**ABSTRACT**

**Background**: Paget's disease is an intraepidermal adenocarcinoma that is difficult to diagnose clinically as it mimics inflammatory or infectious diseases. As a consequence, it may be clinically misdiagnosed resulting in a delay in appropriate management. Reflectance confocal microscopy allows the visualization of the upper layers of the skin and mucosa at cellular resolution. Paget's disease is characterized histologically by the presence of neoplastic cells scattered throughout all layers of the epidermis in a pattern similar to that also observed in melanoma (and termed Pagetoid spread).

**Objective**: In vivo confocal microscopy is an excellent diagnostic tool for detecting Pagetoid spread and for diagnosing melanoma. We therefore hypothesized that it may also assist in the diagnosis of Paget's disease. Methods? In this study, we describe the confocal features of nine cases of extramammary Paget's disease and one case of mammary one.

**Results**: Large atypical Pagetoid cells were present singly and in clusters in all 10 cases and were readily visualized on ex vivo and in vivo confocal microscopy. The presence of Pagetoid spread and other confocal features, in the appropriate clinical context, is suggestive Paget's disease and should allow distinction from other inflammatory diseases that may appear similar clinically.

**Conclusion**: The use of confocal microscopy is likely to facilitate earlier diagnosis of Paget's disease and the instigation of appropriate management with concomitant improvement in clinical outcomes.