

Prevalence of Ear Nose and Throat Manifestations in Pregnant Women

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Abstract:

Background: An increase in progesterone and estrogen levels or increase of the blood volume during pregnancy causes various ENT manifestations. These pathologies usually disappear after birth and cause no harm to the patient but some time might be risky to the life of mother.

Aims: To assess the prevalence of major ear nose and throat manifestations.

Patient and Methods: 112 pregnant women presented to private otolaryngology clinic referred from obstetrician after complete examination managed accordingly.

Results: Of 112 pregnant women presented with ear nose and throat symptoms majority were at the age group 20-35 years age (85.7%) and most cases presented at second trimester (53.6%) and (83.1%) were multigravida. Nasal symptoms (44%) were the most common problems discovered on examination. And the least symptoms were throat symptoms (21.4%).

Conclusions: Most conditions presented during pregnancy are self-limiting.

Keywords: ENT problems during pregnancy, ENT symptoms in pregnant women.

Introduction:

Pregnancy is an important stage in the life of every woman, but many physiological, metabolic and hormonal alterations occur during pregnancy which might cause burden on the mother body and fetus at the same time⁽¹⁾.

When the sperm fertilizes ovum, female hormonal cycle begins to change. The embryo produces Human Chorionic Gonadotropin, which stimulates the continual rise in progesterone levels, but its levels usually begin to decline following their peak at the end of the first trimester, however progesterone levels, estrogen and human placental

lactogen, continue to rise throughout pregnancy⁽²⁾.

These hormonal changes are important for continued growth of the fetus, but its effects usually extend beyond the uterus and alter the physiological activity of the entire body, and in some cases might have pathological effect on the mother body^(1, 2).

Most women are affected by rhinitis during pregnancy and it disrupts sleep, affects appetite and worsens sinusitis and asthma. All these manifestations due to over activity of the parasympathetic system, resulting in increased glandular secretion and

vascular congestion⁽³⁾. The over activity of the parasympathetic system may be an allergic response to changes in the female sex hormones, fetal proteins and placental proteins⁽⁴⁾.

Epistaxis during pregnancy may be more common due to vascular congestion of the nasal mucosa due to increase estrogen levels. Sometimes if the epistaxis is severe another causes like nasal hemangiomas which appear early in pregnancy and involute following delivery or after termination of pregnancy^(5,6).

The commonest manifestations related to ear is Eustachian tube obstruction leading to recurrent otitis media, otitis media with effusion, chronic otitis media leading to deafness of various types and severity, and worsening of pre-existing conditions like otosclerosis and meniere's disease. However, majority of these diseases tend to return to normal after the labour. Excessive water and salt retention in pregnancy due to hormonal changes leads to Eustachian tube obstruction in about one quarter of patients⁽⁷⁾.

Vertigo of meniere's disease worsens during pregnancy due to decline in serum osmolality during pregnancy while Tinnitus because of Eustachian tube dysfunction and/or alterations in the inner ear fluid might be increased⁽⁸⁾. Similarly, otosclerosis also worsens during pregnancy⁽⁹⁾.

Sudden sensori-neural deafness may also be rarely seen but usually associated with toxemia state⁽¹⁰⁾.

Laryngopathi gravidarum is a term that means, the voice changes of the pregnancy. In the acute presentation, like dyspnea, hoarseness, sore throat and odynophagia.

Laryngeal examination reveals edema of the supraglottic part of larynx. In the chronic

form, the same symptoms but persistent⁽¹¹⁾.

Gastroesophageal reflux disease is estimated to occur in one half of all pregnancies. The symptoms become worse in the last trimester, due to a decreased lower esophageal sphincter tone, an increase in intra abdominal pressure and decreased gastric emptying. Treatment includes frequent small meals, anti-acids, H2 blockers or proton pump inhibitor.

Granuloma gravidarum or pyogenic granuloma is a vascular lesion that occurs in both mucosa and nasal skin due to hormonal changes in pregnancy during first and second trimesters. The lesion may heal spontaneously after labour⁽¹²⁾.

