

PLUMMER VINSON SYNDROME IN PATIENTS PRESENTING WITH DYSPHAGIA

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ABSTRACT

Objective: To know the incidence of Plummer Vinson Syndrome (PVS) in patients presenting with dysphagia.

Material and Methods: This study was conducted at Otolaryngology Department of Khyber Teaching Hospital, Peshawar, Pakistan from June 2009 to June 2015. Total 423 patients were selected through consecutive sampling technique.

Results: Mean age was 45 years with standard deviation \pm 2.63. Male patients were 60% and female were 40%. More over 18% had dysphagia from 2-3 weeks and 82% patients had dysphagia ranged from 4-5 weeks. Five percent patients had PVS in dysphagia while 95% patients didn't have Plummer Vinson Syndrome (PVS).

Conclusion: Plummer Vinson Syndrome should be treated promptly surgically and medically to avoid morbidity and mortality.

Key Words: Esophagoscopy, dysphagia, Plummer Vinson Syndrome, anemia.

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INTRODUCTION

PVS presents like difficulty in swallowing decreased haemoglobin and or narrowing of the upper oesophagus in upper age people and rarely presents in children.^{1,2} Mostly effect female above 40 years of age.^{3,4} Main causes are decreased serum ferritin, repetitive process of inflammation and healing, abnormal motility of the pharynx and oesophagus, however exact pathogenesis is not known.⁵⁻⁸ This observation supports the findings that iron supplementation improves the above condition.⁹ The nature of dysphagia is painless, intermittent and progressive for long time. The main complaints of patients are weakness, pallor, fatigue, weight loss and tachycardia. Clinical findings like smooth tongue, cracks of the oral commissure and koilonychia.^{10,11} Important investigations are decreased serum ferritin one or more oesophageal webs on video fluoroscopy on which the web has a characteristic projection from anterior proximal oesophageal wall.^{6,7} This has a great propensity for upper oesophageal malignancy.^{12,13} Esophagoscopy, and medically in the form of therapy one can treat.¹⁴⁻¹⁶ In a study 3.70% cases with dysphagia were diagnosed as Plummer Vinson's syndrome. laboratory tests showed iron deficiency anaemia and barium swallow revealed

post cricoid web that was confirmed on endoscopy.¹⁷ Follow up of the patients having PVS is very important with complete blood count and serum ferritin should be checked every 6 months because it may reoccur. If patient develops dysphagia then they may require repeated dilatations.^{18,19}

This study will give us an insight to the frequency of PVS in this part of the country. Iron deficiency anemia, one of the causes for the development of sideropenic dysphagia is not uncommon, so based on this study results, guidelines can be suggested regarding early screening and treatment. This will reduce the incidence of PVS and morbidity and mortality.

MATERIAL AND METHODS

This cross sectional study was conducted at Department of Otolaryngology, Khyber Teaching Hospital, Peshawar, Pakistan from June, 2009 to June, 2015. A sample size of 423 patients was selected through consecutive non-probability sampling technique. Ethical approval was taken from the hospital ethical and research committee. All patients with dysphagia for more than two weeks, age 15 years and above and both gender were included in the study. Patients having dysphagia due to some known neurogenic causes, malignancy of the oropharynx, hypopharynx, oesophagus and foreign body were excluded. The enrolled patients were admitted in ENT unit for further evaluation. All patients were carefully evaluated for detailed history and clinical examination followed by routine investigation. Complete blood count and serum ferritin was done from pathology department of the hospital and opinion was taken from hematologist about iron deficiency anemia. A barium swallow was done from radiology department

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of the hospital. Opinion was taken from radiologist about upper esophageal web. Proforma was structured for demographic information and SPSS version 16 was used to analyze. Mean \pm S.D was calculated for numerical variables like age and duration of dysphagia. Frequencies and percentage were calculated for categorical variables like Gender and PVS. To see the effect modifications PVS was stratified among age, sex and duration of dysphagia at presentation. Results were presented in the form of tables and graphs.

