
Post natal development of the islets of langerhans in the albino rat

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(1) Historical Review. • The Eustachian tube was first known by Alcaeon of Sparta as early as 500 B.C. • Followed by "Aristotle" in 384 B.C. • Later between 1510 - 1518 "Ingrassia" recorded his observations concerning the Eustachian tube. • Then "Bartolommeo - Eustachio" 1520 - 1574. Who discussed it in details • • During the 17th century "Valsalva" enriched our knowledge of the diseases of the ear • • "Guyot" in 1724 was the first to describe the Eustachian catheterization through the middle ear. Then "Cleland" in 1740 began to introduce the catheter through the nose • • "Cooper" in 1801 described deafness resulting from a closed Eustachian tube and devised myringotomy to treat such deafness. • "Johanne Muller" in 1842 wrote his book "Elements of physiology". He came to a conclusion that the tube is continuously open. ~----- 94 • • "Toynbee" in 1863 declared that the tube is normally closed and opens only during swallowing • • "Politzer" in 1863 employed the Politzerization method for inflation of the Eustachian tube. • "Rumbold" in 1873 shared in describing the clinical symptoms of abnormally patent Eustachian tube • • "Hartman" in 1879 put the foundation of quantitative measurements of the resistance of the tube using a pressure chamber • • (2) Anatomy of Eustachian tube : This chapter discusses in detail the anatomy of Eustachian tube. The tube is 31 - 38 mm in length, it consists of two portions, the postero-lateral bony 1/3 (Protympanum) and the anteromedial fibrocartilaginous 2/3 • The lumen of the tube is divided into three unequal portions: 1. Posterior portion (tubal isthmus) • 2. Extensive middle portion. 3. An anterior or pharyngeal portion. Musculature of Eustachian tube: The muscles concerned with function of the Eustachian tube are in the order of their greatest influence. --- 95 - 1. Tensor palati. 2. Levator palati. 3. Superior constrictor. 4. Salpingopharyngeus. 5. Tensor tympani. other muscles to be considered because of their action over the soft palate ~ 1. Palatopharyngeus. 2. Palatoglossus. 3. Musculus uvulae. Mechanism of opening of Eustachian tube: There have been some controversy about which muscle opens the tube. (Holborow. 1962) proposed that the tube opens by the action of Tensor palati. (Proctor. 1973) Proposed that both tensor palati. levator palati. open the tubal lumen, (Dickson. 1976) postulated that the tube opens by the synergistic action of both tensor palati. tensor tympani. (3) PHYSIOLOGY OF THE EUSTACHIAN TUBE. - Eustachian tube is normally closed at rest as well as during apnoea and respiration. --- 96 - The membranous cartilaginous portion of the tube is opened during the act of

swallowing • - Protective Mechanism of the tube :1. The pharyngeal orifice opens in the nasopharynx.2. The Procedure of opening the tubal orifice is carried out by the same muscle which raises the soft palate and thus closing the oropharyngeal isthmus.). The cilia on the surface of lining mucosa of the tube is more in the direction of the nasopharynx.4. The tubal orifice is rich in mucus secreting glands.5. :r.vmphoid tissue aggregation in the vicinity of the tube.- Clearance function of Eustachian tube.- Mechanism of tubal opening :1. In Phonation.2. In Swallowing.- Role of Eustachian tube in aviation and diving:1. In Aviation~2. In diving.- Effect of tubal obstruction on hearing.