Patients and Methods:

112 pregnant women with ENT manifestations in different trimesters of pregnancy were examined in ENT private clinics (outpatient) referred by obstetricians'. All these pregnant women with ENT manifestations were subjected to detailed history, general physical examination and complete ENT examination and audiological and balance tests according and other investigations if indicated like hematological, biochemical or hormonal test such as complete blood count, blood sugar, creatinine clearance and thyroid function tests. Study design: cross section, type of study: observational, study population: 112 pregnant women were observed in the period between October 2015 September 2016. exclusion criteria: ENT trauma cases and female with hypertension and diabetes. Ethical approval: The study was approved by the scientific committee in medical college of Kirkuk university. Funding: No funding sources. Conflict of interest: Non declared.

Results:

Our study included 112 pregnant women presented with otorhinolaryngological conditions. According to the age group distribution the maximum number was at group 20-35 years age (85.7%). Multigravida cases occupied (83.1%), whereas the second trimester (53.6%) was the common period at which most conditions presented as shown in table (1). Out of 112 pregnant women (44.7%) were presented with nasal symptoms as in table (2).

Table (3) show that there was a significant relationship between pregnancy and nasal conditions because of the 0.260 was the significant relation with pregnant women complaining of Allergic rhinitis.

Table (4) most significant tear manifestation was chronic otitis media (15.7%) (0.214)-P=value.

Of the throat manifestations Gastroesophageal reflux disease was the commonest P-Value =0.600.

Table (1): Distribution of study pregnant women according to social- demographic character.

Socio-demographic character		Frequency	%
Age (years)	< 20	10	8.9
	20- 35	96	85.7
	36- 40	4	3.6
	.> 40	2	1.8
Trimester	First	25	22.3
	Second	60	53.6
	Third	27	24.1
Gravida	Primigravida	19	16.9
	Multigravida	93	83.1

Table (2): Correlation of study pregnant women according to ENT pathologies.

ENT pathologies	frequency	%
Ear conditions	38	33.9
Nasal conditions	50	44.7
Throat conditions	24	21.4
Total	112	100.0%

Table (3): Correlation of pregnancy trimester to nasal pathologies.

Nasal conditions	1 st trimester	2 nd trimester	3 rd trimester	Total	P* value
Epistaxis	1	3	4	8 16%	0.404
Allergic rhinitis	1	3	1	5 10%	0.260
Hormonal rhinitis	2	9	4	15 30%	0.740
Sinusitis	2	5	3	10 20%	0.981
Epiphora	/	1	/	1 2%	0.942
Nasal polyp	1	3	1	5 10%	0.266
DNS &Septal hematoma	2	1	1	4 8%	3.119
Rhinitis medicamentosa	/	1	1	2 4%	0.654
Total	9	26	15	50	

* chi- test s used

Table (4): Correlation of pregnancy trimester to ear pathologies.

Ear conditions	1 st trimester	2 nd trimester	3 rd trimester	Total	P* value
Otitis media with effusion	1	3	3	7 18.4%	0.538
Tinnitus	1	4	/	5 13.1%	2.066
Acute otitis media	2	8	2	12 31.5%	0.650
Chronic otitis media	1	3	2	6 15.7%	0.214
Otomycosis	/	1	1	2 5.2%	0.806
Vertigo	1	/	/	1 2.6%	5.477
Eustachian tube dysfunction	/	/	1	1 2.6%	2.876
Foreign body in EAC	/	1	1	2 5.2%	0.866
Referred otalgia	/	2	/	2 5.2%	1.535
Total	6	22	10	38	

chi- test s used

Table (5): Correlation of pregnancy trimester to throat pathologies.

