

Turbo Mohs For Basal Cell Carcinoma Skin Cancer

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Mohs Surgery

Mohs skin cancer surgery is also known as microscopically-controlled surgery because at each stage in the Mohs procedure, a new layer of tissue is obtained surgically and frozen sections made, allowing a microscopic reading of the tissue margins. The Mohs technique, sometimes requiring 3 or more hours because of the pathology determinations, is repeated until the final surgical margins are clear, allowing an overall cure rate exceeding ~97%. Mohs surgery, although more costly than traditional excisional surgery or simple curettage, is often advocated for patients because of the high rate of cure and because it is said to be tissue-sparing, requiring no wider margins than the minimal margins needed for tumor clearance.

Objective

A novel optical technique which:

- Eliminates the lengthy and expensive intervening pathology steps
- Greatly reduces clinic time spent on the procedure
- Yields a similar cure rate at a much lower cost.



3Gen DermLite II (1)

Semitranslucency

An Italian research group has reported a cure rate for excisional surgery exceeding 98%, using a tissue optic phenomenon in dermoscopy called "semitranslucency." (2) Dermoscopic semitranslucency (jelly-like areas), first described by researchers at S&A and colleagues (3), has been used in one clinic to determine successful extirpation using curettage. We have confirmed that semitranslucency yields a good indication of whether any skin cancer remains.

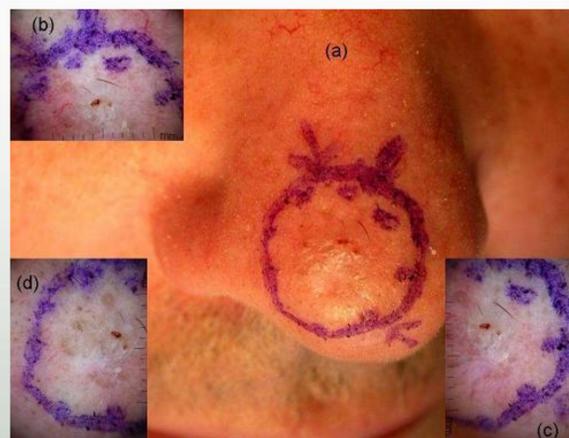
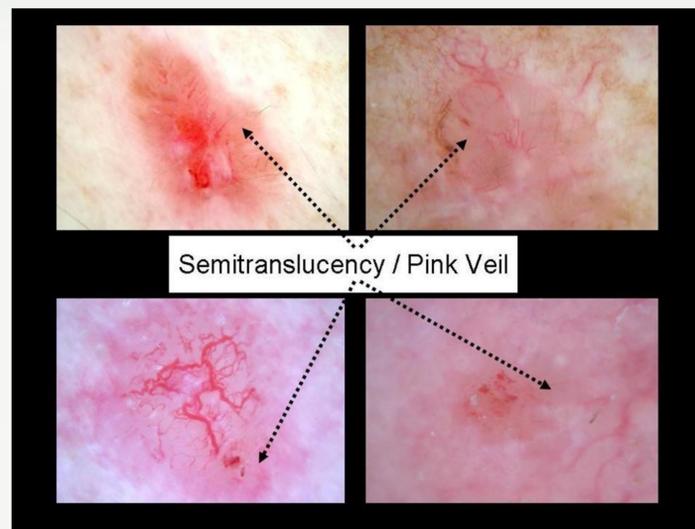
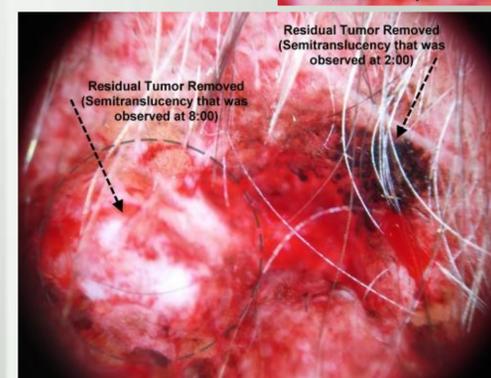
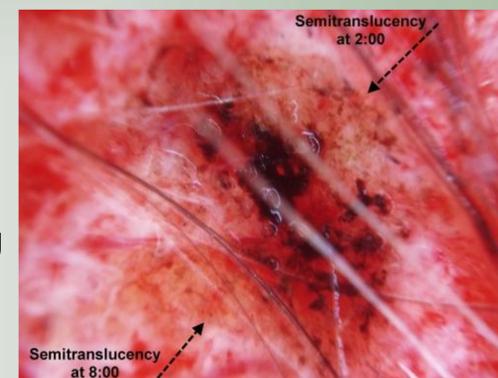


Figure (a) Marking definitive excision margins at 2mm from BCC. (b,c,d) Peripheral borders checked and defined with dermoscopy were found to be adequate. (2)

Methods

In our research, a 3Gen DermLite II is used to observe any residual semitranslucency following curettage by a dermatologist. If any semitranslucency is detected, the dermatologist will consider this as residual tumor tissue and remove it as well.

Non-contact polarized dermoscopy image following first curettage



Non-contact polarized dermoscopy image following second curettage

During curettage the 8:00 area proved to be soft and easily removed, leading to treatment of an additional area of tumor not previously seen.

Future Research

S&T students will assist in plans to further optimize the cross-polarized light source. Reflected light spectral analysis will serve to better define semitranslucency and optimize the light source.

References:

1. <http://www.dermlite.com/dl2hybrid.html>
2. Caresana, et al. Dermoscopy-Guided Surgery in Basal Cell Carcinoma. JEADV 2010. In press.
3. Stoecker WV, et al. Arch Derm 2009; 145(2):224.