

# Image Diagnosis: Plummer-Vinson Syndrome: An Unusual Cause of Dysphagia

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## CASE PRESENTATION

A 50-year-old woman was referred to our gastroenterology clinic for an upper gastrointestinal endoscopy for mechanical dysphagia. She presented with 25 years of dysphagia predominantly to solids without any significant loss of weight or appetite. On examination she had pallor and koilonychia. Blood tests revealed a hemoglobin of 7.8 gm/dL with peripheral blood film and iron studies suggestive of iron-deficiency anemia. She denied any history of blood loss. She had been dewormed with albendazole twice in the preceding 6 months. Her immunoglobulin A tissue transglutaminase serology was negative. Barium swallow revealed a short segment filling defect in the midcervical esophagus with narrowing (Figure 1) and a jet effect of the barium passing distally to the lesion (Figure 2).

Upper gastrointestinal endoscopy showed a postcricoid web with marked narrowing of the esophagus (Figure 3). A Savary-Gilliard guidewire (Cook Medical, Bloomington, IN) was passed under endoscopic vision through the esophageal narrowing, and the web was fractured using a conventional gastroscope. Successful dilatation was confirmed by the presence of blood at the site of the web and by the gastroscope passing distally to the esophageal narrowing (Figure 4). The rest of the esophagus, stomach, and duodenum appeared normal (normal fold height and number with no grooving or scalloping). No immediate or delayed complications were seen.

We made the diagnosis of Plummer-Vinson syndrome. The patient was started on oral iron supplementation and counseled regarding the need for surveillance

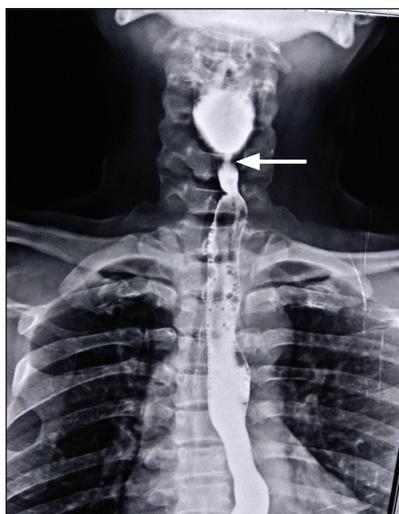


Figure 1. X-ray image of the barium swallow showing a short segment filling defect in the midcervical esophagus with narrowing.



Figure 2. X-ray image of the barium swallow showing the jet effect of the barium passing distally to the lesion.

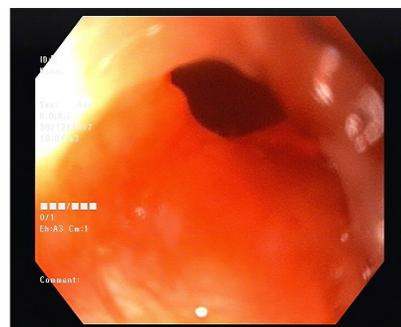


Figure 3. Upper gastrointestinal endoscopy showing a postcricoid web with marked narrowing of the esophagus.

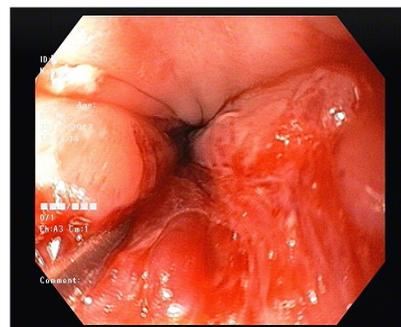


Figure 4. Upper gastrointestinal endoscopy showing the presence of blood at the site of the web and showing the gastroscope (guidewire in situ) passing distally to the esophageal narrowing.

endoscopy. At last follow-up six months after diagnosis, she was doing well without any dysphagia.

## DISCUSSION

Plummer-Vinson syndrome is a rare disorder characterized by the triad of dysphagia, postcricoid web, and iron-deficiency anemia.<sup>1</sup> It is predominantly seen in women aged 40 to 70 years, although it also has been reported in young

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adolescents and children.<sup>2,3</sup> The exact pathophysiology of the disease remains enigmatic, and theories of nutritional deficiencies including iron deficiency, genetic predisposition, and autoimmunity have been described in the literature.<sup>4</sup> The majority of patients recover with iron supplementation and conservative management, but a few patients have required esophageal dilatation for relief of dysphagia.<sup>5</sup> Various modalities have been described for esophageal dilatation, including dilatation and fracture of the web by the gastroscope itself, bougie dilatation, electro-incisional therapy, argon plasma coagulation, and surgical excision.<sup>6</sup> Because Plummer-Vinson syndrome is associated with increased risk of esophageal cancer (squamous cell carcinoma), surveillance endoscopy is recommended although its role and timing is still an issue of debate.<sup>5</sup> ❖

#### Disclosure Statement

*The author(s) have no conflicts of interest to disclose.*

#### Authorship Statement

*Puneet Chhabra, MD, DM, cared for the patient and contributed critical revision of the manuscript. Hunny Khurana, MD, contributed data acquisition, literature review, and writing the manuscript.*

#### How to Cite this Article

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