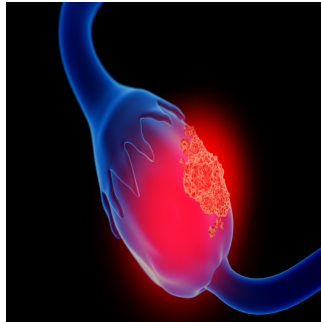

Updated Imaging Guidelines for Ovarian Cancer



Ovarian cancer remains a significant cause of mortality among gynaecological malignancies, presenting complex challenges in diagnosis, treatment planning and follow-up. Updated guidelines from the European Society of Urogenital Radiology (ESUR) focus on leveraging advanced imaging techniques and structured reporting to optimise patient management. These updates reflect recent advancements in technology and the increasing importance of multidisciplinary collaboration in ensuring accurate staging, effective treatment planning and better outcomes.

Imaging Techniques for Initial Diagnosis

Accurate imaging at the time of diagnosis is vital for understanding the extent of ovarian cancer and guiding treatment decisions. According to the updated ESUR guidelines, contrast-enhanced computed tomography (CT) remains the preferred imaging modality. CT is widely available, cost-effective and efficient, providing detailed visualisation of disease spread. It plays an essential role in assessing whether upfront cytoreductive surgery is feasible and determining the need for multidisciplinary surgical teams.

Magnetic resonance imaging (MRI) is recommended as an alternative to CT in centres with specialised expertise. It is particularly useful in cases where greater soft tissue contrast is required or when contrast agents for CT cannot be used. However, MRI's higher costs and longer acquisition times make it less practical in routine scenarios. The guidelines also highlight the use of chest CT as part of the initial assessment, which is crucial for identifying any extra-abdominal disease that could influence treatment planning.

[18F]Fluorodeoxyglucose positron emission tomography combined with CT ([18F]FDG PET-CT) has a limited role in primary staging but can be valuable for evaluating extraperitoneal spread. However, its limitations in differentiating between certain tumour subtypes and its susceptibility to false positives mean it is not recommended as a first-line modality. Ultrasonography remains an important first step in evaluating suspected adnexal masses, with MRI and CT serving as second-line options when malignancy is suspected or further characterisation is needed.

Structured Reporting: Enhancing Communication and Outcomes

One of the most significant updates in the guidelines is the emphasis on structured radiological reporting. This approach standardises the description of disease extent and potential surgical challenges, improving communication among radiologists, surgeons and oncologists. Structured reports, based on organ-based disease mapping, provide comprehensive information about tumour dissemination, lymph node involvement and extra-abdominal disease. They are designed to ensure that all critical information is clearly documented and readily accessible to the multidisciplinary team.

Compared to earlier guidelines, the updated recommendations place greater emphasis on identifying sites that may preclude optimal cytoreduction. These include specific anatomical regions, such as the mesentery, hepatic parenchyma and diaphragm, which may pose significant surgical challenges. By highlighting these areas, the structured reports help surgical teams anticipate potential difficulties and plan interventions accordingly.

The guidelines align the reporting lexicon with both ESUR and the Society of American Radiology (SAR) standards, promoting uniformity in imaging assessments. While there was no consensus on including certain scoring systems, such as the FIGO stage or peritoneal cancer index, the structured reporting system prioritises clarity and practical applicability. This approach ensures that imaging findings directly inform surgical and treatment strategies, reducing the risk of miscommunication and enhancing patient care.

Follow-Up and Recurrence Assessment

Post-treatment imaging is essential for monitoring ovarian cancer patients, detecting recurrences and assessing treatment responses. CT

remains the primary imaging modality for follow-up due to its reliability and ability to provide consistent comparisons over time. The updated guidelines recommend using the same imaging modality throughout follow-up to ensure accurate longitudinal assessments. Regular CT scans are typically performed every three to six months, guided by clinical findings, tumour markers such as CA-125, or symptoms indicative of recurrence.

MRI may be considered for follow-up in specific cases, particularly for younger patients where reducing radiation exposure is a priority. However, its use is limited by a lack of robust evidence supporting its routine application during follow-up. [18F]FDG PET-CT is a valuable tool when CT findings are inconclusive or when CA-125 levels suggest recurrence without definitive imaging evidence. It can also assist in evaluating distant metastases or ambiguous findings, particularly in preparation for secondary cytoreductive surgery.

The guidelines reinforce the importance of tailoring follow-up imaging to the patient's clinical context, balancing the need for thorough surveillance with the risks and costs associated with repeated imaging. Consistency in imaging protocols and modalities is essential to avoid discrepancies and ensure that changes in disease status are accurately identified.

The updated ESUR guidelines represent a significant step forward in the imaging and management of ovarian cancer. By emphasising the use of advanced imaging techniques, structured radiological reporting and multidisciplinary collaboration, these recommendations aim to improve diagnostic accuracy and treatment outcomes. The structured reporting approach ensures clear communication of critical findings, enabling more effective treatment planning and surgical interventions. While CT remains the cornerstone of both staging and follow-up, the inclusion of MRI and [18F]FDG PET-CT as complementary tools reflects the growing role of personalised imaging strategies in oncology care.

These advancements underscore the need for continued research and innovation in imaging technologies. Future developments, including the integration of artificial intelligence and emerging modalities such as PET-MRI, hold promise for further improving the precision and efficiency of ovarian cancer management. By adopting these updated guidelines, clinicians and radiologists can contribute to more effective care pathways, ultimately improving outcomes for patients facing this challenging disease.

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