Multimarker Serum-Testing Related to Ovarian Cancer

(Formerly Proteomics-Based Testing Related to Ovarian Cancer)

Medical Benefit
Effective Date: 04/01/14
Next Review Date: 01/18
Preauthorization: Yes
Review Dates: 01/11, 01/12, 01/13, 01/14, 01/15, 01/16, 01/17

Preauthorization is required.

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.

<table>
<thead>
<tr>
<th>Populations</th>
<th>Interventions</th>
<th>Comparators</th>
<th>Outcomes</th>
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<tbody>
<tr>
<td>Individuals:</td>
<td>Interventions of interest are:</td>
<td>Comparators of interest are:</td>
<td>Relevant outcomes include:</td>
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<tr>
<td>• With adnexal masses</td>
<td>• Multimarker serum testing related to ovarian cancer(e.g., OVA1 test [Overa test], ROMA test) in conjunction with clinical assessment</td>
<td>• Clinical assessment</td>
<td>• Overall survival</td>
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<td>undergoing surgery for</td>
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<td>• Test accuracy</td>
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<tr>
<td>possible ovarian cancer</td>
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Description

A variety of serum biomarkers have been studied for their association with ovarian cancer. Of particular interest have been tests that integrate results from multiple analytes into a risk score to predict the presence of disease. Two tests based on this principle (OVA® test [now Overa], ROMA™ test) have been cleared by the U.S. Food and Drug Administration (FDA) for use in women with adnexal masses undergoing surgery as an aid to further assess the likelihood that malignancy is present.

Summary of Evidence

For individuals who have adnexal mass(es) undergoing surgery for possible ovarian cancer who receive multimarker serum testing related to ovarian cancer (OVA1® test [Overa test], ROMA test) in conjunction with clinical assessment, the evidence includes studies assessing the technical performance and diagnostic accuracy. Relevant outcomes are overall survival and test accuracy. OVA1® is intended to be used in patients for whom clinical assessment does not indicate cancer. When used with clinical assessment in this manner, sensitivity for ovarian malignancy was 92% and specificity was 42%. ROMA is intended for use in conjunction with clinical assessment, but no specific method has been defined. One study, which used clinical assessment and ROMA results, showed a sensitivity of 90% and specificity of 67%. There is no direct evidence in terms of assessing patient outcomes based on the use of such testing prior to undergoing surgery. It is uncertain whether discrimination is sufficient to alter decision making based on clinical assessment alone and so offer meaningful benefit to patients. The chain of evidence supporting improved outcomes is therefore incomplete. The evidence is insufficient to determine the effects of the technology on health outcomes.
Policy

All uses of the OVA1® and ROMA™ tests are **investigational**, including but not limited to:

a. preoperative evaluation of adnexal masses to triage for malignancy, or
b. screening for ovarian cancer, or
c. selecting patients for surgery for an adnexal mass, or
d. evaluation of patients with clinical or radiologic evidence of malignancy, or
e. evaluation of patients with nonspecific signs or symptoms suggesting possible malignancy, or
f. postoperative testing and monitoring to assess surgical outcome and/or to detect recurrent malignant disease following treatment.

Policy Guidelines

OVA1® and ROMA™ tests are combinations of several separate lab tests and involve a proprietary algorithms for determining risk (i.e., they are what the American Medical Association’s CPT calls “Multianalyte Assays with Algorithmic Analyses” [MAAAs]).

Background

More than 22,000 women in the United States are diagnosed each year with ovarian cancer and approximately 14,000 die of the disease.¹ The mortality rate depends on three variables: (1) characteristics of the patient; (2) biology of the tumor (grade, stage, type); and (3) quality of treatment (nature of staging, surgery and chemotherapy used).² In particular, comprehensive staging and completeness of tumor resection appear to have a positive impact on patient outcome.

