

First-In-Human Use of SuperCore Advantage™ Semi-Automatic Biopsy Instrument: A Case Study on the Diagnosis of Basaloid Squamous Cell Carcinoma



Introduction

The present study reports on the First-In-Human (FIH) use of the SuperCore Advantage™ Semi-Automatic Biopsy Instrument, a novel side notch semi-automatic biopsy instrument. Developed by Argon Medical, the instrument and its associated coaxial introducer received 510k approval in 2022 and are intended for percutaneous insertion and removal of tissue samples for diagnostic purposes. The instrument, designed to optimize tissue sampling with minimal fragmentation and optimum tissue architecture, yielded a favorable sample that was used in the diagnosis of a vascular soft tissue mass.

Case Presentation

A 67-year-old male presented with neck pain and left cervical adenopathy persisting for two months. Initial ultrasound (U/S) and computed tomography (CT) imaging demonstrated a large vascular soft tissue mass in the left cervical region. Given the imaging findings and the patient's symptoms, it was decided to proceed with an ultrasound-guided biopsy.

Intervention

The 18-gauge SuperCore Advantage Instrument was employed for this procedure. The instrument design offers a minimized needle tip, allowing for the retrieval of a full 2centimeter biopsy specimen with minimal fragmentation and optimum tissue architecture. The instrument was directed under ultrasound guidance into the vascular soft tissue mass, and three biopsy samples were successfully obtained. The semi-automatic nature of the device allowed for efficient sample collection with minimal invasiveness.

Outcomes

The biopsy specimens were sent to the pathology department for evaluation. The pathology report confirmed the presence of moderately to poorly differentiated basaloid squamous cell carcinoma with tumor necrosis, suggestive of metastatic disease. Importantly, the specimens obtained provided adequate pathology with minimal fragmentation and preserved tissue architecture, aiding in the definitive diagnosis.

