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Summary of Clinical Trial Results

For Laypersons

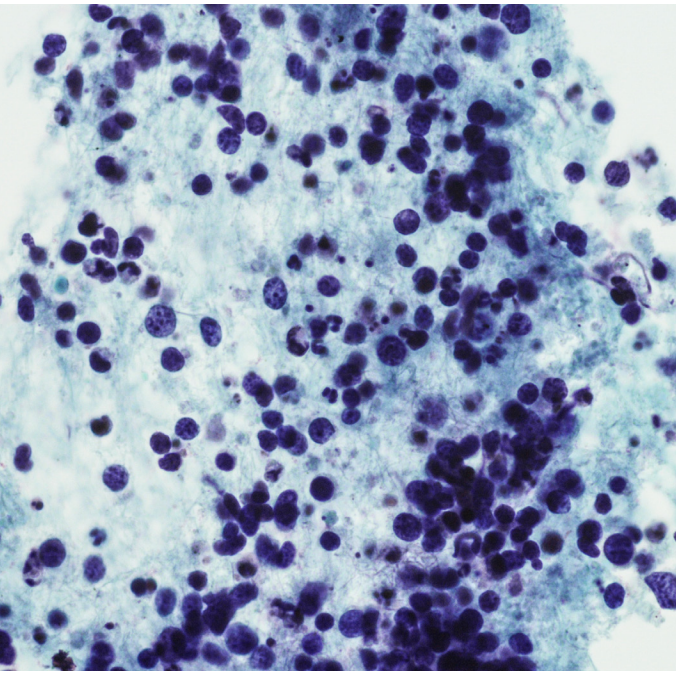
A study to learn how effective and safe a medicine containing veliparib works to treat adult patients with advanced small cell lung cancer in combination with carboplatin and etoposide

Overall Summary

- Researchers are looking for a better way to treat small cell lung cancer. In this study, study doctors wanted to know whether an experimental drug called veliparib, taken with standard treatment chemotherapy drugs carboplatin and etoposide, followed by veliparib alone, could help treat this type of lung cancer.
- This study took place from October 2014 to April 2019 in 12 countries.
- The study was divided into two parts: Phase 1 and Phase 2. A total of 40 adult patients took part in Phase 1 of this study and 181 adult patients took part in Phase 2 of this study. The Phase 1 portion of the study evaluated patients to measure the dose of veliparib that should be given to patients in the Phase 2 portion of the study. The Phase 2 portion of the study measured if veliparib, taken in combination with carboplatin and etoposide and by itself, helped to improve progression-free survival (length of time during and after treatment that a patient lives with cancer while it does not get worse) compared to placebo (also known as a sugar pill, which looks like the treatment medicine but has no active drug in it).
- The results of this study showed an improvement in progression-free survival after treatment with veliparib in combination with carboplatin and etoposide, followed by treatment with veliparib alone (Arm A), compared to treatment with placebo when combined with carboplatin and etoposide followed by placebo alone (Arm C).
- Adding veliparib to treatment with carboplatin and etoposide followed by veliparib treatment alone (Arm A) improved progression-free survival, however it did not improve overall survival compared to treatment with carboplatin and etoposide without veliparib (Arm C).
- Side effects were the same as those expected in this patient population and similar to side effects seen with the chemotherapy drugs used in other studies.
- The results of the study may be used by researchers to further develop this medicine. If you participated in this study and have questions about your individual care, contact the doctor or staff at your study site.

