

## Pregnancy-Related ENT Changes and Their Management

**Dr. Tarun Malhotra<sup>1\*</sup>, Dr. Abhay Kumar Singh<sup>2</sup>, Dr. Sushil Gaur<sup>3</sup>,  
Dr. Dirag Shah<sup>4</sup>, Dr. Mansi Sharma<sup>5</sup>**

<sup>1</sup> Professor, Department of ENT, Santosh Medical College and Hospital, Santosh Deemed to be University, Ghaziabad, Uttar Pradesh, India.

<sup>2</sup> Associate Professor, Department of ENT, Santosh Medical College and Hospital, Santosh Deemed to be University, Ghaziabad, Uttar Pradesh, India.

<sup>3</sup> Professor, Department of ENT, Santosh Medical College and Hospital, Santosh Deemed to be University, Ghaziabad, Uttar Pradesh, India.

<sup>4,5</sup> PG Final Year, Department of ENT, Santosh Medical College and Hospital, Santosh Deemed to be University, Ghaziabad, Uttar Pradesh, India.

### ABSTRACT:

Pregnancy is linked to a particular group of ear, nose, and throat conditions. Although the majority are benign and go away in the postpartum period, some do not. Ear, nose, and laryngeal manifestations of these illnesses can be systematically categorized by site. These disorders' pathophysiology, etiology, and treatment are discussed. Based on the knowledge at hand, treatment suggestions are made. Given the potential consequences for both the mother and developing fetus at this critical period, it is extremely vital to be aware of these common signs and treat them cautiously.

**Keywords:** Pregnancy, Eustachian tube dysfunction, Otosclerosis, Bell's palsy, Pregnancy rhinitis, Epistaxis, Obstructive sleep apnoea, Gravida.

### INTRODUCTION:

Pregnancy can have many different ENT symptoms. A woman's body goes through a specific set of physiologic changes throughout pregnancy. Common symptoms of these alterations include complaints involving the head and neck. Lesions to more uncommon inner ear illnesses can be detected from common symptoms like rhinitis and epistaxis; we should be aware of these conditions for the best assurance, expectant management, or therapy of the gravid female.

It is extremely crucial to be aware of any medication's potential effects on the mother and fetus and to speak with the treating obstetrician before prescribing any medications. Most of them are harmless and self-restricting. It is necessary to be familiar with it and to handle it safely.

## PREGNANCY-RELATED METABOLIC AND PHYSIOLOGIC CHANGES:

The increased basal metabolic rate (BMR) that occurs during pregnancy is brought about by the expansion of blood volume, higher cardiac output, and increased oxygen demand. The plasma volume dominates in the first and second trimesters, and the extravascular fluid volume dominates in the third. Boggy mucous membranes and dependent extremities oedema are the results of this. The plasma volume decreases postpartum quickly while the interstitial fluid decreases more slowly [1].

### Changes in Hormones

The third trimester is when oestrogen and progesterone reach their highest levels, which alters the nasal, gingival, and laryngeal mucosa. As the pregnancy progresses, there is a gradual increase in serum cortisol, which reduces the inflammatory response and improves rheumatic and dermatological disorders. The relative gestational immunosuppression brought on by this increase in serum cortisol also triggers the reactivation of dormant viral infections [1].

### Changes in Ear

The two most common prenatal symptoms are hearing loss and dizziness. Otosclerosis, abrupt sensorineural hearing loss, and Eustachian tube dysfunction are the three main causes of hearing loss. The flare-up of the pre-existing Meniere's illness is the cause of vertigo.

The increasing mucosal oedema, which results in blockage and otitis media with effusion, is what causes eustachian tube dysfunction. When there is insufficient weight gain during pregnancy, patulous tube dysfunction may be the cause of the eustachian tube. Their symptoms, which include roaring and intermittent autophony that worsen with decongestants and an upright position, most frequently manifest during the third trimester.