RESULTS

Total 423 patients were collected to find the frequency of Plummer Vinson Syndrome in patients presenting with dysphagia and the results were analyzed. Age in 423 patients was as n=8(2%) patients ranged 15-25 years, 97(23%) patients ranged 26-35 years, 178(42%) patients ranged 36-45 years and 140(33%) patients ranged 46-50 years. Mean age 45 years and standard deviation \pm 2.63. Gender distribution in 423 patients was analyzed as 252(60%) patients were male while 179(40%) patients were female. Age and gender is shown in Table 1. Duration of dysphagia among 423 patients was analyzed as 76(18%) patients had duration of dysphagia ranged from 2-3 weeks and 347(82%) patients had duration of dysphagia ranged from 4-5 weeks. Mean duration of dysphagia was 4 weeks with standard deviation \pm 1.75.

Frequency of Plummer Vinson Syndrome in patients presenting with dysphagia was analyzed as in 21(5%) patients had Plummer Vinson Syndrome in dysphagia while 402(95%) patients didn't had Plummer Vinson Syndrome in dysphagia. Association of Plummer Vinson Syndrome in age distribution was analyzed as among 21 cases of positive plummer vinson syndrome cases only one patient was 26-35 yrs, 18 patients 36-45 years and 2 patients 45-50 years Table 2. Plummer Vinson Syndrome in gender distribution was analyzed as among 21 cases of positive plummer vinson syndrome cases only one patient was male while 20 patients were female Table 3. Association of Plummer Vinson Syndrome in duration of dysphagia was analyzed as

Table 1: Age and gender distribution

Age distribution in years	Frequency & Percent-age
15-25	8(2%)
26-35	97 (23%)
36-45	178 (42%)
46-50	140 (33%)
Total	423 (100%)
Gender distribution	
Male	252 (60%)
Female	179 (40%)
Total	423 (100%)

Mean age was 45 yrs with standard devi \pm 2.63

Table 2: Association of plummer vinson syndrome in age distribution

Age in years	Yes	No
15-25	0	8
26-35	1	96
36-45	18	160
46-50	2	138
Total	21	402

Table 3: Association of plummer vinson syndrome in gender distribution

Association of PVS in Gender	Male	Female	Total
Yes	1	20	21
No	251	151	402
Total	252	171	423

Chi square test was applied in which P value was 0.003

among 21 cases of positive plummer vinson syndrome cases 5 patients had dysphagia from 2-3 weeks while 16 patients had dysphagia from 4-5 weeks.

DISCUSSION

Plummer Vinson Syndrome consists of dysphagia for solids, GI tract stricture and sideropenic anemia. In previous times PVS was so common in some parts of the world but not now.⁹ Good food supplements has decreased its incidence, some cases reporting from poor nations.²⁰ 45 was average age in this study for patients. One publication of Novacek average age of patient's with PVS is 41 to 71 years.¹⁵ There is 30% chance of malignancy in diagnosed patients.¹⁸ In our study 5% patients developed pulmmmer vinson syndrome. More over in our study 171 patients were female while 252 patients were male. Patients with plummer vinson syndrome was 20 female and 1 male, this shows high incidence of PVS in females. As in the recognized report of Novacek PVS was high in upper age females.^{20,21}

Sometime 2 webs are located at two different positions treatment option is same in this situation also.^{22,23} Noshier JL et al, reported similar condition of two webs in a young patient.²⁵ She was treated with same surgical procedure. Twenty-three patients in our study has no complaints in a six months re visit. Many studies like the Kitabayashi K et al,²³ webs were common during diagnosis in patients with difficulty in swallowing up to 16%. Two patients were listed for surgical intervention and then medical therapy was initiated at the earliest time that's why they were disease free after fifteen months.²⁶ We start every patient after procedure on iron this was a great help to stop the relapse. Similar reports were found in the literature²⁷ who adopt the same protocol of treatment. In 6 months time 57% of patients have no complaints two come with same problem and one was admitted for procedure. One patient in our study was suffering from some chronic disease her symptoms

were not completely disappearing she was referred to obstruction. In 1 year follow up time only 2 patients needs re intervention.

CONCLUSION

In Plummer Vinson Syndrome treatment should be initiated at the earliest time both surgical and medical to prevent further complications.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

- Husain A:** Concept and design, data collection.
Din Ul: Data collection, manuscript writing.
Arif A: Statistical analysis and follow-up.
Shah SM: Review the article.
Hafeez M: Critical analysis.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.