UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the Month of: March 2025 (Report No. 3)

Commission File Number: 001-40753

ICECURE MEDICAL LTD. (Translation of registrant's name into English)

7 Ha'Eshel St., PO Box 3163 <u>Caesarea, 3079504 Israel</u> (Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F:

⊠ Form 20-F □ Form 40-F

CONTENTS

On March 18, 2025, IceCure Medical Ltd. (the "Company") issued a press release titled "IceCure's ProSense® Cryoablation Featured in Six Studies Presented at St. Gallen International Breast Cancer Conference," a copy of which is furnished as Exhibit 99.1 with this Report of Foreign Private Issuer on Form 6-K.

The press release attached herewith as Exhibit 99.1, with the exception of the second paragraph, is incorporated by reference into the Company's Registration Statements on Form F-3 (Registration Nos. 333-258660 and 333-267272) and Form S-8 (Registration Nos. 333-264578, 333-264578, 333-26420 and 333-281587), filed with the Securities and Exchange Commission, to be a part thereof from the date on which this Report of Foreign Private Issuer on Form 6-K is submitted, to the extent not superseded by documents or reports subsequently filed or furnished.

EXHIBIT INDEX

Exhibit No.

99.1 Press release dated March 18, 2025 titled "IceCure's ProSense® Cryoablation Featured in Six Studies Presented at St. Gallen International Breast Cancer Conference"

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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ICECURE MEDICAL LTD.

By: /s/ Eyal Shamir

Name: Eyal Shamir Title: Chief Executive Officer

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Date: March 18, 2025

IceCure's ProSense[®] Cryoablation Featured in Six Studies Presented at St. Gallen International Breast Cancer Conference

- IceCure exhibited at the prestigious event in Vienna, Austria attended by oncologists, breast surgeons
- An abstract on ICE3 study results by Dr. Richard Fine was accepted and included in the poster presentation gallery
- An independent study by Dr. Ava Kwong evaluated expanding the ICE3 study population to include triple negative breast cancer and younger patients
- Four additional independent abstracts were presented at the conference and all six will be published in the scientific journal—The Breast

CAESAREA, Israel, March 18, 2025 – IceCure Medical Ltd. (Nasdaq: ICCM) ("IceCure", "IceCure Medical" or the "Company"), developer of minimally-invasive cryoablation technology that destroys tumors by freezing as an alternative to surgical tumor removal, today announced that it exhibited at the 19th Annual St. Gallen Breast Cancer Conference in in Vienna, Austria from March 12 – 15, 2025. Six studies of ProSense[®] in breast cancer were accepted as peer-reviewed abstracts, presented as e-posters during the conference, and are being published in the scientific journal, *The Breast* after the conference.

"ProSense[®] received a high level of interest at this prestigious breast cancer conference in Europe where our cryoablation system is gaining increasing commercial traction driven by regulatory approval and a growing body of efficacy and safety data from third party studies," IceCure's Chief Executive Officer, Eyal Shamir commented. "Among the benefits of these investigator-initiated studies is that each practitioner studies different patient populations in varied settings and circumstances, producing a breadth and depth of data that would simply not be available even in the largest of company-sponsored global studies. We are grateful to the investigators as we all aim toward the same goal of advancing women's health through innovation and collaboration."

The following studies of ProSense[®] were presented:

