SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER
Pursuant to Rule 13a-16 or 15d-16
of the Securities Exchange Act of 1934

For the month of June 2017

Commission File Number: 001-36581

Vascular Biogenics Ltd.

(Translation of registrant's name into English)

6 Jonathan Netanyahu St.
Or Yehuda
Israel 6037604
(Address of principal executive offices)

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

Form 20-F ☒ Form 40-F ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): ☐

Indicate by check mark whether by furnishing the information contained in this Form, the registrant is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.

Yes ☐ No ☒

If "Yes" is marked, indicate below the file number assigned to the registrant in connection with Rule 12g3-2(b): 82-

EXPLANATORY NOTE

Attached hereto and incorporated by reference herein is the registrant's press release issued on June 5, 2017, entitled "New Phase 2 Patient Data Presented at ASCO Strengthen the Evidence for Anti-Tumor Activity of VB-111 in Recurrent GBM". This Report of Foreign Private Issuer on Form 6-K shall be incorporated by reference into the Company's registration statement on Form F-3 (File No. 333-207250), filed with the Securities and Exchange Commission (the "SEC") on October 2, 2015, to the extent not superseded by information subsequently filed or furnished (to the extent the Company expressly states that it incorporates such furnished information by reference) by the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended.

SIGNATURE

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.

VASCULAR BIOGENICS LTD.

Date: June 5, 2017

By: /s/ Dror Harats
Name: Dror Harats
Title: Chief Executive Officer

New Phase 2 Patient Data Presented at ASCO Strengthen the Evidence for Anti-Tumor Activity of VB-111 in Recurrent GBM

TEL AVIV, Israel, June 5, 2017 – VBL Therapeutics (Nasdaq: VBLT), today announced the presentation of new data demonstrating that treatment with VB-111 (ofranergene obadenovec) induced durable tumor regression and attenuation of tumor growth in patients with recurrent glioblastoma (rGBM). Data from the company's prior Phase 2 study in rGBM, will be presented today at the 2017 American Society of Clinical Oncology (ASCO) annual meeting, taking place in Chicago. They will be presented by Andrew Brenner, MD, PhD, the principal investigator of the Phase 2 study and associate professor in medicine, neurology and neurosurgery at the Cancer Therapy and Research Center (CTRC), University of Texas Health Science Center San Antonio.

VBL's Phase 2 multi-center study for VB-111 was designed to determine the safety, tolerability and efficacy of VB-111 in patients with rGBM. A total of 46 patients were enrolled in two sequential cohorts. In the first cohort, patients were treated with VB-111 as monotherapy for a median of only one dose and, upon disease progression, switched to Avastin (bevacizumab) alone as standard of care (Limited Exposure cohort). This cohort behaved like an Avastin historical control with a median Overall Survival (mOS) of 8 months.

In the second cohort, patients continued to receive treatment with VB-111 after progression, in combination with Avastin as the standard of care (Treatment Through Progression cohort). This cohort received in median 4 doses of VB-111, about 8 months of treatment.

VBL previously reported that the study met the primary endpoint of statistically-significant increase in median overall survival, with 59 weeks in patients treated continuously with VB-111, compared to 32 weeks in patients with only one dose (in median) of VB-111 ($p=0.048$), both groups having received Avastin upon progression after a short course of VB-111. 12-Month overall survival was 57% in the VB-111 continuous exposure cohort, compared with only 24% in historical pooled Avastin trials ($p=0.03$), consistent with data indicating that Avastin monotherapy does not improve OS in rGBM patients.

To further understand the why treatment with VB-111 was associated with prolonged survival, VBL analyzed the tumor growth kinetics in all rGBM patients who participated in the VB-111 Phase 2 trial. These new data demonstrate that tumor growth kinetics was significantly attenuated upon longer treatment with VB-111.

Whereas brief exposure to VB-111 was associated with tumor progression in most patients, longer exposure to VB-111 (median= 4, mean=4.7 doses) led to attenuation of tumor growth kinetics (median % increase (MPI) per 30 days: 0.6 vs 14.1, $p=0.0032$). Furthermore, tumor regression was more frequent upon longer exposure to VB-111; only 16% of patients with limited exposure to VB-111 had tumors shrink below baseline dimensions during the first 100 days, compared to 61% of patients who continued to receive VB-111 through progression ($p=0.002$; McNemar's test). Except for longer treatment with VB-111 leading to favorable OS, there was no evidence for difference between the two cohorts in any of the criteria tested, including patient characteristics, initial tumor growth kinetics, and Avastin treatment of both groups.

Overall, VBL's Phase 2 data point to a favorable anti-tumor effect of VB-111 in rGBM, in terms of both regression rate and overall survival following treatment through progression, compared to both brief exposure to VB-111 with subsequent Avastin monotherapy and to historical data of Avastin monotherapy. Notably, responses were seen even with VB-111 monotherapy, including a patient who remains in complete remission after over 3 years.

"The new analysis supports the benefit of continuous exposure to VB-111 in combination with Avastin, on both inhibition of tumor growth and survival in rGBM patients," said Dr. Andrew Brenner, CTRC, University of Texas Health Science Center San Antonio, principal investigator in the VB-111 Phase 2 study.

