

# Protocol

## Hematopoietic Cell Transplantation for Epithelial Ovarian Cancer

(80123)

<b>Medical Benefit</b>		<b>Effective Date:</b> 04/01/13	<b>Next Review Date:</b> 01/20
<b>Preauthorization</b>	Yes	<b>Review Dates:</b> 04/07, 05/08, 05/09, 03/10, 01/11, 01/12, 01/13, 01/14, 01/15, 01/16, 01/17, 01/18, 01/19	

### ***Preauthorization is required and must be obtained through Case Management.***

*The following protocol contains medical necessity criteria that apply for this service. The criteria are also applicable to services provided in the local Medicare Advantage operating area for those members, unless separate Medicare Advantage criteria are indicated. If the criteria are not met, reimbursement will be denied and the patient cannot be billed. Please note that payment for covered services is subject to eligibility and the limitations noted in the patient's contract at the time the services are rendered.*

Populations	Interventions	Comparators	Outcomes
Individuals: <ul style="list-style-type: none"><li>• With advanced-stage epithelial ovarian cancer</li></ul>	Interventions of interest are: <ul style="list-style-type: none"><li>• Hematopoietic cell transplantation</li></ul>	Comparators of interest are: <ul style="list-style-type: none"><li>• Standard chemotherapy regimen</li></ul>	Relevant outcomes include: <ul style="list-style-type: none"><li>• Overall survival</li><li>• Disease-specific survival</li><li>• Change in disease status</li><li>• Treatment-related mortality</li><li>• Treatment-related morbidity</li></ul>

### **DESCRIPTION**

The use of hematopoietic cell transplantation (HCT) has been investigated to treat patients with epithelial ovarian cancer. Hematopoietic stem cells are infused to restore bone marrow function after cytotoxic doses of chemotherapeutic agents with or without whole body radiotherapy.

### **SUMMARY OF EVIDENCE**

For individuals who have advanced-stage epithelial ovarian cancer who receive HCT, the evidence includes randomized trials and data from case series and registries. The relevant outcomes are overall survival, disease-specific survival, change in disease status, and treatment-related mortality and morbidity. Although some observational studies have reported longer survival in subsets of women with advanced epithelial ovarian cancer than in women treated with standard chemotherapy, none of the randomized trial evidence has shown a benefit from HCT in this population. Overall, the evidence has not shown that HCT improves health outcomes in treating epithelial ovarian cancer, including survival, compared with conventional standard doses of chemotherapy. The evidence is insufficient to determine the effects of the technology on health outcomes.

### **POLICY**

Autologous and allogeneic hematopoietic cell transplantations are considered **investigational** to treat advanced stage epithelial ovarian cancer.

## POLICY GUIDELINES

Stem cell transplantation to treat germ cell tumors of the ovary is considered separately in the Hematopoietic Cell Transplantation in the Treatment of Germ Cell Tumors Protocol.

## MEDICARE ADVANTAGE

If a transplant is needed, we arrange to have the Medicare–approved transplant center review and decide whether the patient is an appropriate candidate for the transplant.

## BACKGROUND

### EPITHELIAL OVARIAN CANCER

Several types of malignancies can arise in the ovary; epithelial carcinoma is the most common. Epithelial ovarian cancer is the fifth most common cause of cancer death in women. New cases and deaths from ovarian cancer in the United States for 2017 were estimated at 22,440 and 14,080, respectively.<sup>1</sup> Most ovarian cancer patients present with widespread disease, and the National Cancer Institute Surveillance, Epidemiology and Results Program reported a 46.5% five-year survival for all cases between 2007 and 2013.<sup>2</sup>

### Treatment

Current management for advanced epithelial ovarian cancer is cytoreductive surgery with chemotherapy.<sup>3</sup> Approximately 75% of patients present with International Federation of Gynecology and Obstetrics stage III to IV ovarian cancer and are treated with paclitaxel plus a platinum analogue, the preferred regimen for the newly diagnosed advanced disease.<sup>4,5</sup> Use of platinum and taxanes has improved progression-free survival and overall survival in advanced disease to between 16 and 21 months and 32 and 57 months, respectively.<sup>4</sup> However, cancer recurs in most women, and they die of the disease because chemotherapy drug resistance leads to uncontrolled cancer growth.<sup>5</sup>

### *Hematopoietic Cell Transplantation*

HCT is a procedure in which hematopoietic stem cells are infused to restore bone marrow function in cancer patients who receive bone-marrow-toxic doses of drugs with or without whole body radiotherapy. Bone marrow stem cells may be obtained from the transplant recipient (autologous HCT) or a donor (allogeneic HCT). They can be harvested from bone marrow, peripheral blood, or umbilical cord blood and placenta shortly after delivery of neonates. Although cord blood is an allogeneic source, the stem cells in it are antigenically “naive” and thus are associated with a lower incidence of rejection or graft-versus-host disease. Cord blood transplantation is discussed in detail in the Placental and Umbilical Cord Blood as a Source of Stem Cells Protocol.

