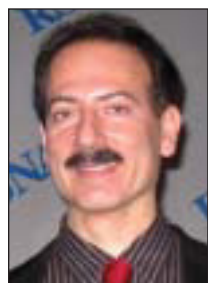


# Elastography Can Accurately Detect Skin Cancer

BY PATRICE WENDLING

CHICAGO — An ultrasound technique that measures tissue elasticity could dramatically alter the way in which skin cancer is diagnosed.

In a prospective study of 56 patients with proliferative malignant neoplasms or benign skin lesions, the use of ultrasound elastography analysis prior to biopsy correctly differentiated benign from malignant lesions in 100% of cases, Dr. Eliot Siegel reported at the annual meeting of the Radiological Society of North America.



**'We believe it has tremendous promise to reduce unnecessary biopsies.'**

DR. SIEGEL

"We believe that ultrasound has tremendous potential that is completely untapped now to characterize and delineate the extent of skin lesions currently evaluated visually," Dr. Siegel said. "We believe it has tremendous promise to reduce unnecessary biopsies."

Elastography noninvasively estimates the axial tissue strain, or elastic properties of tissue. Cystic lesions demonstrate high levels of elasticity, while malignant lesions are relatively "hard" with a very low level of elasticity.

Ultrasound with elastography, more so than optical or light images, is unique in its ability to provide the proper depth at which to analyze lesions—around 5 mm

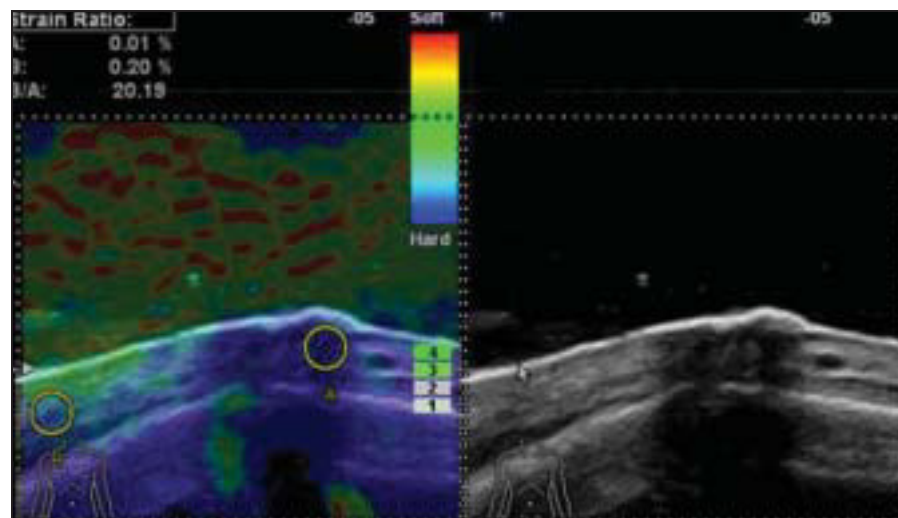
below the surface, said Dr. Siegel, vice chair of radiology and a professor at the University of Maryland in Baltimore. This may be useful in the early detection of melanoma before the classic signs such as asymmetry or changes in border are present on the skin's surface. In addition, elastography could have a role during surgery.

"This also could guide the surgeon as the surgeon is doing an excision or biopsy to not just look at the tip of the iceberg that they can see at the skin surface, but actually to be able to look deeper, so they can see exactly which areas they can cut out safely and still remove the entire tumor without unnecessarily removing more than that," he said.

Elastography software is available on most new ultrasound machines, and has been used with promising results for breast, thyroid, and liver cancer. It has not been used to explore skin lesions, except for one prior study from 2007.

That study used absolute strain values, whereas Dr. Siegel and his associates also calculated strain ratios. Malignant lesions had higher strain ratios (minimum 5.3, maximum 32.2), compared with benign lesions (minimum 0.01, maximum 3). None of the malignant lesions violated a strain-ratio cutoff of 3-5, Dr. Siegel said. He presented a few examples, including a squamous cell carcinoma with a ratio of 13.27 and a benign keloid with a ratio of 1.25.

Although preliminary, the data suggest that strain ratios also may be useful in distinguishing between malignant lesions. Squamous cell carcinomas had a higher ratio overall, said coauthor Dr. Bahar Dasgeb, a radiologist and second-year dermatology resident at Wayne



An elastogram (left) and ultrasound image (right) showing squamous cell carcinoma of the skin. Adding elastography may improve diagnostic accuracy.