In 1997, the Society of Surgical Oncology recommended ovarian cancer surgery and follow-up treatment be performed by physicians with ovarian cancer disease expertise.³ Numerous articles have been published on the application of this recommendation looking at long-term outcomes, short-term outcomes, as well as process measures (e.g., types of treatment such as complete staging or tumor debulking). At least two meta-analyses have concluded that outcomes are improved when patients with ovarian cancer are treated by gynecologic oncologists⁴, ⁵ Data have been most convincing for patients with advanced-stage disease.

Adult women presenting with an adnexal mass have an estimated 68% likelihood of having a benign lesion.⁶ About six percent have borderline tumors, 22%, invasive malignant lesions, and three percent, metastatic disease. Clinicians generally agree that women with masses that have a high likelihood of malignancy should undergo surgical staging by gynecologic oncologists. However, women with clearly benign masses do not require referral to a specialist. Criteria and tests that help differentiate benign from malignant pelvic masses are thus desirable.

In 2005, the American College of Obstetricians and Gynecologists and the Society of Gynecologic Oncologists jointly released referral guidelines that address criteria for referring women with pelvic masses that are suspicious for ovarian cancer to gynecologic oncologists.⁷ Separate criteria were developed for premenopausal and postmenopausal women. In premenopausal women, referral criteria included at least one of the following: elevated cancer antigen 125 (CA125; > 200 U/mL), ascites, evidence of abdominal or distant metastasis, or a positive family history. The referral criteria in postmenopausal women were similar, except that a lower threshold for an elevated CA125 test was used (35 U/mL) and nodular or fixed pelvic mass was an additional criterion.
Two multimarker serum-based tests have now been cleared by FDA with the intended use of triaging patients with adnexal masses. The proposed use of the tests is to identify women with a substantial likelihood of malignant disease who may benefit from referral to a gynecologic-oncology specialist. Patients with positive results may be considered candidates for referral to a gynecologic oncologist for treatment. The tests have been developed and evaluated only in patients with adnexal masses and planned surgical removal. Other potential uses, such as selecting patients to have surgery, screening asymptomatic patients, and monitoring treatment have not been investigated. Furthermore, the tests are not intended to be used as stand-alone tests, but are intended to be used in conjunction with clinical assessment.

Other multimarker panels and longitudinal screening algorithms are under development, but are not yet commercially available.8,9

**Regulatory Status**

On July 16, 2009, the OVA1® test (Aspira Labs) was cleared for marketing by the FDA through the 510(k) process. The intended use of OVA1® is as an aid to further assess the likelihood that malignancy is present when the physician’s independent clinical and radiological evaluation does not indicate malignancy. In March 2016, a second-generation test called Overa™, in which two of the five biomarkers in OVA1® are replaced with human epididymis secretory protein 4 and follicle stimulating hormone (FSH), was cleared for marketing by the FDA through the 510(k) process. Similar to OVA1®, Overa™ generates a low or high risk of malignancy on a scale from zero to 10.

On September 1, 2011, the Risk of Ovarian Malignancy Algorithm (ROMA™ test; Fujirebio Diagnostics) was cleared for marketing by FDA through the 510(k) process. The intended use of ROMA is as an aid, in conjunction with clinical assessment, in assessing whether a premenopausal or postmenopausal woman who presents with an ovarian adnexal mass is at high or low likelihood of finding malignancy on surgery.

FDA product code: ONX.

**Black Box Warning**

On December 10, 2011, FDA amended its regulation for classifying ovarian adnexal mass assessment score test systems.10 The change required off-label risks be highlighted using a black box warning.10 The warning is intended to mitigate the risk to health associated with off-label use as a screening test, stand-alone diagnostic test, or as a test to determine whether to proceed with surgery.

References

We are not responsible for the continuing viability of web site addresses that may be listed in any references below.
28. National Government Services, Inc. Local Coverage Determination (LCD): Non-covered Services (L33629), Revision Effective Date for services performed on or after 11/01/2016.