Throat conditions	1 st trimester	2 nd trimester	3 rd trimester	Total	P* value
GERD	1	1	2	4(16.6%)	0.600
Pharyngitis	1	3	1	5(20.3%)	1.263
Laryngopathum Gravidarium	/	1	2	3(12.5%)	1.143
Tongue lesions	/	/	2	2(8.3%)	3.055
Tonsillitis	2	3	/	5(20.3%)	5.204
Cervical lymphadenitis	/	/	1	1(4.1%)	1.461
Parotitis	/	/	1	1(4.1%)	1.461
Hemoptysis	/	1	1	2(8.3%)	0.436
Functional dysphonia	/	1	/	1(4.1)	1.461
Total	4	10	10	24	

* chi- test is used

Discussion:

In our study of 112 pregnant women, the maximum patients was in the age group of 20-35 years (85,7%) which correspond to Singhai A etal and Anil S. etal studies with (91%), (87%) consequently ^(13,14). Maximum (83.1%) patients were multigravida in our study which is different from other studies of

Anil S. etal (50%) and Singhai etal (55%) primiwomen.

Nasal conditions are common during pregnancy. In our study rhinitis was the significant nasal pathology occurred at second trimester of pregnancy (P value =0.260). But in other studies like Soubhagini A. and Bulu N. it was more

common during 1st trimester⁽¹⁵⁾. Ellegard and Karlson G. have demonstrated an increase in IgE level against house dust mite during pregnancy⁽¹⁶⁾. Another important nasal manifestation in our study is nasal polyposis' (Pvalue =0.266) which might be due to allergic rhinitis or chronic infection or other anatomical abnormalities involving the ostiomeatal complex. Other non significant nasal pathologies in our study like epistaxis (P value =0.404) which is corresponding to Ahmed AL, zubaidi study⁽¹⁷⁾.

Of the commonest otological pathologies in our study was hearing loss which might be due to recurrent attacks of acute otitis media, chronic otitis media ((15.7% (P value =0.214)) and otitis media with effusion ((18.4% (P value =0.538)) which correspond to other studies of Anil S. et al reported (8.1%), (4%) cases of AOM and SOM, and Ahmed A. reported (10.1%), (4.3%) AOM, SOM respectively. Excessive water and salt retention in pregnancy due to hormonal changes leads to Eustachian tube obstruction, when prolonged can be a cause of chronic otitis media or otitis media with effusion⁽¹⁸⁾.

Other non significant symptoms like tinnitus was present in (13.1%) of cases in our study which is comparable to studies of Schmidt et al with (33%) cases of tinnitus⁽¹⁹⁾ and study of Anil S. et al with (20.4%) cases with this complain⁽¹⁴⁾.

No cases of facial palsy and sensorineural deafness recorded in our study which is different from other studies of Lavi JA study reported 2 cases of SNHL⁽²⁰⁾ and, Anil S. et al⁽¹⁴⁾ reported 2 cases of both SNHL and facial palsy too in the third trimester.

Gastroesophageal reflux disease was significantly seen in (16.6%) of pregnant women in our study and P value =0.600 with (25%), (25%) and (50%) of cases in 1st, second and third trimesters respectively. Studies of Ramu B et al was comparable to our study as found high percentage of GERD in pregnant women and Malfertheiner et al⁽²¹⁾ with (51.2%), (36.1%) and (26.1%) cases respectively in third, second and first trimesters. but is different from Ahmed A⁽¹⁶⁾. study which does not reported any case of GERD. Haemoptysis (8.3%) Pvalue=0.436 was another important symptom in our study which may be due to GERD or bleeding per nose tricking posteriorly to the throat or dental infections were major cause. One case of parotitis reported among our cases which is similar to Ahmed A., and Anil S. et al studies^(14, 17).

Conclusions:

Most ENT manifestations presenting during pregnancy, are self limiting conditions and are considered as direct result of the physiological changes during pregnancy. Nasal diseases were the commonest during pregnancy especially rhinitis was the significant nasal pathology occurred at second trimester of pregnancy.

However more studies requested to get details on clinical disorders appearing at time of gestation and their etiologies and treatment.

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