P109. EVOLUTION SCORING SYSTEM IN OVARIAN MALIGNANCY IMAGING

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Evolution of scoring systems in ovarian malignancy imaging.

Context: Diagnosis of Ovarian cancer remains elusive despite technological advancement. Ultrasound an inexpensive, modality to differentiate benign from malignant ovarian masses has been extensively studied leading to several morphological indices and scoring systems.

Objective – To perform a systemic review of literature on sonographic morphological scoring systems, their accuracy in the preoperative diagnosis of ovarian malignancy.

Methods- Search through the Google scholar and PubMed database from inception to June 2017was performed; using the keywords of "ultrasound scoring model, ovarian neoplasm". Only articles with imaging-histopathological correlation were identified. Results of sensitivity, specificity, positive and negative predictive value were compared for the individual scoring parameters of morphology, Doppler, color flow in most validated studies.

Main outcome: comparison of various studies in terms of validation tools, along with assessing parameters that changed the sensitivity in certain systems were identified.
Results–94 prediction models were formulated. 19 based on morphological and Doppler parameters.
The most validated study is Sassone et al1991,
Depriest et al morphological index included tumor volume, wall structure and septal structure, meta-analysis revealed high sensitivity (90%) and specificity (68%)
Ferrazzi et al found that systems were lacking in description although this did not improve sensitivity.
Lerner et al 1994 showed that granting non-continuous scoring value for each variable, improved sensitivity (96.8%) and specificity (77%). Assigning a value of 0 to shadowing and 1 to any lesion without shadowing for reducing false positivity in dermoids , altered sensitivity of the four scoring systems as follows : Granberg87% , Sassone74% , DePriest 88% ,Lerner87% .modifications including color doppler showed RI-0.6 ,sensitvity -66% specificity -81% .Simple rules by International Ovarian Tumor Analysis

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group(2010) revealed 92% sensitivity 96% specificity but methodology is limited by its complexity and need for expertise .

Conclusion –Of the several validated prediction systems that are available for the pre operative assessment of the ovarian mass.Most commonly validated study in literature is sassone etal.Most accurate sonographic morphological examination scoring system was Depriest system.IOTA yielded very high sensitivity and specificity.