



Ruling out Biliary Malignancy with probe-based Confocal Laser Endomicroscopy (pCLE)

Case Study

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1. Technology Review

Probe-based Confocal Laser Endomicroscopy (pCLE) is a new method which provides microscopic views of the mucosa. Images are obtained by scanning the mucosal surface with a low power laser light that is passed through a fiber optic bundle. This technology makes it possible to image individual cells and tissue architecture, allowing the endoscopist to make a diagnostic assessment of the histology real-time, *in vivo*.

2. Case Report

In February 2011, a 65 year old man was scheduled for Endoscopic Retrograde Cholangiopancreatography (ERCP). He had transient biliary-type pain associated with marked increases in serum liver enzymes. CT-scan and endoscopic ultrasound showed a markedly thick bile duct concerning for neoplasia. Cholangiogram during ERCP showed marked irregularity and narrowing of the Common Bile Duct (CBD) consistent with Primary Sclerosing Cholangitis (PSC) (figure 1). Cholangioscopy using the SpyGlass® system revealed changes concerning for malignancy (figure 2).

Endomicroscopy with the CholangioFlex™ Confocal Miniprobe™ was then performed on and around the lesion following I.V. injection of fluorescein. Confocal characteristics consistent with cholangiocarcinoma were not observed (figure 3, 4). Several directed ductal biopsies were obtained.

In light of the normal appearing confocal examination, a stent was not placed. Several days later, pathology results confirmed no evidence of neoplasia.

To date, the patient is doing well with normal liver tests and follow up is ongoing.

3. Summary

pCLE brings a new dimension to ERCP with direct microscopic visualization, improving the understanding of the pathology and patient's condition.



figure 1: narrowing of the CBD consistent with PSC

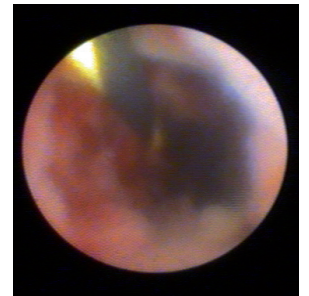


figure 2: cholangioscopic image showing changes concerning for malignancy

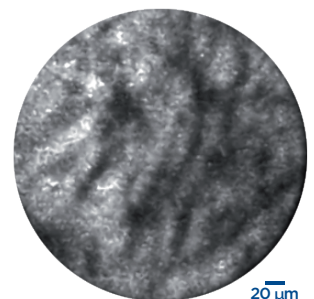


figure 3

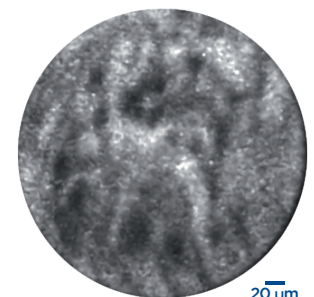


figure 4

figure 3 & 4: pCLE image acquired with a CholangioFlex™ Confocal Miniprobe™, demonstrating thin dark bands with a light grey background, representative of a normal bile duct.