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Heyding in Plain Sight: Heyde Syndrome- A Rare Condition in the Elderly Widely Overlooked (Poster)

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Published 03/30/2026

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Categories: Hematology, Cardiology, Gastroenterology
Keywords: aortic stenosis (as), gastric angiodysplasia, heyde's syndrome, iron deficiency anemia (ida)

How to cite this abstract
Gilada M, Shawush A, Okojie E, et al. (March 30, 2026) Heyding in Plain Sight: Heyde Syndrome- A Rare Condition in the Elderly Widely Overlooked (Poster) . Cureus 18(3): a1726

Abstract

Introduction:

Heyde syndrome is a rare clinical entity characterized by the triad of aortic stenosis, acquired von Willebrand syndrome (type 2A), and recurrent gastrointestinal bleeding secondary to angiodysplasia. First described by Edward Heyde in 1958, the condition represents an important but often underrecognized cause of unexplained gastrointestinal bleeding in elderly patients with valvular heart disease.

The proposed pathophysiology involves high shear stress across a stenotic aortic valve, resulting in proteolysis of high-molecular-weight von Willebrand factor (vWF) multimers. This leads to impaired platelet-mediated hemostasis and promotes the development of fragile angiodysplastic vessels in the gastrointestinal tract. Recognition of this association is clinically significant, as definitive management with aortic valve replacement may correct the hematologic abnormality and reduce recurrent bleeding.

We present a case of recurrent, transfusion-dependent gastrointestinal bleeding in an 80-year-old male with moderate aortic stenosis and suspected acquired von Willebrand syndrome, highlighting the diagnostic complexity and therapeutic considerations of Heyde syndrome.

Case Presentation:

The patient provided informed consent for the publication of this case report.

An 80-year-old male with a past medical history significant for moderate aortic stenosis, chronic anemia secondary to gastrointestinal bleeding, hypertension, hyperlipidemia, and prior tobacco use presented for follow-up on August 5, 2025.

Since his previous visit, he had been admitted in July 2025 to an outside hospital for severe lower gastrointestinal bleeding. During that admission, hemoglobin dropped to 4 g/dL and he required multiple packed red blood cell transfusions. Endoscopic evaluation revealed multiple arteriovenous malformations treated with argon plasma coagulation. He was also diagnosed with a right peroneal deep vein thrombosis during the hospitalization. He was not started on anticoagulation at that time due to active gastrointestinal bleeding. On subsequent follow-up imaging, the DVT had resolved.

The patient reported recurrent episodes of melena over several months. Prior gastrointestinal workup included capsule endoscopy and double-balloon enteroscopy, which demonstrated small bowel angiodysplasia. He has required weekly intravenous iron (iron sucrose) infusions and continues oral iron supplementation.

A transthoracic echocardiogram performed in March 2025 showed a peak aortic velocity of 3.2 m/s, aortic valve area of 1.2 cm^2, mild aortic insufficiency, and preserved left ventricular ejection fraction of 60–65%, consistent with moderate aortic stenosis.

Given the presence of moderate aortic stenosis and recurrent bleeding from angiodysplastic lesions, there was concern for Heyde syndrome. Hematology-Oncology referral was recommended for evaluation of acquired von Willebrand syndrome, including platelet function assay and vWF multimer analysis. At the time of evaluation, a definitive diagnosis had not yet been established, and there was no clear indication for transcatheter aortic valve replacement (TAVR). However, valve intervention was discussed as a potential

therapeutic option pending hematologic confirmation.

Discussion:

Heyde syndrome represents a pathophysiologic link between aortic stenosis and gastrointestinal bleeding from angiodysplasia. Increased shear stress across a stenotic valve leads to structural alteration and enhanced cleavage of high-molecular-weight vWF multimers by ADAMTS13. The resulting acquired vWF deficiency impairs primary hemostasis and contributes to bleeding. Additionally, vWF deficiency has been implicated in dysregulated angiogenesis, promoting the formation of fragile angiodysplastic vessels.

The diagnosis should be suspected in elderly patients with otherwise unexplained, recurrent gastrointestinal bleeding in the setting of aortic stenosis. Initial evaluation focuses on identifying the bleeding source, most commonly via colonoscopy or enteroscopy. When angiodysplasia is identified in conjunction with aortic stenosis, laboratory assessment for acquired von Willebrand syndrome is warranted. Platelet function assays serve as a screening tool, with vWF multimer analysis confirming loss of high-molecular-weight multimers.

Management strategies include supportive care with iron supplementation, transfusions, and endoscopic therapy such as argon plasma coagulation. Desmopressin may transiently increase vWF levels but does not address the underlying mechanical cause. Definitive treatment is correction of the valvular lesion. Both surgical aortic valve replacement and TAVR have been associated with restoration of high-molecular-weight vWF multimers and reduction in recurrent bleeding.

This case is notable because the patient has moderate—not severe—aortic stenosis, raising important clinical considerations.

While Heyde syndrome is classically associated with severe aortic stenosis, cases have been reported in moderate disease, suggesting that shear stress sufficient to induce vWF degradation may occur before critical stenosis develops. The decision to pursue valve replacement in such patients requires multidisciplinary discussion, weighing bleeding severity, transfusion dependence, procedural risk, and degree of valvular dysfunction.

Conclusion:

This case highlights the diagnostic complexity of recurrent gastrointestinal bleeding in elderly patients with aortic stenosis. Our patient demonstrates two components of the classic Heyde syndrome triad—moderate aortic stenosis and angiodysplasia-related bleeding—with hematologic confirmation of acquired von Willebrand syndrome pending.

The most important clinical takeaway is that Heyde syndrome is widely underrecognized, especially when the stenosis is not as severe. Moderate aortic stenosis may present subtle enough in elderly patients to induce recurrent unexplained GI bleeding with negative or inconclusive findings from repeated endoscopic evaluations. This may prompt clinicians to prematurely halt further exploration of aortic valve involvement and misidentify the disease as a common blood loss disorder in the elderly, such as chronic iron deficiency anemia or isolated angiodysplasia. Clinicians should not rely on the severity of the stenosis to begin a workup of Heyde Syndrome but instead keep a high index of suspicion when elderly patients display intermittent symptom improvement with a history of hospitalizations due to blood loss.