

Platelet-to-lymphocyte ratio as a supporting factor for the ADNEX model in the assessment of borderline adnexal masses

Balazs Erdodi¹, Fanni Torok¹, Gergo Jozsef Szollosi², Laszlo Mate Medve¹, Zoard Krasznai¹, Attila Jakab¹

1. Dept Ob/Gyn, University Medical School of Debrecen, Faculty of Medicine, Debrecen, Hungary.
2. Coordination Center for Research in Social Sciences, Debreceni Egyetem Gazdasagtudományi Kar, Debrecen, Hajdú-Bihar, Hungary.



Objectives

Borderline adnexal tumors are often difficult to distinguish from benign and invasive malignant masses. We evaluated whether inflammatory ratios and selected ultrasound features provide supporting information alongside the IOTA ADNEX model.



Methods

Retrospective analysis of 2554 women with adnexal masses assessed by ultrasound. Histology was available in 442 cases, and NLR, PLR and GLR were available in 385 patients. Benign, borderline and malignant tumors were compared, together with papillary projections, papillary blood flow and vascularity.



Results

- Histology-confirmed cases (n=442): 321 benign (72.6%), 33 borderline (7.5%), 88 malignant (19.9%).
- Mean ADNEX score: 13.6% in benign, 40.7% in borderline, and 58.4% in malignant tumors ($p < 0.001$).
- Mean NLR: 2.94 vs 4.67 vs 3.51 ($p = 0.184$).
- Mean PLR: 155.3 vs 253.2 vs 198.5 ($p = 0.0037$).
- Mean GLR: 2.16 vs 3.39 vs 2.33 ($p = 0.078$).
- Right-sided papillary blood flow was associated with tumor type ($p = 0.012$).
- Higher vascularity scores on both sides were strongly associated with malignancy ($p < 0.001$).



Conclusions

Borderline tumors showed intermediate ADNEX risk but the highest inflammatory-ratio means. PLR was the most promising laboratory-based supporting factor for refining ADNEX interpretation when borderline tumor is suspected. Vascularity mainly reflected malignancy rather than borderline histology. Prospective validation is warranted.

TAKE-HOME MESSAGE

PLR may complement the ADNEX model when a borderline adnexal tumor is suspected.

Figure 1. Histological outcome (n=442)

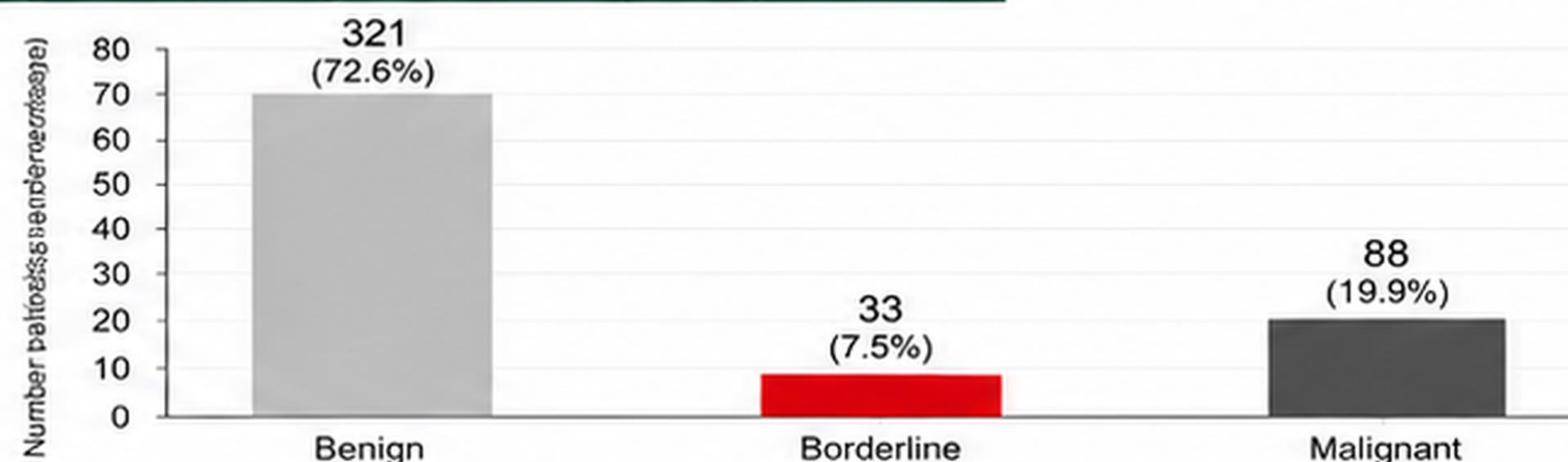


Figure 2. Mean ADNEX score by histology

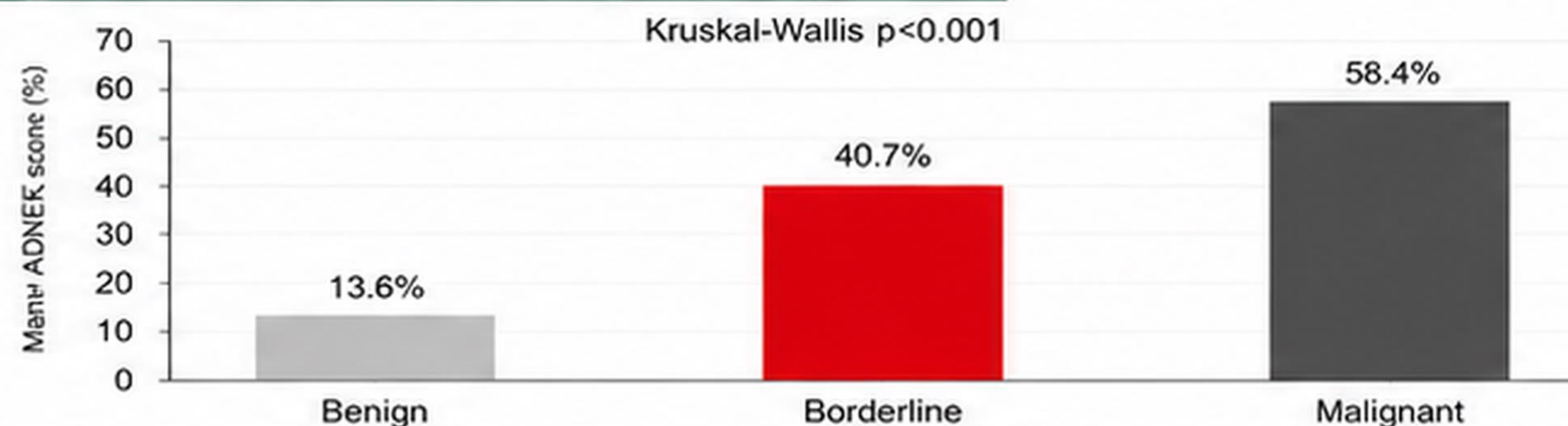


Figure 3. Inflammatory ratios by histology

