DRAFT Medical Coverage Policy | In vitro Chemoresistance and Chemosensitivity Assays

EFFECTIVE DATE: 09/04/2007
POLICY LAST UPDATED: 10/15/2013

OVERVIEW

In vitro chemoresistance and chemosensitivity assays have been investigated as a means of predicting tumor response to various chemotherapies. These assays have been used by oncologists to select chemotherapy regimens for an individual patient.

PRIOR AUTHORIZATION

Not applicable

POLICY STATEMENT

BlueCHiP for Medicare and Commercial Products:

In vitro chemosensitivity assays and chemoresistance assays are considered not medically necessary as there have been no prospective clinical trials that have demonstrated improved survival among patients in whom chemosensitivity or chemoresistance assays were used to positively select or exclude chemotherapy regimens.

MEDICAL CRITERIA

Not applicable

BACKGROUND

In vitro chemoresistance and chemosensitivity assays have been investigated as a means of predicting tumor response to various chemotherapies. Thus these assays have been used by oncologists to select chemotherapy regimens for an individual patient. A variety of assays have been developed that differ in their processing and in the technique used to measure the sensitivity or resistance. However, all involve the same four basic steps: 1) isolation of cells, 2) incubation of cells with drugs, 3) assessment of cell survival, and 4) interpretation of the result. A variety of techniques have been evaluated to assess cell survival, including the differential staining cytotoxicity (DiSC®) assay, the thymidine incorporation assay, fluorescence (cytoprint) assays, and the MTT assay.

Results may be reported as either drug sensitive, drug resistant, or intermediate. Drugs identified as drug sensitive are thought to be potentially effective in in-vitro chemotherapy, while drugs identified as resistant are thought to be potentially ineffective chemotherapies. Chemoresistance is the one most commonly used.

Evidence is insufficient as larger studies and prospective trials are still needed to assess the impact of testing on treatment decisions and health outcomes. -

COVERAGE

Benefits vary between groups/contracts. Please refer to the appropriate Evidence of Coverage or Subscriber Agreement for applicable surgery services and services not medically necessary coverage.

CODING

There is no specific CPT code for these assays as the extreme drug resistance assay is a multistep laboratory procedure that might be identified by several codes. Claims should be filed with an unlisted code

RELATED POLICIES

None

PUBLISHED

Provider Update	Dec 2013
Provider Update	May 2012
Provider Update	Aug 2012
Provider Update	Sep 2011
Provider Update	Nov 2010
Provider Update	Oct 2009
Provider Update	Oct 2008

REFERENCES

Blue Cross Blue Shield Association Medical Policy Reference. Policy 2.03.01 - In Vitro Chemoresistance and Chemosensitivity Assays.

Cree IA, Kurbacher CM, Lamont A, et al. A prospective randomized controlled trial of tumour chemosensitivity assay directed chemotherapy versus physician's choice in patients with recurrent platinum-resistant ovarian cancer. Anticancer Drugs; 200718(9):1093-1101.

Iwadate Y, Sakaida T, Saegusa T, Hiwasa T, Takiguchi M, Fujimoto S, Yamaura A. Proteome-based identification of molecular markers predicting chemosensitivity to each category of anticancer agents in human gliomas. International Journal of Oncology; 2005;26(4):993-998.

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