HCT is an established treatment for certain hematologic malignancies; however, its use in solid tumors in adults is largely experimental.

## REGULATORY STATUS

The U.S. Food and Drug Administration regulates human cells and tissues intended for implantation, transplantation, or infusion through the Center for Biologics Evaluation and Research, under Code of Federal Regulation, title 21, parts 1270 and 1271. Hematopoietic stem cells are included in these regulations.

## RELATED PROTOCOLS

Hematopoietic Cell Transplantation for Miscellaneous Solid Tumors in Adults

Hematopoietic Cell Transplantation in the Treatment of Germ Cell Tumors

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Services that are the subject of a clinical trial do not meet our Technology Assessment Protocol criteria and are considered investigational. *For explanation of experimental and investigational, please refer to the Technology Assessment Protocol.*

It is expected that only appropriate and medically necessary services will be rendered. We reserve the right to conduct prepayment and postpayment reviews to assess the medical appropriateness of the above-referenced procedures. **Some of this protocol may not pertain to the patients you provide care to, as it may relate to products that are not available in your geographic area.**

## REFERENCES

We are not responsible for the continuing viability of web site addresses that may be listed in any references below.

1. American Cancer Society. Cancer Facts & Figures 2017. Atlanta, GA: American Cancer Society; 2017. <http://www.cancer.org/research/cancerfactsstatistics/>. Accessed December 5, 2017.
2. National Cancer Institute, Surveillance Epidemiology and End Results Program. Cancer Stat Facts: Ovarian Cancer. n.d.; <https://seer.cancer.gov/statfacts/html/ovary.html>. Accessed December 20, 2017.
3. National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Ovarian Cancer Including Fallopian Tube Cancer and Primary Peritoneal Cancer. Version 4.2017. [https://www.nccn.org/professionals/physician\\_gls/PDF/ovarian.pdf](https://www.nccn.org/professionals/physician_gls/PDF/ovarian.pdf). Accessed December 5, 2017.
4. Mobus V, Wandt H, Frickhofen N, et al. Phase III trial of high-dose sequential chemotherapy with peripheral blood stem cell support compared with standard dose chemotherapy for first-line treatment of advanced ovarian cancer: intergroup trial of the AGO-Ovar/AIO and EBMT. *J Clin Oncol*. Sep 20 2007;25(27):4187-4193. PMID 17698804
5. Papadimitriou C, Dafni U, Anagnostopoulos A, et al. High-dose melphalan and autologous stem cell transplantation as consolidation treatment in patients with chemosensitive ovarian cancer: results of a single institution randomized trial. *Bone Marrow Transplant*. Mar 2008;41(6):547-554. PMID 18026149
6. Blue Cross and Blue Shield Association Technology Evaluation Center (TEC). High-dose chemotherapy with autologous stem-cell support for epithelial ovarian cancer. *TEC Assessments*. 1998;Volume 13:Tab 6. PMID
7. Blue Cross and Blue Shield Association Technology Evaluation Center (TEC). Salvage high-dose chemotherapy with allogeneic stem cell support for relapse following high-dose chemotherapy with autologous stem cell support for non-lymphoid solid tumors. *TEC Assessments*. 1999;Volume 14:Tab 11. PMID
8. Donato ML, Aleman A, Champlin RE, et al. Analysis of 96 patients with advanced ovarian carcinoma treated with high-dose chemotherapy and autologous stem cell transplantation. *Bone Marrow Transplant*. Jun 2004; 33(12):1219-1224. PMID 15122311
9. Ledermann JA, Herd R, Maraninchi D, et al. High-dose chemotherapy for ovarian carcinoma: long-term results from the Solid Tumour Registry of the European Group for Blood and Marrow Transplantation (EBMT). *Ann Oncol*. May 2001;12(5):693-699. PMID 11432630
10. Stiff PJ, Bayer R, Kerger C, et al. High-dose chemotherapy with autologous transplantation for persistent/relapsed ovarian cancer: a multivariate analysis of survival for 100 consecutively treated patients. *J Clin Oncol*. Apr 1997;15(4):1309-1317. PMID 9193322

11. Stiff PJ, Veum-Stone J, Lazarus HM, et al. High-dose chemotherapy and autologous stem-cell transplantation for ovarian cancer: an autologous blood and marrow transplant registry report. *Ann Intern Med.* Oct 3 2000; 133(7):504-515. PMID 11015163
12. Sabatier R, Goncalves A, Bertucci F, et al. Are there candidates for high-dose chemotherapy in ovarian carcinoma? *J Exp Clin Cancer Res.* Oct 16 2012;31:87. PMID 23072336
13. Centers for Medicare & Medicaid Services. National Coverage Determination (NCD) for STEM CELL Transplantation (110.8.1). 2010; Version 5:<https://www.cms.gov/medicare-coverage-database/details/nccdetails.aspx?ncdid=45&ncdver=5&coverageselection=both&articletype=all&policytype=final&s=pennsylvania&keyword=stem+cell&keywordlookup=title&keywordsearchtype=and&bc=gaaaabaaaaa&>. Accessed January 7, 2017.