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# Refractory Case of Esophageal Web in a Male Patient with Alcoholic Liver Disease

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## Background

- Plummer-Vinson syndrome (PVS) is the triad of dysphagia, iron-deficiency anemia and upper esophageal web commonly in Caucasian middle-aged females that responds to iron therapy.<sup>1</sup>
- PVS first described in 1908 by Plummer with reports of esophageal spasm and by Patterson and Kelly with a link between anemia and dysphagia (Table 1).<sup>2</sup>
- Pathogenesis remains unknown, but possible link with iron deficiency causing a loss of iron-dependent enzymes resulting in esophageal webs.<sup>1</sup>

## Case Presentation

- We present a 69 year old white male with **hemoglobin of 8.2 g/dL** and complaints of **decreased exercise tolerance, fatigue and mild dysphagia with mild weight loss**.
  - Past medical history of **gastrointestinal bleed, alcohol abuse, alcohol liver disease**.
- Laboratory studies revealed a **macrocytic anemia (MCV 101) and iron deficiency (Ferritin 14)** and heme positive stools.
- Esophagogastroduodenoscopy (EGD) with no bleeding source, but **upper esophageal web** difficult to traverse and pediatric endoscope utilized for dilation (image 1).
- Repeat EGD a month later for persistent dysphagia after **oral iron therapy** (image 2) with biopsies indicating necrosis and atypia.
- EGD with dilatation 2 months later with only guide-wire (image 3) able to traverse and balloon dilation to 8mm.
- EGD a week later unable to dilate due to high risk of perforation (image 4). Patient scheduled to follow-up for surgical approach.

## Discussion:

- PVS has multiple hypothesis linking development to autoimmune disorders, celiac disease, pernicious anemia, thyroid disease, inflammatory bowel disease, genetic disposition, malnutrition.<sup>3-4</sup>
- Malnutrition with iron deficiency may induce esophageal mucosal to degrade leading to tissue injury, atrophy and remodeling.<sup>1-2</sup>
  - Vitamin B6 and B12 deficiencies have potential link to PVS.<sup>8</sup>
- Chronic alcoholism leads to chronic anemia with diverse etiologies.<sup>5</sup> (Table 2)
- Alcoholism can induce a nutritional deficient state. Laboratory studies alcoholics can be misleading as evolving cirrhosis leads to macrocytic anemia.
- Challenge in this case is the esophageal web is refractory to iron therapy and dilation.
  - Alternative therapies include endoscopic incision, argon plasma coagulation, chemotherapy injections or surgical evaluation and diet modification.<sup>9</sup>
- Endoscopic surveillance is needed due to increase risk of squamous cell carcinoma.<sup>1</sup>

Table 1. Manifestations of PVS<sup>1-4</sup>

Manifestation	Associated Symptoms
Esophageal webs	Dysphagia Odynophagia Weight loss
Anemia	Pallor Dyspnea Generalized weakness Fatigability Tachycardia
Nutritional deficiencies	Angular cheilitis Glossitis Koilonychia

## Images



**Image 1.** EGD showing esophageal web at the 18cm location. Only a pediatric scope was able to pass with successful dilation. No varices, gastritis, arteriovenous malformations, ulcers or masses were noted.



**Image 2.** Repeat EGD 3 weeks later shows circumferential friable, ulcerated, nodular appearing mucosa at the 18cm mark with mucosal breaks. Biopsy reveal mild atypia likely reactive. No malignancy.



**Image 3.** EGD performed 11 weeks from initial EGD with web formation for recurrent dysphagia can only be transversed with guide wire under fluoroscopy with minimal dilatation achieved. Patient has remained on iron supplements for ~3 months.



**Image 4.** EGD performed 12 weeks after initial EGD for repeat dilatation reveals an esophageal web that is nearly occlusive and unable to be transversed with even a guide wire. Risk for perforation is greater than minimal benefit of dilatation.

Table 2. Spectrum of Anemia in Liver Disease<sup>5-7</sup>

Etiologies of Anemia	Mechanisms
Hemorrhage	<ul style="list-style-type: none"> <li>• Acute blood loss from esophageal/gastric varices</li> <li>• Chronic blood loss from portal gastropathy</li> <li>• Defect in coagulation from deficiencies/thrombocytopenia</li> </ul>
Splenomegaly	<ul style="list-style-type: none"> <li>• Hemolysis from intrasplenic destruction of platelets/megakaryocytes</li> <li>• Increase in plasma volume with platelet sequestration</li> </ul>
Bone marrow suppression	<ul style="list-style-type: none"> <li>• Direct alcohol toxicity</li> <li>• Malnutrition/lack of B12 and folate</li> </ul>
Alcohol	<ul style="list-style-type: none"> <li>• Malnutrition</li> <li>• Anti-folate properties</li> <li>• Intestinal malabsorption</li> <li>• Iron overloaded state (↓ hepcidin, ↑ transferrin receptors)</li> </ul>

## References:

1. Tahara, Tomomitsu, Tomoyuki Shibata, and Ichiro Hirata. "A Case of Plummer-Vinson Syndrome Showing Rapid Improvement of Dysphagia and Esophageal Web after Two Weeks of Iron Therapy." *Case Report Gastroenterology* 8.2 (2014): 211-15.
2. Anthony, R., S. Sood, D.r. Strachan, and J.d. Fenwick. "A Case of Plummer-Vinson Syndrome in Childhood." *Journal of Pediatric Surgery* 34.10 (1999): 1570-572.
3. Gude, D., Dp Bansal, and A. Malu. "Revisiting Plummer Vinson Syndrome." *Annals of Medical and Health Sciences Research* 3.1 (2013): 119.
4. Novacek, Gottfried. "Plummer Vinson Syndrome." *Orphanet Journal of Rare Diseases* 1.36 (2006): 1-6.
5. Gonzalez-Casas, Rosario. "Spectrum of Anemia Associated with Chronic Liver Disease." *World Journal of Gastroenterology* 15.37 (2009): 4653-4658.
6. Findik, Harrison. "Role of Alcohol in Regulation of Iron Metabolism." *World Journal of Gastroenterology* 13.37 (2007):4925-4930.
7. Ioannou, GN, and JA Dominitz. "The Effect of Alcohol Consumption on the Prevalence of Iron Overload, Iron Deficiency, and Iron Deficiency Anemia." *Gastroenterology* 126 (2004): 1293-301.
8. Jacobs, A., and I. Cavill. "Pyridoxine and Riboflavin Status in the Paterson-Kelly Syndrome." *British Journal of Haematology* 14.2 (1968): 153-60.
9. Katsinelos, Panagiotis, Stergios Gkagkalis, Grigoris Chatzimavroudis, Christos Zavos, Jannis Spyridakis, and Jannis Kountouras. "Recurrent Esophageal Web in Plummer-Vinson Syndrome Successfully Treated with Postdilatation Intralesional Injection of Mitomycin C." *Gastrointestinal Endoscopy* 75.5 (2012): 1124.

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