Cleveland Clinic Innovations

ECHOGENIC CATHETER MATERIAL

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PRODUCT

A novel material with enhanced ultrasound visibility.

INDICATION

Originally developed for cPNB applications, but can be used in any application which requires ultrasound to confirm placement, such as PICC line, ICE/TEE, ESD, etc.

VALUE PROPOSITION

- Improved ultrasound visibility enables more accurate catheter placement.

DEVELOPMENT STAGE

- Prototype catheters were extruded from the novel material in the same dimensions as existing cPNB catheters, and an *in vitro* ultrasound imaging study was conducted. Image analysis was used to quantify the "brightness" of the catheter.

INTELLECTUAL PROPERTY

Patent pending.

CONTACT INFORMATION

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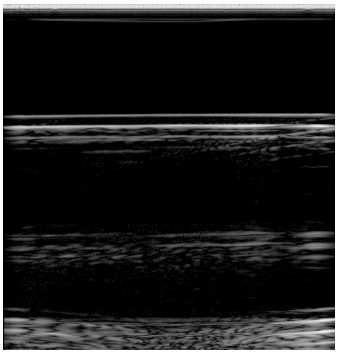
PROBLEM

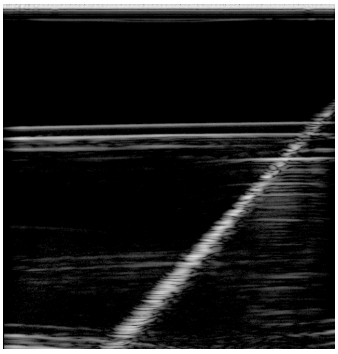
In procedures which utilize ultrasound visualization to place catheters, success is largely dependent on proper placement. As an example, continuous peripheral nerve block (cPNB) catheters must be placed close enough to the nerve to allow effective and sustained analgesia following painful surgeries, but cPNB catheters are difficult to visualize under ultrasound and there remains incidence of misplacement. There is a need for a more echogenic catheter material for better visualization during placement and improved clinical outcomes.

SOLUTION

Low-cost, biocompatible, readily manufacturable material co-developed with a major manufacturer which measured 2800X brighter vs. off-the-shelf nerve block catheter.



*Ultrasound image of an off-the-shelf cPNB catheter in bench test fixture—**where is it?***



Ultrasound image of our novel material in bench test fixture (1mm diameter x 0.1mm wall thickness)