


Research Article

## An Evaluation of Paranasal Sinusitis related Vertigo and Nape Pain

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### Abstract

#### Introduction:

At Homagama Base Hospital there are approximately 100 patients looked after by the ENT clinic. Among the clinic attendees, paranasal sinusitis with vertigo and nape pain is a common observed phenomenon. In Sri Lanka data on these aspects are rare.

#### Method:

Cross sectional descriptive study at the ENT Clinic of Base Hospital Homagama. Patients diagnosed as Paranasal Sinusitis amongst the patients attending the ENT clinic, age above 12 years. Patients diagnosed as Paranasal Sinusitis further evaluated for Vertigo and Nape pain. Total 425 patients taken for study.

#### Result:

Patients diagnosed as Sinusitis, 425, 100%

Patients diagnosed as Vertigo, 396 – 93.176%

Patients diagnosed as Nape Pain, 322 – 75.76%

There were Clinical improvement of Sinusitis – 423, 99.523%, among the research group.

Patients with Vertigo – 396, all the symptomatic patients improved. Nape Pain – 322, all the symptomatic patients improved.

#### Conclusion:

Rhino Sinusitis can cause symptoms like vertigo and nape pain. Whilst treating nape pain and vertigo, sinusitis should be considered in the differential diagnosis.

**Key words:** Paranasal Sinusitis, Vertigo, Nape Pain

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## **Background and Justification**

Although literature does not describe extensively regarding paranasal sinusitis associated with vertigo, there are cases of labyrinthine vertigo caused by sinusitis (Watson – Williams, 1924). The possible explanation is a bad sinus infection causing inflammation of the upper airway including the Eustachian tube. This will lead to inadequate opening of the Eustachian tube which then cause negative pressure in the middle ear space, which can affect the inner ear and balance center, ultimately causing vertigo. Similar to the vertigo there are several reported incidents of the nape pain (Ivker, 2002). Although this can happen, this is not a common presentation of sinusitis.

At Homagama Base Hospital there are approximately 100 patients looked after by the ENT clinic. Amongst the clinic attendees, paranasal sinusitis with vertigo and nape pain is a common observed phenomenon. In Sri Lanka data on these aspects are rare.

### **Objectives:**

1. To describe to socio demographic profile of patients with paranasal sinusitis related vertigo and nape pain among patients attending to the ENT clinic of Homagama Base Hospital.
2. To evaluate the relations of vertigo and nape pain symptoms among the patients of rhino sinusitis (upper respiratory tract infection) diagnosed with Epos – 2012 criteria, at ENT clinic, Base Hospital Homagama.
3. To describe the disease characteristics of patients with paranasal sinusitis related vertigo and nape pain among patients attending the ENT clinic of Homagama Base Hospital.
4. To consider paranasal sinusitis as a one of different diagnosis for both vertigo and nape pain symptoms.

### **Methodology:**

Ethical clearance was obtained from, Ethical Review Committee of Teaching Hospital Kalubowila and Ministry of Health Sri Lanka. The Study design was a cross sectional descriptive study. The study setting was at the E.N.T clinic, Base Hospital, Homagama. Study Population was, all patients diagnosed as having sinusitis, attending the ENT clinic, Base Hospital Homagama who were above 12 years old.

Sample size calculation was made, minimum required sample size 422.4 [425]. Sampling method; all clinic participants with upper respiratory tract infection attending the ENT clinic from February 2015 until the study sample size was met. Data was collected; using an interviewer administered questionnaire and validated data sheets. The clinic record book was used to collect the necessary information. The following study variables were collected; Socio demographic variables & Information on paranasal sinusitis. The Diagnostic criteria for paranasal sinusitis were the Epos 2012 criteria. A neurological assessment was also made.

### **Consent:**

Written informed consent was taken from all participants.

### **Confidentiality:**

The anonymity and confidentiality were maintained regarding participants who wish to stay away from the survey without participating in the study.

## Results and Discussion

Age of the patients divided into groups, 12 – 30 [62 numbers], 31 – 45 [107 numbers], 46 – 60 [157], >6 [99 numbers]. Total number of patients were 425 [Figure 1] Sex group of patients, male [129, 30.35%] and female [296, 69.65%]. Patients were divided into education status, Grade 1 – 5 [51, 12%], Grade 6 – 10 [178, 41.88%], Grade 10 – 13 [156, 36.71%], Diploma / Graduate [40, 9.41%] [Figure 2]

