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### Differentiation Between Balanitis and Carcinoma In Situ Using Reflectance Confocal Microscopy.

Arzberger E, Komericki P, Ahlgrimm-Siess V, Massone C, Chubisov D, Hofmann-Wellenhof R.; *JAMA Dermatol.* 2013 Jan 16:1-6. doi: 10.1001/jamadermatol.2013.2440.

#### ABSTRACT

**IMPORTANCE:** Zoon plasma cell balanitis is a benign inflammatory disease of genital skin. It may be difficult to clinically distinguish between balanitis and carcinoma in situ (CIS); thus, a biopsy may be needed to exclude malignant disease. Reflectance confocal microscopy (RCM) is an in vivo imaging method to get morphologic information about architecture and single cells in the skin.

**OBJECTIVE:** To evaluate the ability of RCM to differentiate between balanitis and CIS compared with the gold standard histopathologic methods. **DESIGN:** Observer blinded study. **SETTING:** A referral center. **PARTICIPANTS:** Fifteen patients with balanitis or CIS. **INTERVENTION:** Patients were assessed by clinical, histologic, and RCM findings. All lesions were imaged with the VivaScope 1500. In 5 cases of balanitis, the surrounding, noninvolved skin also was evaluated. **MAIN OUTCOME**

**MEASURES:** Local recurrence, nodal metastasis, disease-specific death, overall death. **RESULTS:** The clinical diagnoses showed 9 cases of balanitis and 6 cases of CIS. With histopathologic analysis, 12 cases of balanitis and cases of CIS were diagnosed, and RCM evaluation confirmed these diagnoses. The most relevant RCM criteria for CIS were atypical honeycomb pattern, disarranged epidermal pattern, and round nucleated cells. Balanitis showed a nucleated honeycomb pattern and vermicular vessels. Scattered small bright cells and round vessels were present in all lesions. The adjacent normal skin showed a typical honeycomb pattern and round papillary vessels.

**CONCLUSIONS AND RELEVANCE:** We were able to differentiate between balanitis and CIS. Reflectance confocal microscopy may help to avoid biopsies at this sensitive site.