Nottingham Score for Breast Cancer

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5/23/19
Dear OncoLink "Ask The Experts,"

I do not understand my Nottingham score of 9, or the histologic grade of III/III.

Kevin R. Fox, MD, Director, Rena Rowan Breast Center and Marianne T. and Robert J. MacDonald Professor in Breast Cancer Care Excellence Penn Medicine, responds:

The Nottingham histologic score (or histologic grade) is simply a scoring system to assess the "grade" of breast cancers. The grade is a way to rate how aggressive a tumor may behave.

Nottingham is a total of 3 different scores. The pathologist looks at the breast cancer cells under a microscope and gives a score to 3 characteristics:

- Tubule formation — or how much the tumor looks like normal cell structure.
- Nuclear pleomorphism — how different the tumor cells look from normal cells.
- Mitotic activity — or how fast cells are dividing or reproducing.

Each characteristic is given a score from 1 to 3, with 1 being the closest to normal and 3 being the most abnormal. These 3 scores are added together, making the Nottingham Score. The minimum score possible is 3 (1+1+1) and the maximum possible is 9 (3+3+3).

The total score is assigned to a grade:

- Grade I is assigned for a total score of 3 to 5. This is also called well differentiated.
- Grade II is assigned for a total score of 6 to 7. This is also called moderately differentiated.
- Grade III is assigned for a total score of 8-9. This is also called poorly differentiated.

Grade I cancers tend to be less aggressive. They are also more often estrogen receptor positive (ER+). Grade III cancers tend to be more aggressive and are more likely to be "triple negative" — or negative for hormone (ER & PR) and HER2 receptors.

In the end, the Nottingham score and histologic grades are not very useful in the big picture, as they do not alter final overall treatment recommendations. High-score cancers tend to relapse more often than low-score cancers. Ultimately, however, we don't use the score in making clinical decisions.

nottingham score, breast pathology

No