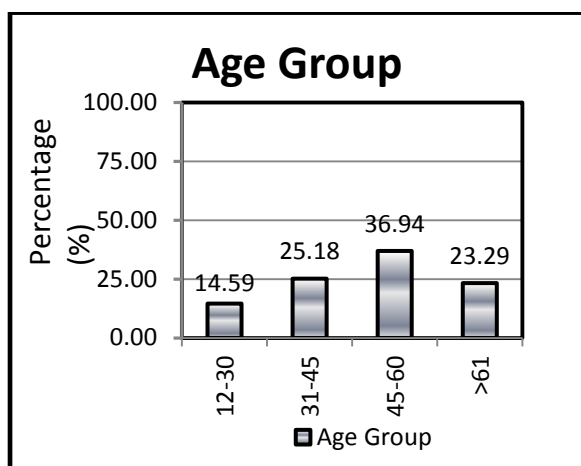


Figure 1: Age group of patients in study group

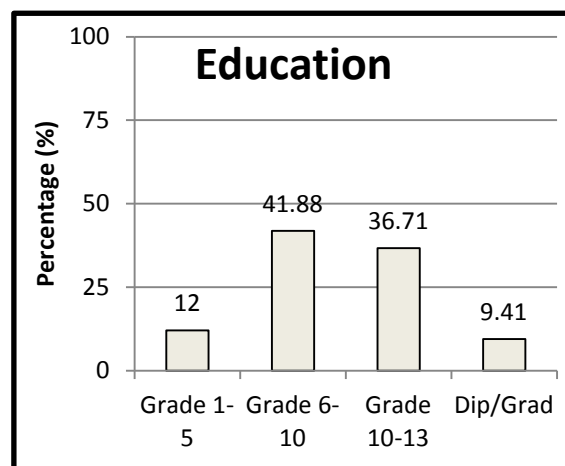


Figure 2: Educational Status of study group

Past medical history also obtained from the patients, Diabetics [83, 19.529%], Hypertension [99, 23.294%], Ischemic Heart Disease [23, 5.41%], Stroke [07, 1.47%], Asthma [42, 9.89%] [Figure 3]

Number of patients clinically diagnosed as follows: Diagnosed as Sinusitis 425 [100%], Presenting with Vertigo 39% [93.176%], Presenting with Nape pain 322 [75.76%] [Figure 4]

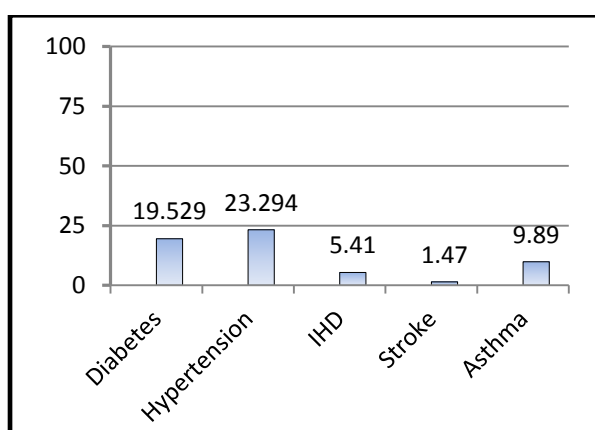


Figure 3 : Past medical history of study group

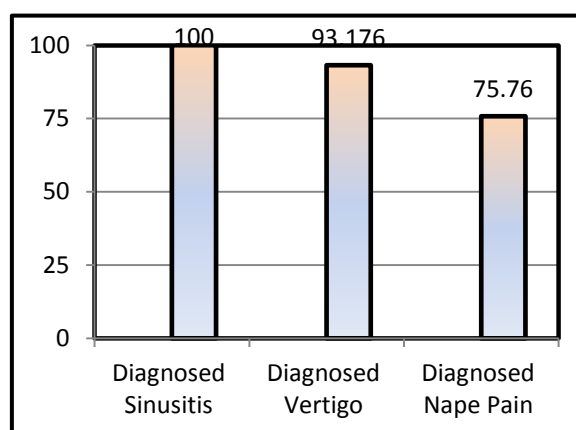


Figure 4 : Clinical diagnosis of the study group

Symptoms of Sinusitis elicited in the study group: Head Ache 419 [98.588%], Facial pain 289 [68.00%], Nasal block 293 [68.941%], Nasal and post nasal discharge 356 [83.764%], Loss of smell 54 [12.705%] [Figure 5]

Signs of Sinusitis were elicited in the Study Group: Tenderness over the Sinuses 282 [66.352%], Mucopus in the Nasal Cavity 77 [18.117%], Neck Lymphadenitis 184 [43.294%] [Figure 6]