State University in Detroit. Moreover, the strain ratio was higher when more invasive cells were present, even within squamous cell or basal cell cancers.

If strain ratios are combined with



**'The feedback from Mohs' surgeons was amazing.'**

DR. DASGEB

higher ultrasound frequencies, it's possible that the anatomic information gleaned from elastography "could rival the information that a pathologist would see after the lesion was excised," Dr. Siegel said.

"That's really the direction that we'd

like to head into for research and development, as we look at much higher ultrasound frequencies," he added.

In the current study, investigators used a clinically available 14- to 16-mHz ultrasound unit.

The findings were enthusiastically received when presented by Dr. Dasgeb at the Michigan Dermatological Society in November.

"The feedback from Mohs' surgeons was amazing," she said in an interview. "A couple of clinical dermatologists said, 'There is no other way.'"

The incidence and economic impact of skin cancer is rising. It is estimated that one in five Americans will develop skin cancer at some point in their lives. ■

**Disclosures:** Dr. Siegel has received research grants from several companies that make imaging products. Dr. Dasgeb had no disclosures.

## BenzaClin Earns Higher Scores Than Differin for Acne Therapy

BY BRUCE JANCIN

BERLIN — Quality-of-life scores were significantly better at all time points in patients with mild to moderate acne treated with clindamycin 1% plus benzoyl peroxide 5% gel, when compared with adapalene 0.1% gel.

The primary end point in the investigator-blinded multicenter study, which included 168 patients aged 12-39 years, was quality of life as reflected in global scores on the validated Skindex-29 instrument after 2 weeks of therapy.

At 2 weeks, the mean 4.9-point improvement in the clindamycin 1% plus benzoyl peroxide 5% gel (BenzaClin, Sanofi Aventis) group was more than fivefold greater than the 0.9-point gain achieved in the adapalene 0.1% (Differin, Galderma) group, Dr. Aurora Guerra-Tapia reported at the annual congress of the European Academy of

Dermatology and Venereology.

At the 12-week mark, the improvement on Skindex was 7.3 points in the BenzaClin arm and 2.4 points in the Differin arm, according to Dr. Guerra-Tapia, professor and chief of dermatology at 12th of October University Hospital, Madrid.

The BenzaClin patients had significantly greater reductions in total acne lesions and inflammatory acne lesions at all time points in the 12-week trial.

Blinded investigators rated 43% of patients in the BenzaClin group as having an excellent overall tolerance score, compared with 20% in the Differin group. Tolerance was judged fair or poor in 5% of patients assigned to BenzaClin and 23% assigned to Differin. ■

**Disclosures:** The study was sponsored by Stiefel, a skin-care pharmaceutical company.

## Acne: Harmless Rite of Passage or Chronic Disease With Serious Effects?

BY BRUCE JANCIN

BERLIN — Acne is a condition that's widely misunderstood by nondermatologist clinicians, insurers, and patients, according to a recent call to action by the Global Alliance to Improve Outcomes in Acne, a 20-member international panel of acne experts.

A key misconception is the notion that acne is a simple, self-limited rite of passage during adolescence. In fact, acne is more commonly a chronic disease marked by a prolonged course, recurrences, challenging management issues, and the potential for physical scarring and psychological consequences, Global Alliance cochair Dr. Harald P.M. Gollnick said at the annual congress of the European Academy of Dermatology and Venereology.

There is good evidence that acne persists into the adult years in up to 50% of affected patients. The reasons for this remain unclear and are a high priority for future study. Genetics, *Propionibacterium acnes* colonization, and stress-related production of adrenal androgens are among the factors that have been implicated, observed Dr. Gollnick, professor

of dermatology and venereology at Otto von Guericke University, Magdeburg, Germany.

Skeptics regarding the concept of acne as a chronic disease need to consider the parallels between acne and another dermatologic disorder that's universally recognized as a chronic disease: atopic dermatitis, he continued.

Acne and atopic dermatitis share inflammation as a core pathophysiologic feature. Both disorders are believed to have polygenic influences. Both can range in duration from a few months to many years, even decades. Both are self-limited in about 80% of cases. And both disorders can result in physical scarring, accompanied by negative psychological and social effects.

The Global Alliance report (J. Am. Acad. Dermatol. 2009;60[suppl 5]:S1-50) spells out recommended treatment algorithms, Dr. Gollnick said. ■

**Disclosures:** The Global Alliance guidelines are supported by an educational grant from Galderma. Dr. Gollnick has served as an investigator, speaker, and adviser for the company, which makes skin care products.