Pigmented lesion assay aids melanoma biopsy decisions

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By Marilynn Larkin

NEW YORK (Reuters Health) - Use of a gene-based pigmented lesion assay (PLA) may result in fewer biopsies for benign lesions and greater accuracy in identifying melanomas, researchers say.

Dr. Laura Ferris of the University of Pittsburgh in Pennsylvania told Reuters Health by email, "A non-invasive adhesive patch applied to the skin over a pigmented skin lesion allowed us to capture enough genetic material from the lesion to analyze and predict if that lesion is likely to be melanoma, meaning a biopsy is warranted, or if it is likely benign, meaning the patient would not need a skin biopsy."

As reported in JAMA Dermatology, online April 26, Dr. Ferris and colleagues recruited 45 board-certified dermatologists, each of whom evaluated 60 clinical and dermoscopic images of atypical pigmented lesions, first without and then with PLA gene expression information.

"We asked (them) to use their clinical judgment to decide if they would recommend biopsying a skin lesion based on photos and information about the lesion and the patients - e.g., age, personal and family history of skin cancer - and if the lesion was new or changing," Dr. Ferris explained.

Participants next received a report on each lesion that included a readout of the PLA - which measures the expression of long intergenic non-protein coding RNA 518 (LINC00518) and preferentially expressed antigen in melanoma (PRAME) genes - as well as a score with data on the predictive value of the information.

Participants were then asked whether the PLA report might influence their decision to biopsy.

After incorporating the PLA into their decision making, the dermatologists improved their mean biopsy sensitivity from 95.0% to 98.6% (P=0.01), and their specificity increased from 32.1% to 56.9% (P<0.001).

"This is important," Dr. Ferris observed, "as it means this test has the potential to reduce the number of unnecessary skin biopsies performed, saving patients from undergoing a procedure and having a scar as a result, without increasing the risk of missing a melanoma."

"The test can be particularly helpful in cases in which the patient wants to avoid a scar, such as for lesions on the face," she adds.

Summing up, Dr. Ferris said, "This is one more tool that can be used to help us to decide which lesions should be biopsied and tested further and which can safely be left on the patient."

Dr. Delphine Lee, chief of dermatology at **Harbor-UCLA Medical Center**, told Reuters Health, "The test was previously shown to be able to detect 92% of melanomas, and 69% specifically, which means that if 100 lesions were not melanoma, 69% of the lesions that were not melanoma would be correctly predicted, or 31% that were not melanoma would still be deemed high risk."

"These types of additional tests may be helpful in patients with hundreds of skin lesions where it is not practical to biopsy every suspicious skin lesion," said **Dr. Lee**, who has a clinical practice at **Providence Saint John's Health Center** in Santa Monica.

"However," she cautioned, "lesions that are not biopsied in patients at high risk for melanoma should still have close clinical follow up with a board-certified dermatologist to identify evolving or changing lesions, which are best documented by photography and also dermoscopic images."

The study was supported in part by DermTech, which produces the PLA. Dr. Ferris and four

coauthors are consultants to the company; two coauthors are company employees and three coauthors own stock in the company.

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http://www.newsworks.co.kr/news/articleView.html?idxno=124175