Otosclerosis and its link to pregnancy are caused by oestrogen's influence. The otosclerotic foci are stimulated by estrogen, which results in osteocytic activity and osseointegration of the otosclerotic lesions. Near term or after delivery are when the symptoms are most frequently encountered. Hearing aids are given if the patient has communication issues.[2,3] Rarely occurring sudden sensorineural hearing loss is frequently linked to toxicity. The inner ear microcirculation's hypercoagulability and vascular blockage are made worse by estrogen. [4]

Bell's palsy typically manifests in the third trimester or the first few weeks after delivery. Perineural oedema, mechanical compression, and viral (Herpes Simplex Virus, HSV) inflammatory reactions are suggested to be the possible causes of the condition [5]. Acyclovir, a category B medication, is taken if HSV is thought to be the cause [6].

## Changes in Nasal

Asthma and sinusitis are worse, sleep is disrupted, and appetite is disturbed by rhinitis, which affects the majority of pregnant women. Pregnancy-related rhinitis is caused by oestrogen's direct cholinergic impact, which inhibits acetyl-cholinesterase and results in vascular enlargement and increased mucous gland activity. The third trimester is when these nasal alterations are at their worst. More nasal discharge and nasal obstruction are caused by increased plasma volume and fluid shifting to extravascular space during the third trimester [7].

The main goals of rhinitis treatment are to lessen nasal discharge and improve nasal obstruction. Pseudoephedrine and other oral decongestants are particularly effective in reducing both symptoms.

A CT scan of the paranasal sinuses is required for patients with chronic sinusitis whose diagnosis must be verified and for whom a treatment plan must be developed. The abdomen and pelvis can be protected in order to achieve this. Once the diagnosis has been made, an antibiotic and decongestant regimen should be administered for 14 days.

Symptoms of allergic rhinitis may start, get worse, or get better. This is seen as a result of elevated cortisol levels and immunosuppression during pregnancy [8]. Identifying the allergies and avoiding them constitute the course of treatment.

Vascular congestion causes epistaxis. If the epistaxis is severe, look for haemangiomas, which first occur in the first trimester of pregnancy then involute during delivery. Other significant causes of severe epistaxis include toxemia and hypertension. Controlling hypertension, using saline nasal drops, and applying neosporin ointment locally are the mainstays of treatment. If the hemorrhage does not stop, nasal packing with antibiotic treatment may be necessary [9].

Pregnancy reduces obstructive sleep apnoea because progesterone is a good ventilatory stimulant. Sleeping on your side might ease uncomfortable breathing. Poor fetal growth, fetal arrhythmias, daytime somnolence, and personality abnormalities can all result from increasing hypoxia up until arousal.

A pyogenic granuloma called granuloma gravidarum (pregnancy tumor) forms on the gingiva during pregnancy. In up to 5% of pregnancies, this benign hyperplastic lesion of the oral mucosa develops. Typically, this quickly expanding lesion is a painless sessile or pedunculated gum mass that might vary in diameter.

Granuloma gravidarum histologically exhibits loose granulation tissue rich in capillary vessels and endothelial cell growth, usually accompanied by a variety of infiltrating inflammatory cells. The lesion is covered by a thin epithelial layer that frequently ulcerates as a result of trauma from chewing or brushing teeth [10].

In order to remove this tumor from a patient in the 36th week of pregnancy, Powell et al. [11] described using a Nd:YAG laser due to its lower risk of bleeding when compared to other surgical methods.

Ptyalism gravidarum, which has an unclear etiology, is typically characterized by an excessive salivation. Throughout all trimesters of pregnancy, these individuals may struggle to swallow saliva [12, 13]. While chewing gum or sucking on ice may be temporary coping mechanisms, patients consistently express dislike for the taste and insist that swallowing too much or thicker saliva causes their nausea to persist [14].

According to some experts, ptyalism gravidarum has a physiologic, not a psychological, cause. It is commonly acknowledged that salivary secretion is neurally regulated and that activation of the salivary gland's parasympathetic nerve supply results in an abundance of watery secretions with very little organic material [15].

## CONCLUSION:

The majority of the disorders listed above are a direct outcome of the physiological changes that occur during pregnancy. It would be advantageous for both the mother and the fetus to have a thorough understanding of these issues and how to safely manage them.

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