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POLICY STATEMENT

BEVACIZUMAB (AVASTIN) USE IN HHT

Hereditary hemorrhagic telangiectasia (HHT, also known as Osler-Weber-Rendu Syndrome) is a condition that is characterized by focal proliferation of blood vessels (vascular malformations) in multiple organs. Two of the most commonly affected organs include the nose and gastrointestinal tract, which lead to chronic epistaxis (nose bleeds) and GI bleeding.[1] Bleeding in HHT patients leads to chronic anemia, potential high-output heart failure and an overall poor quality of life. In severe cases, HHT can lead to massive bleeding and death. Many HHT patients require multiple ENT procedures, upper and lower endoscopy procedures, recurrent blood transfusions and intravenous replacement of iron. Although these procedures provide temporary relief, they do not treat the underlying pathophysiology of the disease.

Vascular Endothelial Growth Factor (VEGF) is a signaling protein produced by cells that stimulates the formation of new blood vessels. Studies have shown that HHT patients have a higher level of circulating VEGF.[2] This higher level of VEGF promotes the formation of the abnormal blood vessels that tend to bleed in people with HHT. Anti-VEGF compounds block the action of VEGF and can decrease arteriovenous malformation (AVM) and telangiectasia formation in animal models.[3]

Bevacizumab (Avastin) is a medication that was developed for use in oncology to inhibit the growth of blood vessels that are formed in response to tumor-associated cells producing VEGF. Bevacizumab is a humanized monoclonal antibody that binds to VEGF and prevents it from binding and triggering its receptor, VEGFR2, thereby slowing new blood vessel formation. Studies have shown that bevacizumab can be useful in HHT. A number of these studies have shown that the use of bevacizumab can reduce the need for RBC transfusion and iron infusions in HHT patients with severe epistaxis and GI bleeding.[4-12] It has also been shown to be helpful in patients suffering from high-output cardiac failure secondary to liver AVMs.[13-14]

This treatment approach is being used successfully, both nationwide and internationally, for HHT patients with severe bleeding. A recent survey of the HHT Centers of Excellence throughout the USA shows that it has been used on many patients with profound beneficial effects and few potential side-effects.[15,16] A recent editorial concluded that "systemic bevacizumab should be considered as a first-line therapy for the treatment of refractory bleeding in patients with HHT." [17] The majority of patients require an initial induction followed by subsequent maintenance doses, typically every 1-6 months using dosing regimens of 2.5 – 7.5 mg/kg.[10,17] These patients require close follow-up to tailor the treatment approach for their specific needs.

The Centers for Medicare and Medicaid have now listed HHT as an approved indication for the use of bevacizumab.[18]

Given the scientific data cited in this statement and the ability to make a significant positive impact on the lives of HHT patients, the Scientific Medical Advisory Committee for Cure HHT believes that intravenous bevacizumab is an effective treatment modality for patients with HHT suffering from severe epistaxis, GI bleeding, chronic anemia and/or high-output cardiac failure and its use should be covered by insurance carriers in these clinical situations.

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18. Centers for Medicare and Medicaid Article ID A52370

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