BlueCross BlueShield Federal Employee Program.

FEP Medical Policy Manual

FEP 7.01.127 Bronchial Thermoplasty

Effective Policy Date: October 1, 2023

Original Policy Date: December 2011

Related Policies:

None

Bronchial Thermoplasty

Description

Description

Bronchial thermoplasty is a potential treatment option for patients with severe persistent asthma. It consists of radiofrequency energy delivered to the distal airways with the aim of decreasing smooth muscle mass believed to be associated with airway inflammation.

OBJECTIVE

The objective of this evidence review is to determine whether bronchial thermoplasty improves the net health outcome in patients with treatment-refractory asthma.

POLICY STATEMENT

Bronchial thermoplasty for the treatment of asthma is considered **not medically necessary.**

POLICY GUIDELINES

None

BENEFIT APPLICATION

Experimental or investigational procedures, treatments, drugs, or devices are not covered (See General Exclusion Section of brochure).

FDA REGULATORY STATUS

In April 2010, the Alair Bronchial Thermoplasty System (Asthmatx, now Boston Scientific) was approved by the U.S. Food and Drug Administration (FDA) through the premarket approval process (P080032) for use in adults with severe and persistent asthma whose symptoms are not adequately controlled with low-dose ICS and LABA. Use of the treatment is contraindicated in patients with implantable devices and those with sensitivities to lidocaine, atropine, or benzodiazepines. It should also not be used while patients are experiencing an asthma exacerbation, active respiratory infection, bleeding disorder, or within 2 weeks of making changes in their corticosteroid regimen. The same area of the lung should not be treated more than once with bronchial thermoplasty. FDA product code: OOY.

RATIONALE

Summary of Evidence

For individuals who have asthma refractory to standard treatment who receive bronchial thermoplasty added to medical management, the evidence includes 3 randomized controlled trials (RCTs) and observational studies. Relevant outcomes are symptoms, quality of life (QOL), hospitalizations, and treatment-related morbidity. Early studies (Research in Severe Asthma [RISA], Asthma Intervention Research [AIR]) investigated safety outcomes, finding similar rates of adverse events and exacerbations between the bronchial thermoplasty and control groups. These trials were limited by their lack of sham control. The AIR2 trial is the largest of the 3 published RCTs, and the only trial that is double-blind and sham-controlled, with sites in the United States. Over 1 year, bronchial thermoplasty was not found to be superior to sham treatment on the investigator-designated primary efficacy outcome of mean change in the QOL score but was found to be superior on a related outcome, improvement in the QOL of at least 0.5 points on the Asthma Quality of Life Questionnaire (AQLQ). There was a high response rate in the sham group of the AIR2 trial, suggesting a large placebo effect, particularly for subjective outcomes such as QOL. There are limited long-term sham-controlled efficacy data. Findings on adverse events from the 3 trials have suggested that bronchial thermoplasty is associated with a relatively high rate of adverse events, including hospitalizations during the treatment period, but not in the posttreatment period. Safety data up to 10 years have been reported for patients in the AIR2 trial, with a higher rate of new cases of bronchiectasis observed in bronchial thermoplasty-treated patients. Data from a United Kingdom registry showed that 20% of bronchial thermoplasty procedures were associated with a safety event (ie, procedural complications, emergency respiratory readmissions, emergency department visits, and/or postprocedure overnight stays), with uncertain benefit. Conclusions cannot be drawn about the effect of bronchial thermoplasty on the net health outcome due to the limited amount of sham-controlled data (1 RCT) on short-term efficacy, the uncertain degree of treatment benefit in that single sham-controlled trial, the lack of sufficient long-term sham-controlled data in the face of a high initial placebo response, and the presence of substantial adverse events. Also, there is a lack of data on patient selection factors for this procedure and, as a result, it is not possible to determine whether there are patient subgroups that might benefit. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

SUPPLEMENTAL INFORMATION

Practice Guidelines and Position Statements

Guidelines or position statements will be considered for inclusion in 'Supplemental Information' if they were issued by, or jointly by, a US professional society, an international society with US representation, or National Institute for Health and Care Excellence (NICE). Priority will be given to guidelines that are informed by a systematic review, include strength of evidence ratings, and include a description of management of conflict of interest.

American College of Chest Physicians

In May 2014, the American College of Chest Physicians posted a position statement on coverage and payment for bronchial thermoplasty.[19,] The document stated in part:

"...bronchial thermoplasty offers an important treatment option for adult patients with severe asthma who continue to be symptomatic despite maximal medical treatment and, therefore should not be considered experimental. Randomized controlled clinical trials of bronchial thermoplasty for severe asthma have shown a reduction in the rate of severe exacerbations, emergency department visits, and days lost from school or work. Additionally, data published in December 2013 demonstrates the persistence of the reduction in asthma symptoms achieved by bronchial thermoplasty for at least 5 years..."