1. General information about the study

1.1 What was the main objective of this study?



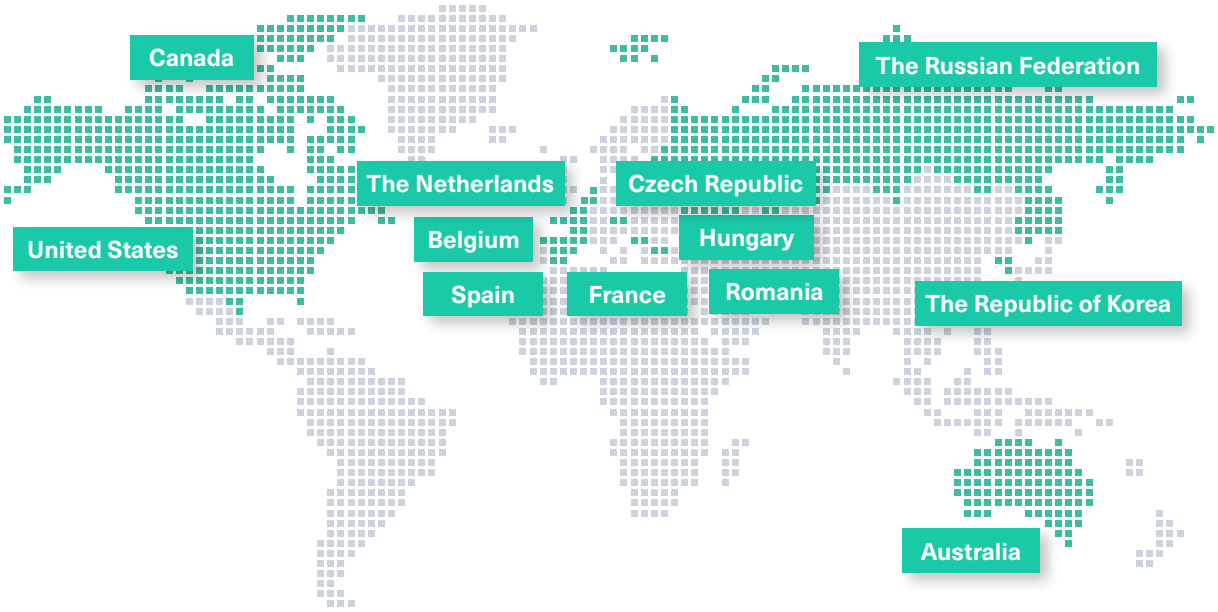
Researchers are looking for a better way to treat small cell lung cancer. Small cell lung cancer is an aggressive form of lung cancer. Although many patients' cancers improve with first treatment, they often come back quickly or spread. Therefore, researchers in this study wanted to know whether an experimental drug called veliparib, in combination with standard treatment chemotherapy drugs carboplatin and etoposide, could help treat this type of lung cancer. Veliparib stops certain proteins in the body that help cancer cells overcome damage caused by radiation and anti-cancer drugs. Veliparib blocks these proteins, preventing cancer cells from repairing themselves and helping make cancer treatments more effective.

The doctors in this study selected adult patients who had newly-diagnosed, advanced small cell lung cancer. Researchers planned this study as a Phase 1 and Phase 2 study, with open-label and randomized parts. Phase 1 studies of new cancer treatments usually test a small number of patients with the disease to determine the appropriate treatment dose and learn about treatment safety. Phase 2 studies of new cancer treatments give more information on the safety of the treatment and how well it works, often compared to a different treatment. This study had a Phase 1 "open-label" period, which means that both the patients and the study doctors knew which treatment was given. This study also had a Phase 2 randomized "double-blinded" portion, which means that patients were randomly (by chance) assigned to treatment groups, and neither the patients nor the study doctors knew who was given which treatment during that period (veliparib or placebo, in this case). This ensures that no study results were influenced.

The main aim of the Phase 1 portion of the study was to find out the recommended dose of veliparib for Phase 2 of the study. The main aim of the Phase 2 portion of the study was to find out if progression-free survival improved after taking veliparib in combination with carboplatin and etoposide followed by veliparib alone when compared to placebo with carboplatin and etoposide. Researchers also checked if there were any unwanted side effects. This summary only includes the results of this study, which may be different from the results of other studies.

1.2 When and where was the study done?

This study took place from October 2014 to April 2019 in the following countries:

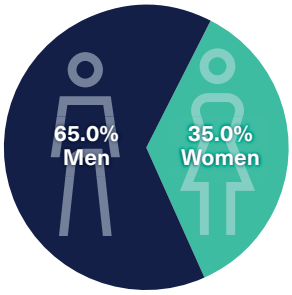


2. What patients were included in this study?

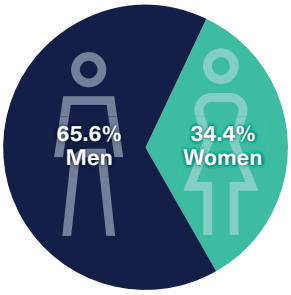
A total of 40 adult patients took part in Phase 1 of the study. All of these patients left the study, mostly due to disease progression. A total of 181 adult patients took part in Phase 2 of the study. All of these patients left the study, mostly due to death or because the study was ending.

