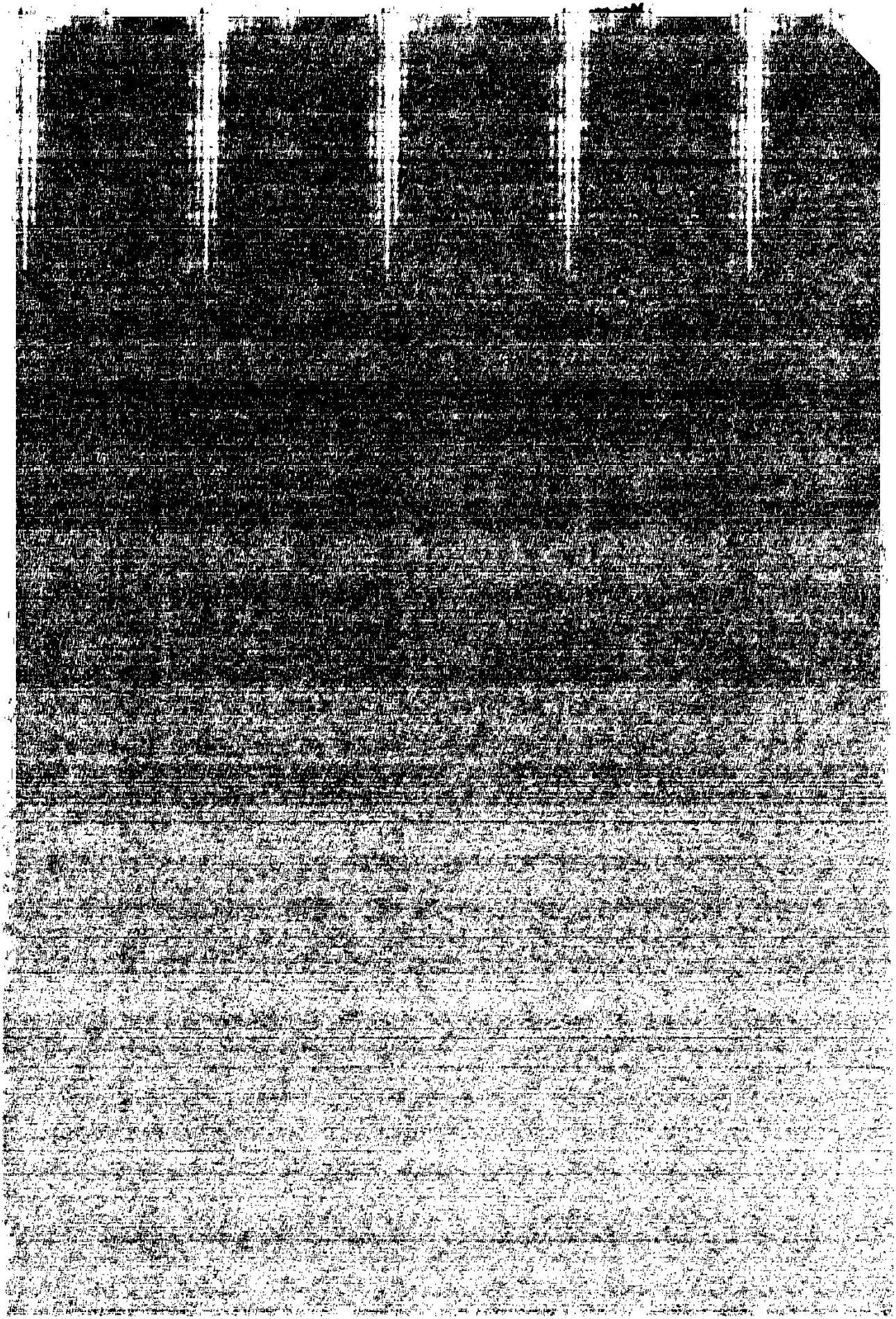
In the last two decades the attention has been drawn to the high incidence of this disease that occurred in the yellow races. Thus this is very important to study the prevalence and incidence of malignant diseases every where in the world. Furthermore reference has been made to the particular part of the body.

