Ovarian-adnexal ultrasound: Primary care provider's role

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Ovarian Cancer

- Ovarian cancer is the second most common gynecologic cancer with a lifetime risk of 1.7% (1).
- It is difficult to identify malignancy, especially at an early stage, because ovarian cancer presents with non-specific symptoms and there are no adequate screening methods (2).
- Most patients with ovarian cancer are diagnosed at an advanced stage, which has a high mortality rate (3).
- Ovarian-adnexal masses are commonly found, but less than 20% are malignant (4-6).
- Therefore, it is important for clinicians to be able to identify which ovarian-adnexal masses are at risk for malignancy.

Opportunity for Improvement

- Ultrasound is the most important imaging tool for characterizing ovarian-adnexal masses, however there is variation in the descriptive terms used in radiology reports.
- For example, "complex cyst" is a commonly used descriptive term, but it is associated with lack of clarity in both the diagnosis and appropriate follow-up.
- The adoption of a standardized lexicon and risk stratification and management system would help referring providers, including primary care providers, understand their patients' risk of malignancy and the best management approach based on their level of risk, while also de-escalating imaging (such as MRI of the pelvis).

Endorsement of O-RADS™

- Ontario Health (Cancer Care Ontario) addressed the opportunity for improvement by adopting the American College of Radiology's (ACR's) Ovarian-Adnexal Reporting and Data System (O-RADS™).
- A multidisciplinary working group, which included representation from primary care, reviewed existing descriptive lexicons, risk stratification guidelines, management recommendations and reporting templates.
- The working group selected O-RADS™, which includes an evidence-based lexicon, risk stratification system, and clinical management guidance for ultrasound.
- O-RADS™ assists primary care providers and general gynecologists by promoting appropriate management based on a patient's risk of malignancy, so that patients with low-risk lesions avoid unnecessary interventions, while those with potentially malignant lesions are referred to the appropriate specialist for treatment.
- Small modifications to the management recommendations were made to reflect the Ontario healthcare system.
- Standardized Ultrasound Reporting for Ovarian-Adnexal Masses was launched in Ontario on January 31, 2024.

Management Recommendations by O-RADS™ Score

The following table describes the management recommendations by O-RADS™ score for ovarian-adnexal lesions.

The key messages include:

- **For ORADS™ 2 and 3**: Low risk of malignancy, so follow-up imaging has been de-escalated.
- **For ORADS™ 4 :** Refer to a gynecologist with a consultation by gynecologic oncologist *or* refer to a gynecologic oncologist. This may depend on patient/provider location, wait times, partnerships with specialists, etc.
- **For ORADS™ 5 :** A direct urgent referral to a gynecologic oncologist is required due to a high risk of malignancy.

Table 1: O-RADS™ Ultrasound Risk Stratification and Management System Adapted for the Ontario Healthcare Context

<table>
<tr><th>O-RADS™ Score</th><th>Risk Category</th><th colspan="2">Management Recommendations</th></tr>
<tr><td>0</td><td>Incomplete Evaluation [N/A]</td><td colspan="2">Repeat US study or MRI</td></tr>
<tr><td>1</td><td>Normal Ovary [N/A]</td><td colspan="2">None</td></tr>
<tr><td>2</td><td>Almost certainly benign [<1%]</td><td colspan="2">
<table>
<tr><th>Ultrasound Findings</th><th>Premenopausal</th><th>Postmenopausal</th></tr>
<tr><td>Simple cyst, ≤3 cm</td><td>N/A</td><td>None</td></tr>
<tr><td>Simple cyst, >3 cm to 5 cm</td><td>None</td><td>Follow-up US in 12 months</td></tr>
<tr><td>Simple cyst, >5 cm to <10 cm</td><td>Follow-up US in 12 months</td><td>Follow-up US in 12 months</td></tr>
<tr><td>Unilocular, smooth, non-simple cyst, smooth, ≤3 cm</td><td>None</td><td>Follow-up US in 12 months</td></tr>
<tr><td>Unilocular, smooth, non-simple cyst, smooth, >3 cm to <10 cm <i>or</i> bilocular, smooth cyst, >3 cm to <10 cm</td><td>Follow-up US in 6 months</td><td>Follow-up US in 6 months</td></tr>
</table>
</td></tr>
<tr><td>3</td><td>Low Risk Malignancy [1 - <10%]</td><td>Clinical:
Referral to a gynecologist</td><td>Imaging:
• If not surgically excised, consider follow-up US within 6 months
• If solid, may consider US specialist (if available) or MRI (with O-RADS™ MRI score)</td></tr>
<tr><td>4</td><td>Intermediate Risk [10 - <50%]</td><td>Clinical:
Referral to a gynecologist with gyne-oncologist consultation or solely by gyne-oncologist</td><td>Imaging:
• Options include:
○ US specialist (if available)
○ MRI (with O-RADS™ MRI score)</td></tr>
<tr><td>5</td><td>High Risk [≥50%]</td><td>Clinical:
Direct urgent referral to a gyne-oncologist</td><td>Imaging:
While referral pending, may consider ordering a staging CT (chest, abdomen, pelvis)+</td></tr>
</table>

gyne = gynecologic; MRI = magnetic resonance imaging;
N/A = not applicable; US = ultrasound
+The recommendation differs from O-RADS™ v2022.

To see the full management table, please scan the following QR code:

Ovarian Cancer Diagnosis Pathway

1. Patient presents with:
   a. suspicious findings from incidental imaging;
   b. signs or symptoms, including suspicious or palpable pelvic or abdominal mass, abnormal vaginal bleeding, increased abdominal size, ascites, difficulty eating (early satiety, nausea), persistent and/or unexplained pelvic or abdominal pain, gastrointestinal symptoms (e.g., bloating), urinary symptoms (urgency or frequency).
2. Primary Care Provider performs directed physical and pelvic examination (including speculum and bimanual/pelvirectal examinations, and examination of external genitalia).
3. Primary Care Provider orders a transvaginal ultrasound (TVUS) and other imaging, if indicated.
4. Primary Care Provider receives the results and follows the management recommendations based on the O-RADS™ score outlined in the ultrasound report.

Challenges

- As radiologists and ultrasonographers are learning to use ORADS™ , it may take a little longer than normal to receive ovarian-adnexal ultrasound reports.
- The management recommendations for **ORADS™ 4** lesions are not as specific as the other categories. The management recommendations may become more specific if the category is further broken down into sub-categories in subsequent versions of the management system.
- There has been an increase in referrals to gynecologists and gynecologic oncologists for **ORADS™ 4** lesions, so wait times may increase.
- If a radiology clinic has not yet started reporting using the O-RADS™ system, please request its use with the reporting radiologist.

Key Resources

- A copy of the O-RADS™ reporting documents (explanatory notes, US reporting template, quick reference guide), or more information about Standardized Ultrasound Reporting for Ovarian-Adnexal Masses can be found at: cancercareontario.ca/en/guidelines-advice/treatment-modality/imaging/toolkit
- The ovarian cancer pathway map can be found at: cancercareontario.ca/en/pathway-maps/ovarian-cancer
- A list of gynecologic oncology centres can be found at: cancercareontario.ca/en/find-cancer-services/designated-cancer-surgery-centres/gynecologic-oncology-centres-list

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5. Burgess BT, Ueland FR. Adnexal tumors in menopausal women: surgery or surveillance? Menopause. 2019;26:554–6. doi: 10.1097/GME.0000000000001330
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