Medical Coverage Policy | Microwave Tumor Ablation

EFFECTIVE DATE: 07/01/2012
POLICY LAST UPDATED: 03/19/2014

OVERVIEW

This medical policy documents the coverage determination for microwave tumor ablation. Microwave ablation (MWA) is a technique to destroy tumors and soft tissue by using microwave energy to create thermal coagulation and localized tissue necrosis. MWA is used to treat tumors considered to be inoperable or not amenable to resection or to treat patients ineligible for surgery due to age, presence of comorbidities, or poor general health. MWA may be performed as an open procedure, laparoscopically, percutaneously or thoracoscopically under image guidance (e.g., ultrasound, computed tomography [CT] or magnetic resonance imaging [MRI]) with sedation, or local or general anesthesia. This technique may also be referred to as microwave coagulation therapy.

PRIOR AUTHORIZATION

Not Applicable

POLICY STATEMENT

BlueCHiP for Medicare and Commercial products

Microwave ablation of primary and metastatic tumors is not medically necessary because there is insufficient published, peer reviewed scientific literature to demonstrate that microwave ablation is superior to other types of ablative treatments.

MEDICAL CRITERIA

Not Applicable

BACKGROUND

"Microwave is part of the radiofrequency spectrum, and simply uses a different part of the radiofrequency spectrum to develop heat energy to destroy abnormal tissue." Microwave ablation (MWA) is a technique in which the use of microwave energy induces an ultra high speed, 915 MHz or 2450MHz (2.45GHz), alternating electric field which causes water molecule rotation and the creation of heat. This results in thermal coagulation and localized tissue necrosis. In MWA, a single microwave antenna or multiple antennas connected to a generator are inserted directly into the tumor or tissue to be ablated; energy from the antennas generates friction and heat. The local heat coagulates the tissue adjacent to the probe, resulting in a small, approximately 2-3 cm elliptical area (5 x 3 cm) of tissue ablation. In tumors > 2 cm in diameter, 2-3 antennas may be used simultaneously to increase the targeted area of MWA and shorten operative time. Multiple antennas may also be used simultaneously to ablate multiple tumors. Tissue ablation occurs quickly, within one minute after a pulse of energy, and multiple pulses may be delivered within a treatment session depending on the size of the tumor. The cells killed by MWA are typically not removed but are gradually replaced by fibrosis and scar tissue. If there is local recurrence, it occurs at the edges. Treatment may be repeated as needed. MWA may be used to: 1) control local tumor growth and prevent recurrence; 2) palliate symptoms; and 3) extend survival duration.

Complications from MWA are usually considered mild and may include pain and fever. Other potential complications associated with MWA include those caused by heat damage to normal tissue adjacent to the

tumor (e.g., intestinal damage during MWA of the kidney or liver), structural damage along the probe track (e.g., pneumothorax as a consequence of procedures on the lung), liver enzyme elevation, liver abscess, ascites, pleural effusion, diaphragm injury or secondary tumors if cells seed during probe removal. MWA should be avoided in pregnant patients since potential risks to the patient and/or fetus have not been established and in patients with implanted electronic devices such as implantable pacemakers that may be adversely affected by microwave power output.

Based on review of the published data (which consists largely of small case series and limited randomized trials) and clinical input, there is insufficient evidence to permit conclusions concerning the comparative effectiveness of microwave ablation (MWA) to other ablative techniques on health outcomes. Therefore, MWA of hepatocellular carcinoma, liver metastases from primary cancers from other sites, renal cell carcinoma, other renal tumors and all other tumors is considered not medically necessary.

COVERAGE

Benefits may vary between groups/contracts. Please refer to the appropriate Evidence of Coverage, Subscriber Agreement for applicable Services Not Medically Necessary coverage.

CODING

Blue CHiP for Medicare and Commercial

There are no CPT codes specific to microwave tumor ablation. Report the unlisted CPT code for the anatomic area.

RELATED POLICIES

None

PUBLISHED

Provider Update	June 2014
Provider Update	Nov 2013
Provider Update	May 2012

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