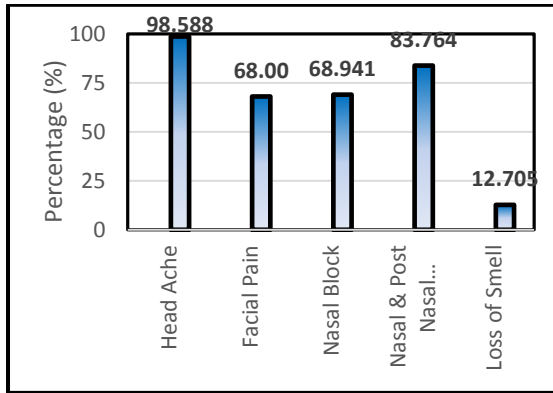


Figure 5: Symptoms of Sinusitis in the study group

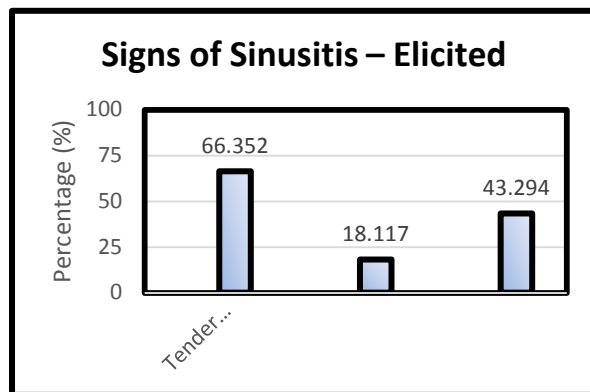
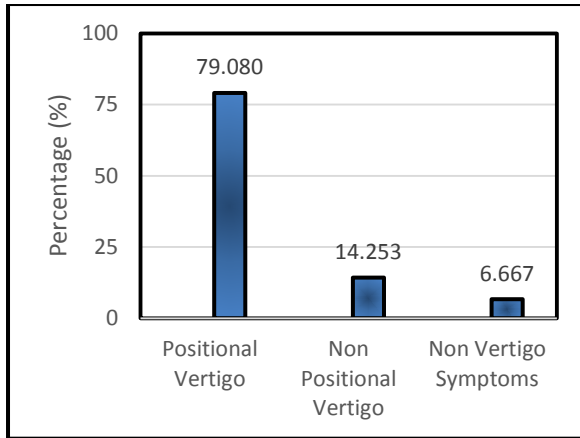


Figure 6 : Signs of Sinusitis in the study group

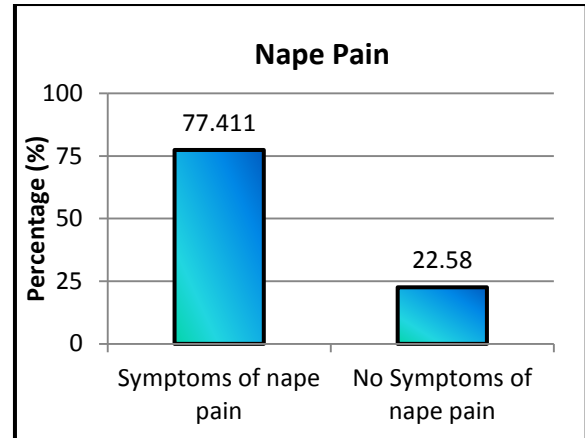
Presentation of X-ray Sinuses in the Study Group: Haziness in the Maxillary Sinuses 278 [65.411%], Haziness in the Ethmoid Sinuses 127 [29.88%], Haziness in the Frontal Sinus 68 [16%], Fluid Level in the Maxillary Sinus 41 [9.647%], Fluid Level in the Ethmoid Sinus 03 [0.705%], Fluid Level in the Frontal Sinus 08 [1.88%]

Number of patients presented with symptoms of Vertigo: Total number 396 [93.176%], amongst these patients; Positioned Vertigo, 344 [79.080%]. Non positional Vertigo; 62 [14.253%]. No Vertigo Symptoms elicited in 29 [6.667%] [Figure 7]

Number of patients presented with symptoms of Nape Pain was 329 [77.411%], No Nape Pain Symptoms in 96 [22.58%] [Figure 8]



**Figure 7: Symptoms of Vertigo in the study group**



**Figure 8 : Symptoms of Nape Pain in the study**

Clinical improvement was observed in the Study Group after treatment for Sinusitis, number of patients improved Sinusitis 423 [99.523%], Patients not improved Sinusitis 02 [0.470%], Number of patients improved Vertigo 396 [93.176%], Number of patients with improved Nape Pain 322 [75.764%]

Amongst the Study Group of 425 patients. Sinusitis was diagnosed in 425 [100%]. Vertigo was diagnosed 396 [93.176%], Nape Pain was diagnosed 322 [75.764%]. After treatment for Sinusitis, the breakdown of the improved patients are as follows: Sinusitis 99.523%, Vertigo 93.176%. and Nape Pain 75.764%.

**Conclusion:**

Sinusitis patients may present with other symptoms like vertigo and nape pain which should improve when the sinusitis is correctly managed.

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