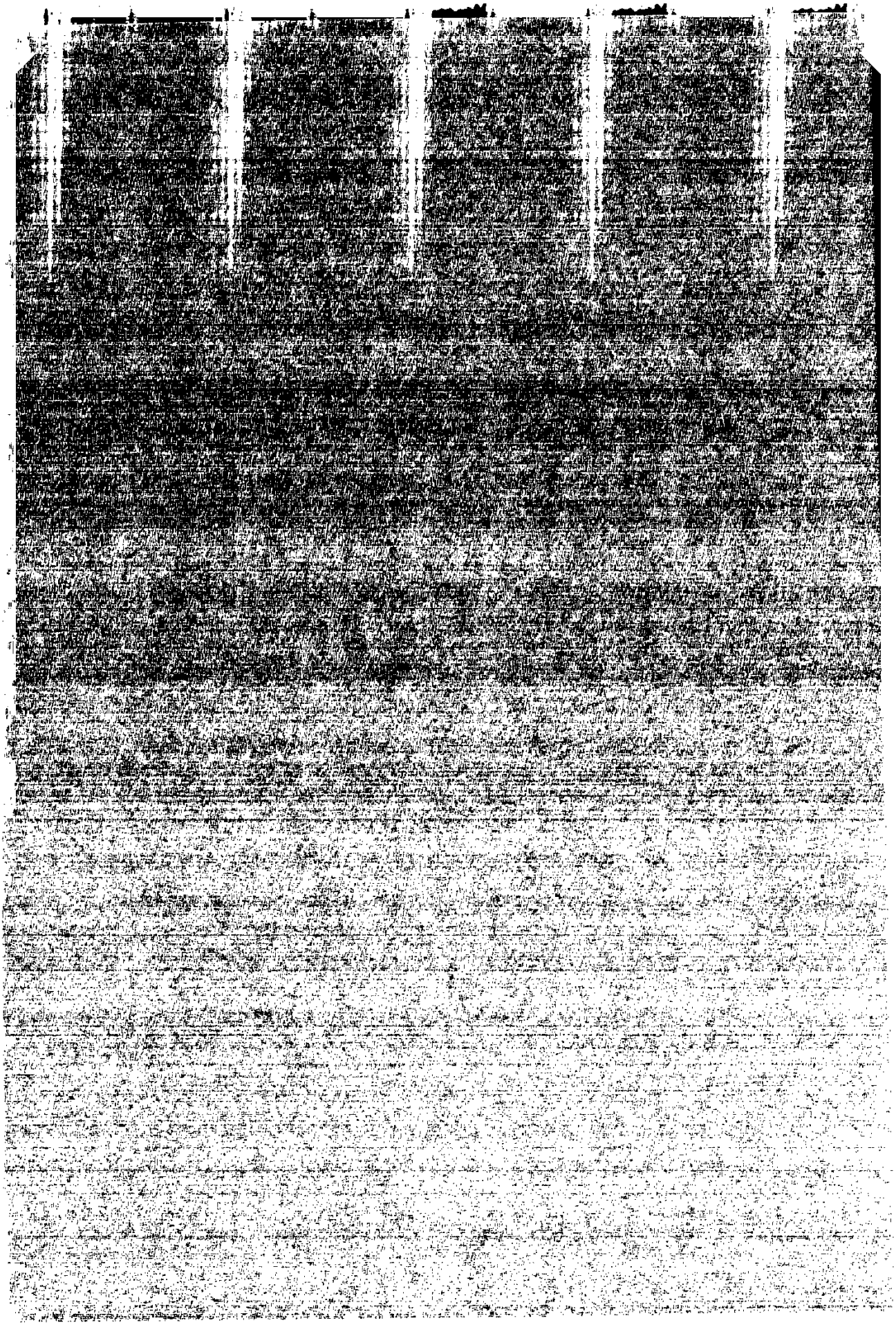
The importance of radio-therapeutic management in nasopharyngeal carcinoma has been derived from the fact that tumours in this region are primary radio-therapeutic problems.

AIM OF THIS WORK

The aim of this work is to study the epidemiological pattern and clinical aspects of nasopharyngeal tumours in Egyptian patients with prelimenary evaluation of their treatment by radiotherapy with or without chemotherapy.







REVIEW OF LITERATURE

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Historical Reveiew

Although Hippocrates (C. 460 - 377 B.C.) introduced the word " Cancer " or carcinoma as a descriptive term for all new tissue formation which could not be cured malignant disease was not unknown to earlier civilisations as appeared from allusions in the Ebres papyrus in Egypt and ancient persian epic.

Isolated reportes of cases were published as early as 1837 by Durand- Fradel who was the first to recognise cancer in the nasopharynx at autopsy. Godtfredsen 1944.

He also recorded that in 1845 Michaux was the first who verified the histology of the nasopharyngeal carcinoma and that in 1867 scheveich was the first to recognise - nasopharyngeal sarcoma. Wang (1962) reported that: Monbo-yran (1895), Escat and Jackson (1901) were perhaps the first to describe in detail the symptomatology of the nasopharynx and it remained for Crotter in 1911, to establish the clinical entity of these neoplasms, reporting on 36 cases. Laval (1904) classified the clinical presentation of the disease into cases presenting with aural symptons, respiratory symptoms and cervical adenopathy , (reported by Godtfredsen in 1944) He also reported that the importance of the site of origin of the neoplasms of the nasopharynx.