Yael Cohen, MD, Vice President of Clinical Development at VBL Therapeutics, said "We are encouraged by these Phase 2 results in rGBM, which also are consistent with the findings from our trials of VB-111 in ovarian cancer and thyroid cancer. The current data support the design of our ongoing Phase 3 GLOBE study in rGBM."

VBL's pivotal Phase 3 GLOBE study in rGBM, comparing VB-111 in combination with Avastin to Avastin alone, is currently being conducted in the US, Canada and Israel. Enrollment in the study, 256 patients in total, was completed in December 2016, five months ahead of schedule. The study is proceeding under a Special Protocol Assessment (SPA) granted by the U.S. Food and Drug Administration (FDA), with full endorsement by the Canadian Brain Tumor Consortium (CBTC). The company expects an interim analysis of the GLOBE trial to occur in the third quarter of 2017, with top-line results from the full dataset expected in early 2018.

The new Phase 2 data will be presented in a poster session at ASCO today at 1:15 PM - 4:45 PM CDT, Hall A, poster board # 297. The poster will be also available on the company's website, at ir.vblrx.com.

About Ofranergene Obadenovec (VB-111)

Ofranergene obadenovec is a unique biologic agent that uses a dual mechanism to target solid tumors. Based on a non-integrating, non-replicating, Adeno 5 vector, ofranergene obadenovec utilizes VBL's proprietary Vascular Targeting System (VTS™) to target the tumor vasculature for cancer therapy. Unlike anti-VEGF or TKIs, ofranergene obadenovec does not aim to block a specific pro-angiogenic pathway; instead, it uses an angiogenesis-specific sensor (VBL's PPE-1-3x proprietary promoter) to specifically induce cell death in angiogenic endothelial cells in the tumor milieu. This mechanism retains activity regardless of baseline tumor mutations or the identity of the pro-angiogenic factors secreted by the tumor and shows activity even after failure of prior treatment with other anti-angiogenics. Moreover, ofranergene obadenovec induces specific anti-tumor immune response, which is accompanied by recruitment of CD8 T-cells and apoptosis of tumor cells.

Ofranergene obadenovec completed a Phase 2 study in rGBM, which showed a statistically significant improvement in overall survival in patients treated with ofranergene obadenovec through progression, compared to either patients treated with ofranergene obadenovec followed by bevacizumab alone, or to historical bevacizumab data. In a Phase 2 trial for recurrent platinum-resistant ovarian cancer, ofranergene obadenovec demonstrated a statistically significant increase in overall survival and 60% durable response rate (as measured by reduction in CA-125), approximately twice the historical response with bevacizumab plus chemotherapy in ovarian cancer. In a Phase 2 study in recurrent, iodine-resistant differentiated thyroid cancer, ofranergene obadenovec met the primary endpoint demonstrating disease stabilization with a positive safety profile, along with a dose-response and evidence of an overall survival benefit. Ofranergene obadenovec has received Fast Track Designation for recurrent glioblastoma in the U.S. and orphan drug status for glioblastoma in both the U.S. and EU.

About VBL

Vascular Biogenics Ltd., operating as VBL Therapeutics, is a clinical stage biopharmaceutical company focused on the discovery, development and commercialization of first-in-class treatments for cancer. The Company's lead oncology product candidate, ofranergene obadenovec (VB-111), is a first-in-class, targeted anti-cancer gene-therapy agent that is positioned to treat a wide range of solid tumors. It is conveniently administered as an IV infusion once every two months. It has been observed to be well-tolerated in >200 cancer patients and we have observed its efficacy signals in an "all comers" Phase 1 trial as well as in three tumor-specific Phase 2 studies. Ofranergene obadenovec is currently being studied in a Phase 3 pivotal trial for recurrent Glioblastoma, conducted under an FDA Special Protocol Assessment (SPA).

Forward Looking Statements

This press release contains forward-looking statements. All statements other than statements of historical fact are forward-looking statements, which are often indicated by terms such as "anticipate," "believe," "could," "estimate," "expect," "goal," "intend," "look forward to", "may," "plan," "potential," "predict," "project," "should," "will," "would" and similar expressions. These forward-looking statements include, but are not limited to, statements regarding the clinical development of ofranergene obadenovec (VB-111), including our expectations regarding the timing of results from the GLOBE study, and its therapeutic potential and clinical results. These forward-looking statements are not promises or guarantees and involve substantial risks and uncertainties. Among the factors that could cause actual results to differ materially from those described or projected herein include uncertainties associated generally with research and development, clinical trials and related regulatory reviews and approvals, and the risk that historical clinical trial results may not be predictive of future trial results. In particular, results from our pivotal Phase 3 clinical trial of ofranergene obadenovec (VB-111) in rGBM may not support approval of ofranergene obadenovec for marketing in the United States, notwithstanding the positive results seen in prior clinical experience. A further list and description of these risks, uncertainties and other risks can be found in the Company's regulatory filings with the U.S. Securities and Exchange Commission, including in our annual report on Form 20-F for the year ended December 31, 2016. Existing and prospective investors are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof. VBL Therapeutics undertakes no obligation to update or revise the information contained in this press release, whether as a result of new information, future events or circumstances or otherwise.

Avastin® (bevacizumab) is a registered trademark of Genentech Inc.

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