Public Statement:

Radioimmunotherapy is designed to deliver radiation directly to tumor cells. This can be done by using monoclonal antibodies that are linked to radio-isotopes.

Two of these are Zevalin (Ibritumomab tiuxetan) and Bexxar (Tositumomab). These are infusions designed for the treatment of certain forms of Non-Hodgkin’s Lymphoma. They are approved by the FDA for single courses of therapy.

These therapies require pre-payment review.

Medical Policy Statement:

I. Ibritumomab tiuxetan (Zevalin)

Zevalin (radioimmunotherapy with ibritumomab tiuxetan) is considered medically necessary for the treatment of relapsed or refractory low-grade, follicular, or transformed B-cell non-Hodgkin’s lymphoma (NHL), when the patient meets the following criteria:

1. Marrow involvement is less than 26 percent; and
2. Platelet count is 100,000 cells/mm$^3$ or greater; and
3. Neutrophil count is 1,500 cells/mm$^3$ or greater.

II. Tositumomab (Bexxar)
Bexxar (radioimmunotherapy with tositumomab) is considered medically necessary for treatment of CD20 positive, follicular, non-Hodgkin's lymphoma, with and without transformation, which is refractory to rituximab and has relapsed following chemotherapy, when the patient meets the following criteria:

1. Marrow involvement is less than 26 percent; and
2. Platelet count is 100,000 cells/mm$^3$ or greater; and
3. Neutrophil count is 1,500 cells/mm$^3$ or greater.

Limits

- The Zevalin therapeutic regimen is considered experimental and investigational for the initial treatment of persons with non-Hodgkin's lymphoma.
- A single course of treatment with Zevalin therapeutic regimen is considered medically necessary for members who meet the medical criteria.
- The U.S. Food and Drug Administration (FDA) has stated that the safety of multiple courses of the Zevalin therapeutic regimen, or combination of this regimen with other forms of irradiation, has not been evaluated.

- The Bexxar therapeutic regimen is considered experimental and investigational for the initial treatment of persons with NHL.
- A single course of treatment with Bexxar therapeutic regimen is considered medically necessary for members who meet the medical criteria.
- The FDA has stated that the safety of multiple courses of the Bexxar therapeutic regimen, or combination of this regimen with other forms of irradiation or chemotherapy, has not been evaluated.

Background:

Ibritumomab tiuxetan consists of a monoclonal antibody linked to the radioactive isotope yttrium-90. After infusion into a patient, the monoclonal antibody targets the CD20 antigen, which is found on the surface of mature B cells and B-cell tumors. The CD20 antigen is expressed on more than 90 percent of B-cell non-Hodgkin's lymphomas. In this manner, cytotoxic radiation is delivered directly to malignant cells.

Ibritumomab tiuxetan must be used along with rituximab (Rituxan), another monoclonal antibody that targets malignant B-lymphocytes and has been approved for treatment of low-grade B-cell NHL. Ibritumomab tiuxetan is approved by the U.S. Food and Drug Administration (FDA) for patients who have not responded to standard chemotherapy treatments or to the use of rituximab alone.

The Zevalin therapeutic regimen is administered in two parts. Patients first receive rituximab followed by a form of Zevalin with a low dose of radioactive chemical Indium-111 for screening purposes. If patients' tumors are properly targeted with this procedure, they receive rituximab again with a form of Zevalin that has a different radioactive chemical, Yttrium-90, that can provide a treatment benefit.
Bexxar consists of a monoclonal antibody, tositumomab, linked to the radioactive isotope iodine-131. The monoclonal antibody targets the CD20 antigen, which is found on the surface of mature B cells and B cell tumors.

The Bexxar therapeutic regimen is administered in two steps: the dosimetric and therapeutic steps. Each step consists of a sequential infusion of tositumomab followed by iodine-131 (I 131) tositumomab. The therapeutic step is administered 7-14 days after the dosimetric step.

The purpose of the dosimetric step is to provide a consistent radiation dose by adjusting for the individual patient's rate of clearance of the drug. Clinical studies found that patients with high tumor burden, splenomegaly, or bone marrow involvement have a faster clearance, shorter terminal half-life, and larger volume of distribution. Patient-specific dosing, based on total body clearance, has been found to provide a consistent radiation dose, despite variable pharmacokinetics, by allowing each patient's administered activity to be adjusted for individual patient variables.

Application to Products

This policy applies to ARBenefits. Consult ARBenefits Summary Plan Description (SPD) for additional information.

References:


22. National Horizon Scanning Centre (NHSC). Ibritumomab tiuxetan for NHL. Birmingham, UK: National Horizon Scanning Centre (NHSC); 2002.