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We present our diagnostic workup of 98 pre-operative adnexal masses with transvaginal sonography and color Doppler. In addition, we performed a pilot study of 20 cases of evaluation with power Doppler.

Results:

	TVS	Doppler
Sensitivity	60	57
Specificity	57	86
PPV*	41	64
NPV*	80	82

*PPV - Positive Predictive Value; *NPV - Negative Predictive Value.

Power Doppler studies (18 cases) revealed sensitivity of 90% and specificity of 62.5%.

Conclusion: Generally all diagnostic modalities have had better prediction in postmenopausal patients. No single parameter or scoring system provides an ideal tool for ovarian cancer detection. The combination of methods seem to have better results.

[131] **Fast dynamic MRI improves the differentiation between malignant and benign ovarian tumors**

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Objective: This study compares the accuracy of fast dynamic MR imaging, ultrasound and CA 125 serum levels to differentiate benign from malignant adnexal tumors by using contrast enhanced turbo FLASH and FLASH 2D sequences.

Material and Methods: Seventy-two consecutive patients with an adnexal mass were referred to undergo ultrasound, determination of CA 125 serum-blood level, unenhanced MR imaging, unenhanced plus non dynamic (2D FLASH) and unenhanced combined with non dynamic (single slice turbo FLASH) MR imaging, prior to surgery. Subtraction and time (to beginning of enhancement) images were acquired.

Results: The accuracy to predict the nature (benign or malignant) of the tumor with ultrasound, CA 125, unenhanced MRI, unenhanced plus non dynamic MRI, unenhanced plus non dynamic plus fast dynamic MRI was 78%, 86%, 75%, 79%, 94%. Sensitivity was 76%, 80%, 70%, 80%, 92%. Specificity was 79%, 89%, 80%, 79%, 95%. The additional use of fast dynamic MR imaging compared to precontrast and non dynamic enhanced imaging significantly improved accuracy from 75% and 79% to 94% ($p < 0.01$, chisquare).

Conclusion: CA 125 is a useful discriminator of benign and malignant adnexal lesions and is equally reliable to ultrasound and unenhanced plus non dynamic enhanced MRI. However, using fast dynamic MRI significantly improves the accuracy to predict the nature of adnexal masses. It can especially give important information in adnexal masses with an indeterminate ultrasound.

[132] **H-magnetic resonance spectroscopy; a new technique to discriminate benign and malignant tumors**

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Currently used techniques like ultrasound, CT and MRI are not fully capable of differentiating benign from malignant ovarian tumors. Magnetic resonance spectroscopy (MRS) may help so solve this clinical problem by analyzing the composition of ovarian cyst fluid. We studied fluid samples from 28 different ovarian cysts. Nine patients were found to have a malignant ovarian tumor whereas 19 patients had benign cysts. Single pulse ¹H-NMR spectra were obtained in all fluid samples. Compared with benign epithelial cysts (n=17) significantly higher levels for lactate, isoleucine, valine, 3-hydroxybutyric acid, methionine and alanine were found in 8 malignant epithelial ovarian cysts ($p < 0.05$). In two benign cysts (endometrioma and mature teratoma) surprisingly high levels were found for a large number of compounds. Values were up to 100 fold the values in benign cyst fluids. In vivo Magnetic Resonance Spectroscopy may ultimately lead to improvement of non-invasive differential diagnosis of ovarian tumors.

[133] **Comparative study of ovarian tumour structure in the ultrasonographic picture using transabdominal and transvaginal probe with consideration of case report, clinical status and histopathological findings**

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Summary: Some groups of women with the so called risk factor, like, those after fifty, are disposed to developing malignant ovarian tumor. It seems that those women should be included in programmes aimed at early detection and treatment of these pathologies. Prior