- The Impact of Adjuvant Treatment After Cryoablation in Early-Stage, Low-Risk Breast Cancer: ICE3 Trial 5-Year Ipsilateral Breast Tumor Recurrence (IBTR)
 - o Lead author Dr. Richard Fine, United States
 - ⁰ Summary conclusion: The ICE3 trial suggests that cryoablation with ProSense[®], complemented by adjuvant therapy, is a viable alternative to surgical excision for selected patients with early-stage, low-risk breast cancer with recurrence rates comparable to those following lumpectomy. The addition of endocrine therapy alone yields similar results to de-escalation trials omitting radiation after surgery, such as CALGB 9343, PRIME II and LUMINA, without sacrificing survival. ICE3 enrolled patients aged ≥60 with unifocal, hormone receptor-positive, HER2-negative invasive ductal carcinomas measuring ≤1.5 cm. At 5 years, the overall IBTR rate was 3.61% (7 recurrences out of 194 patients). The 124 Patients who received only endocrine therapy with cryoablation had a 5-year IBTR rate of 3.22% (4 recurrences out of 124 patients).
- Expanding the Use of Cryoablation on T1 Breast Cancers: An Initial Experience
 - o Lead Author Dr. Ava Kwong, Hong Kong
 - o Summary conclusion: This study evaluated expanding ICE3's inclusion criteria to T1 breast cancer of all IHC subtypes (i.e. luminal, HER2-enriched and triple negative breast cancers). The study found that cryoablation with ProSense[®] can completely ablate T1 breast cancer, including triple negative breast cancer, and younger age range. 35 patients were recruited with a median age of 64 and biopsy proven invasive or in-situ breast cancer of ≤2cm.
- The Treatment of Breast Cancer with Percutaneous Thermal Ablation: Results of the THERMAC trial
 - o Lead Author by Dr. Linda Risks, Netherlands
 - o Summary conclusion: Percutaneous thermal ablation has the potential to replace surgical treatment and improve the health-related quality of life of patients with small breast cancers, without jeopardizing current treatment effectiveness or safety. 41 postmenopausal patients, with cT1N0 ER+/Her2- breast cancer, were treated. The study compared radiofrequency ablation ("RFA"), microwave ablation ("MWA") and cryoablation ("CA"). The RFA arm was prematurely terminated. Complete ablation was reached in 72% (95% CI, 49% to 88%) in the MWA arm and in 94% (95% CI, 74% to 0.99) in the cryoablation arm. Adverse events occurred in 44% (95% CI, 25% to 66%) of the patients in the MWA arm and 0% (95% CI, 0% to 18%) of in the cryoablation arm. Of the three thermal ablation methods evaluated, cryoablation with ProSense[®] was the only thermal ablative technique that met the minimum requirements and will therefore be selected for a Phase III trial.
- Percutaneous Ultrasound-Guided Cryoablation for the Treatment of Breast Cancer in Non-Surgical Patients
 - o Lead Author Dr. Lucía Graña López, Spain
 - ^o Summary conclusion: Breast cancer patients who chose not to have surgery or were considered inoperable were treated with ProSense[®] cryoablation, which was found to be a safe and well-tolerated outpatient procedure. The study outcomes suggest that cryoablation is effective and could be an alternative to surgery for the management of luminal breast cancer up to 2.5 cm. 60 breast cancer tumors were treated (median size 21 mm, range 6-46 mm) in 54 patients, median age 87, with ProSense[®] cryoablation. Complete tumoral necrosis was achieved in 49 tumors (81.7%). Axillary progression occurred in two cases of triple-negative breast cancer. Two patients experienced recurrence in different locations. Percutaneous cryoablation was successful in 100% of luminal cancers up to 2.5 cm. The procedure was well tolerated, with no major complications observed.
- Cryoablation of Breast Cancer: The Challenge of an Innovative Non-Surgical Treatment for Selected Patients
 - o Lead Author Dr. Francesca Magnoni, Italy
 - ^o Summary conclusion: The European Institute of Oncology in Italy is evaluating $ProSense^{\$}$ cryoablation, with the prospective observational study "Percutaneous Cryoablation of Low-risk Early Breast Cancer (PRECICE)". The trial has just started and will enroll 233 patients over the age of 50 years with unifocal, small (≤ 1.5 cm), clinically node-negative, luminal A and B breast cancer. To date, 11 patients eligible for cryoablation have been enrolled. Cryoablation, performed on an outpatient basis under local anesthesia, completely replaces both breast and axillary surgery, in accordance with recent evidence.
- Cryotherapy as a Surgical De-Escalation Strategy in Breast Cancer: A Comprehensive Review of Techniques, Complications, and Oncological Outcomes

- o Lead author Dr. Kai Lin Lee, Singapore
- ^o Summary conclusion: After a review of 276 papers, this study concluded that cryotherapy with systems including ProSense[®] could potentially be a step forward in surgical de-escalation of breast cancer, particularly for elderly patients with early-stage breast cancer or those who are at high risk and might benefit from a less aggressive treatment strategy.

About ProSense®

The ProSense[®] Cryoablation System is a minimally invasive cryosurgical tool that provides the option to destroy tumors by freezing them. The system uniquely harnesses the power of liquid nitrogen to create large lethal zones for maximum efficacy in tumor destruction in benign and cancerous lesions, including breast, kidney, lung, and liver.

ProSense[®] enhances patient and provider value by accelerating recovery, reducing pain, surgical risks, and complications. With its easy, transportable design and liquid nitrogen utilization, ProSense[®] opens that door to fast and convenient office-based procedures for breast tumors.

About IceCure Medical

IceCure Medical (Nasdaq: ICCM) develops and markets advanced liquid-nitrogen-based cryoablation therapy systems for the destruction of tumors (benign and cancerous) by freezing, with the primary focus areas being breast, kidney, bone and lung cancer. Its minimally invasive technology is a safe and effective alternative to hospital surgical tumor removal that is easily performed in a relatively short procedure. The Company's flagship ProSense[®] system is marketed and sold worldwide for the indications cleared and approved to date including in the U.S., Europe and China.

Forward Looking Statements

This press release contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995 and other Federal securities laws. Words such as "expects," "anticipates," "intends," "plans," "believes," "seeks," "estimates" and similar expressions or variations of such words are intended to identify forward-looking statements. For example, IceCure is using forward looking statements in this press release when it discusses: the potential benefits of the cryoablation studies; the Company's aim towards advancing women's health through innovation and collaboration; and the potential implications of the ProSense studies that were presented at the St. Gallen International Breast Cancer conference. Historical results of scientific research and clinical and preclinical trials do not guarantee that the conclusions of future research or trials will suggest identical or even similar conclusions. Important factors that could cause actual results, developments and business decisions to differ materially from those anticipated in these forward-looking statements include, among others: the Company's planned level of revenues and capital expenditures; the Company's available cash and its ability to obtain additional funding; the Company's ability to market and sell its products; legal and regulatory developments in the United States and other intellectual property; the Company's ability to expose and educate medical professionals about its products; political, economic and military instability in the Middle East, specifically in Israel; as well as those factors set forth in the Risk Factors section of the Company's Annual Report on Form 20-F for the year ended December 31, 2023 filed with the SEC on April 3, 2024, and other documents filed with or furnished to the SEC which are available on the SEC's website, www.sec.gov. The Company undertakes no obligation to update these statements for revisions or changes after the date of this release, except as required by

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