An Evaluation of the Eviva Biopsy Device on the Speed and Efficiency of Stereotactic Breast Biopsy Procedures

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Introduction

The improvement of the patient's experience during a breast biopsy has become increasingly important, second only to an accurate diagnosis. While stereotactic biopsy procedures are less invasive than surgical biopsies, patients still experience a high degree of anxiety regarding the length of the procedure, the amount of time the breast is in compression, the adequacy of pain control during the procedure and the accuracy and timely delivery of results.

Accurate diagnosis, patient safety and comfort are the primary goals of all interventional biopsies, but when facilities can achieve high degrees of both accuracy and safety and shorten the time of the procedure, it improves the quality of the patient experience.

Over the past four years, our radiology department performed more than 600 stereotactic biopsies utilizing the Hologic® Eviva® vacuum-assisted breast biopsy device with an upright stereotactic system. During a six month period we evaluated 50 consecutive stereotactic biopsy procedures to measure the impact of the Eviva biopsy device on the total time required to conduct each procedure. We evaluated the Eviva device in terms of its ability to reduce the time required for the procedure without sacrificing accuracy or patient safety. Procedural time is defined by the elapsed time from the time the patient enters the biopsy room until the biopsy is complete and manual pressure is applied to the skin entrance site to control hemostasis.

With the Eviva breast biopsy device we complete the entire stereotactic biopsy procedure in an average of 19 minutes; prior to adoption of the Eviva device, biopsy procedures took an average of 30 percent longer. We did not sacrifice accuracy or have a greater number of complications and we conducted imaging-pathology correlation with every procedure.

Faster Acquisition of Quality Tissue Samples

We found the Eviva system streamlines the process of tissue acquisition, which, with previous devices, was the most time-consuming part of the biopsy procedure. Once the biopsy device is in position, it takes approximately one minute (4.5 seconds per cycle) with the Eviva device to collect 12 tissue samples from the area of each lesion. This is due in large part to the Eviva device's closed tissue chamber, which allows us to take multiple cores sequentially. The cores are collected at the back of the hand piece and removed once at the end of the procedure. With previous devices each cycle was twice as long and required us to manually remove each core sample, one at a time. With Eviva system, the procedure is cleaner, simpler, and more efficient.

The Eviva system is a vacuum-assisted biopsy device; tissue is pulled from the breast through the needle and into the tissue chamber. Throughout the procedure, we can irrigate and flush the area with saline and lidocaine. The Eviva y-valve delivers pain medication directly into the cavity, providing anesthesia at the site of tissue acquisition. There is no need to interrupt the procedure to manually inject additional pain anesthetic into the cavity. The result is a faster procedure that minimizes the time the patient's breast is in compressioand maximizes room turnover. The Eviva device's integration of anesthesia delivery with tissue acquisition saves time and makes a significant difference in the comfort level of patients.

> "The Eviva meets our requirements for accuracy and patient safety during stereotactic biopsy procedures, while reducing procedure time by 30 percent."

We see additional efficiencies in our stereotactic procedures due to the clear tubing between the device and collection chamber, which lets us monitor and review each sample as we collect it. We know immediately if we are acquiring the quantity and quality of tissue samples we need. This leads to significant time savings and eliminates the need to go back for additional samples.

Integrated Clip Placement

The ease of clip placement with the Eviva biopsy site marker's end-deploy, integrated site marking solution also streamlines our workflow. When we complete tissue acquisition, we remove the biopsy needle leaving the introducer sheath in place. We insert a deployment device for deploying the SecurMark® breast biopsy marker through the introducer and directly deploy to the biopsy site. There is no need to dial back or pull back the deployment device. There are no calculations required at the end of the procedure to accurately mark the biopsy area. It takes less than a minute for the entire process; to remove the needle, insert the clip in the biopsy device, place the clip, confirm placement, and retract the sheath.

Conclusion

The Eviva breast biopsy system meets our requirements for accuracy and patient safety during stereotactic biopsy procedures, while reducing procedure time by 30 percent. The shortened procedure time and integrated anesthesia disbursement capability makes a significant difference in patient comfort and ultimate satisfaction with the procedure. As an ancillary benefit to the radiology department, the shortened biopsy procedure utilizes the technologist's time and the biopsy room more efficiently, enabling the department to schedule more breast imaging studies in the breast center.

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