Anatomy of Nasopharynx

The pharynx is made up of 3 anatomical portions:

The nasopharynx(epipharynx), the oropharynx and the hypopharynx.

The nasopharynx is that part of the pharynx which extends from the base of the skull down to the soft palate. it is the only part of the pharynx that does not make part of the digestive tract and which is exclusivelly respiratory in function. Therefore, it is imperative that this portion of the pharynx always be kept open. It is roughly cuboidal in shape and consists of 6 walls, of which the two lateral walls are symmetrical.

The anterior wall:

Like all parts of the pharynx, the nasopharynx lacks a complete anterior wall. It is in continuity with the nasal fossa through the posterior nares or choanae. These are ovalshaped openings separated by the nasal septum.

The posterior wall:

Is made up by the upper two cervical vertebrae whith the overlying prevertebral layer of deep cervical facia, suprior constrictor muscle, pharyngeal aponeurosis and mucous membrane. It is almost continous with the roof .

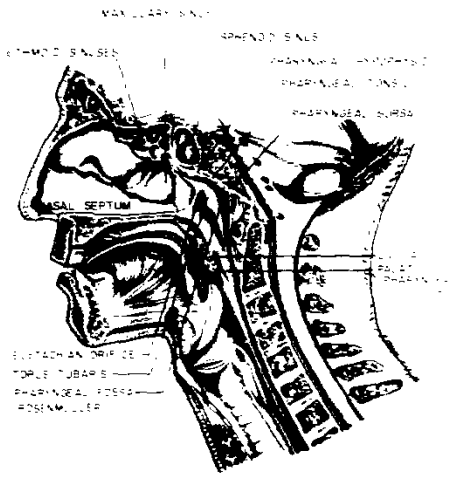

Fig.(1): sagited section in the level of pharynx. Showing the nasopharynx and related structure (Quoted by fletcher 1975).

Laterally it extends in between the posterior limits of the fossa of Rosenmuller on each side.(Fig (1)

The floor

Is formed by the upper surface of the soft palate. it extends from the posterior border ofthe palatine bones to the free border of the soft palate the nasal and oral parts of the pharynx communicate through the pharyngeal isthmus.

This isthmus is bounded by the uvula in front and the palatopharyngeal arches laterally.

The roof:

Corresponds to the posterior part of the body of the sphenoid and basilar part of the occipital bone . it is almost entirely made up of lymphoid tissue. The nasopharyngeal tonsit(adenoids) is best developed in children and is usually atrophic in adults. It is usually increase in size up to the age of 6 to 7 years, after which it begins to aterophy. The nasopharyngeal tonsil forms a triangular prominence, the apex of which is near the septum and base at the junction of roof and posterior wall. A lateral extension of the lymphoid tissue known as the tubal tonsil passes behind the pharyngotympanic tube. Enlargement of the tubal tonsil may compress the pharyngotympanic tube and prevent the passage of air into the midle ear.

The lateral walls :

These are muscular in the lower part while in the upper nasopharnx they consist of only two layers, the mucous membrane and pharyngeal aponeurosis. This area of muscular wall defect is referred to as the sinus of Morgagni through which the cartilagenous part of the eustachian tube enters the pharyngeal wall with the levator palati muscle. The lateral recess of the pharynx or the " fossa of Rosenmuller" is a depression which lies behind the posterior margin of the tubal orifice. This recess contains the following important structures:

- The internal carotid artery and the internal jugular vien.
- The glossopharyngeal, the vagus the spinal accessory and the hypoglossal nerves.
- The superior cervical sympathetic ganglion and its branches.
- Small three or four lymph nodes.

The nasopharyngeal facia surrounds the posterior and lateral wall, of the nasopharynx. It is attached firmly to the base of the skull in front of the foramen magnum posteriorly and to the petrous part of the temporal bone laterally. The facia is formed of two fibrous laminae, the

submucous or inter pharyngeal and the external or paraph-aryngeal.

The soft tissue of the nasopharynx is made of three layers from within outwerds these are :

The mucous, the fibrous and muscular layers. The mucous membrane of the nasopharynx has an epithelium of the columnar cilliated type, that of the oropharynx and hypopharynx being stratified squamous in type. Mucous and mixed salivary glands are present in the submucosa specially around the orifices of the pharyngotympanic tubes. There are aggrega-tions of lymphoid tissue in the nasal as well as the oral parts of the pharynx arranged in a ring known as " wald-eyer's ring".

This lymphoid follicles of the ring are not true lymph nodes in the sense that they possess neither afferent lymphatics nor distinct sinuses.

The fibrous layer lies between the muscosa and the muscluar layer. It is thick in its upper part and gets thinner as it descends posteriorly it is more strong and it descends as a median raphe giveing attachment to the constrictor muscles of the pharynx.

The muscular layer is formed by the pharyngeal muscles.