Global Initiative for Asthma

Global Initiative for Asthma (GINA) is an international network of organizations and professionals with expertise in asthma. The group has been updating a report entitled *Global Strategy for Asthma Management and Prevention* annually since 2002; the most recent update was issued in 2022. [5,] The organization has recommended stepped care for treatment of asthma. Step 5 options for patients with uncontrolled symptoms and/or exacerbations include referral for phenotypic investigation and potential add-on treatment. Bronchial thermoplasty may be considered as an add-on treatment in adults with severe asthma that remains uncontrolled despite optimization of asthma therapy and referral to a severe asthma specialty center. GINA notes that bronchial thermoplasty should only be administered in the context of a systematic registry or a clinical study, as the evidence for efficacy and long-term safety is limited.

A guide for the diagnosis and management of difficult-to-treat and severe asthma was first published in 2019, with a goal to update annually.[20,] The updated guidance has not yet been released to the public, but a slide set from GINA highlighting decision trees from the guidance, updated in May 2022, is available on their website. For patients whose asthma remains uncontrolled despite GINA step 4 or 5 treatment with no evidence of type 2 inflammation (ie, medium- or high-dose inhaled corticosteroids and long-acting -agonists), treatment options include a trial of tiotropium or macrolide if not already tried, low-dose oral corticosteroids, and consideration of bronchial thermoplasty with registry enrollment. Bronchial thermoplasty with registry enrollment may also be considered for patients who do not respond to type 2-targeted biologic therapy. The guidance notes that the evidence for the efficacy and long-term safety of bronchial thermoplasty is limited.

National Asthma Education and Prevention Program

In 2020, the National Asthma Education and Prevention Program Coordinating Committee (NAEPPCC) Expert Panel Working Group published focused updates to the National Heart, Lung, and Blood Institute's guidelines for the diagnosis and management of asthma. This update was based on prior systematic reviews of the evidence published by the Agency for Healthcare Research and Quality.[21,22,]

The following conditional recommendation based on low certainty evidence on the use of bronchial thermoplasty was issued:

- "In individuals ages 18 years and older with persistent asthma, the Expert Panel conditionally recommends against bronchial thermoplasty.
- Individuals ages 18 years and older with persistent asthma who place a low value on harms (short-term worsening symptoms and unknown long term side effects) and a high value on potential benefits (improvement in quality of life, a small reduction in exacerbations) might consider bronchial thermoplasty."

For patients who opt to choose this intervention via shared decision-making, the panel recommends that clinicians offer the procedure in the setting of a clinical trial or registry study to facilitate the collection of long-term outcomes.

National Institute for Health and Care Excellence

The National Institute for Health and Care Excellence (2018) published guidance on bronchial thermoplasty for severe asthma.[23,] The guidance stated: "Current evidence on the safety and efficacy on bronchial thermoplasty for severe asthma is adequate to support the use of this procedure provided that standard arrangements are in place for clinical governance, consent and audit." It was also noted that "further research should report details of patient selection and long-term safety and efficacy outcomes."

U.S. Preventive Services Task Force Recommendations

Not applicable.

Medicare National Coverage

There is no national coverage determination. In the absence of a national coverage determination, coverage decisions are left to the discretion of local Medicare carriers.

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POLICY HISTORY - THIS POLICY WAS APPROVED BY THE FEP® PHARMACY AND MEDICAL POLICY COMMITTEE ACCORDING TO THE HISTORY BELOW:

Date	Action	Description
December 2011	New policy	
June 2012	Replace policy	Policy statement changed to not medically necessary.
September 2013	Replace policy	Policy updated with literature search; References 7, 9, and 13 added. No change in policy statement
September 2014	Replace policy	Policy updated with literature review adding references 4, 9-10, and 14- 16. Policy statement unchanged.
September 2015	Replace policy	Policy updated with literature review through June 1, 2015; reference 15 added. Policy statement unchanged.
September 2016	Replace policy	Policy updated with literature review through April 29, 2016; references 10-11 added. Policy statement unchanged
September 2017	Replace policy	Policy updated with literature review through April 23, 2018; references 11, 13-17 and 22 added. Policy statement unchanged.
September 2019	Replace policy	Policy updated with literature review through April 1, 2019, references added. Policy statement unchanged.
September 2020	Replace policy	Policy updated with literature review through May 27, 2020, reference added. Policy statement unchanged.
September 2021	Replace policy	Policy updated with literature review through May 7, 2021; reference added. Policy statement unchanged.
September 2022	Replace policy	Policy updated with literature review through May 6, 2022; references added. Policy statement unchanged.
September 2023	Replace policy	Policy updated with literature review through May 2, 2023; no references added. Policy statement unchanged.