More men (65.0%) than women (35.0%) participated in Phase 1 of the study. More men (65.6%, 64.4%, 62.3%) than women (34.4%, 35.6%, 37.7%) participated in Arms A, B, and C of Phase 2 of the study. Patients ranged from 37 to 87 years of age. A majority of patients were current or former smokers. Study doctors selected only adults in this study. All patients in the Phase 2 portion must have been newly-diagnosed with advanced small cell lung cancer without prior chemotherapy treatment. Patients in the Phase 1 portion were allowed to have either small cell lung cancer or other types of advanced cancer.

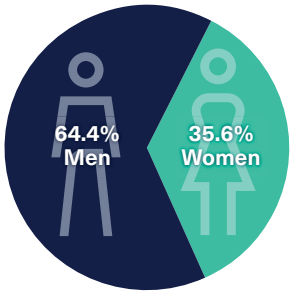
Phase 1



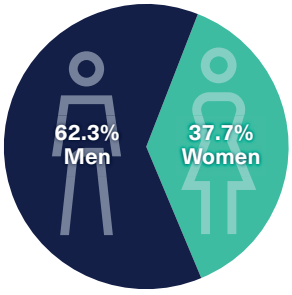
Phase 2



Arm A



Arm B



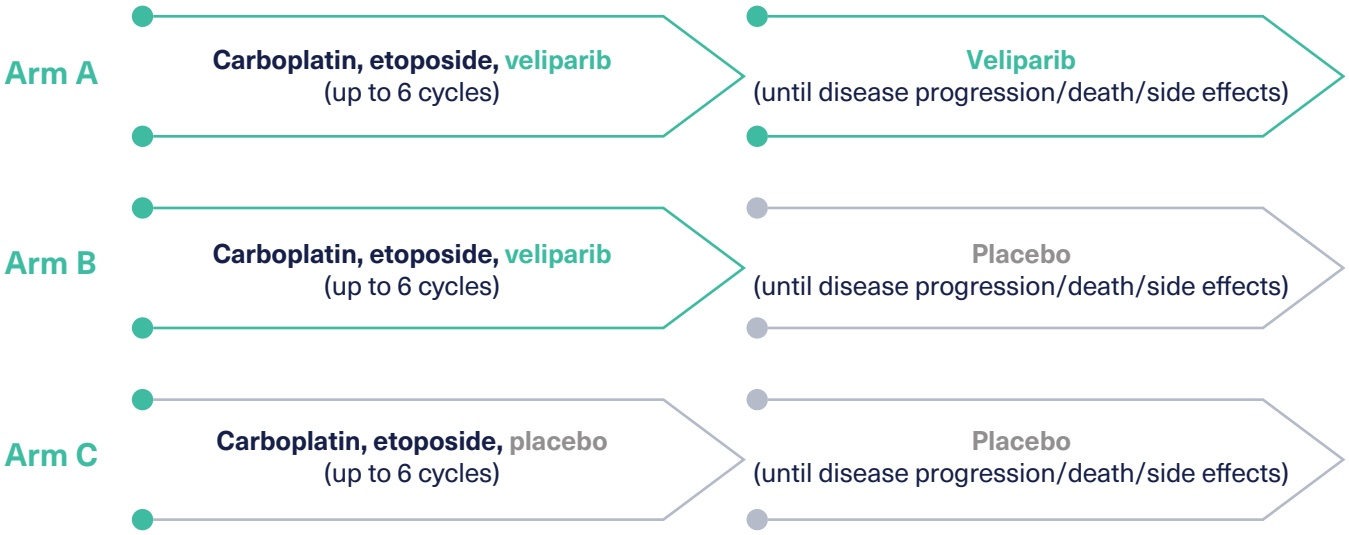
Arm C

3. Which medicines were studied?

The medicine in this study was veliparib, taken by itself and in combination with carboplatin and etoposide. The diagram below shows how the study was organized.

Phase 1

Phase 2



The study was divided into two parts: Phase 1 and Phase 2. The Phase 1 portion of the study evaluated patients to determine the dose of veliparib that should be given to patients in the Phase 2 portion of the study. The Phase 2 portion of the study measured if veliparib, in combination with carboplatin and etoposide and taken by itself, helped to improve overall patient survival and progression-free survival compared to placebo. Patients took capsules of veliparib or placebo by mouth. Carboplatin and etoposide were administered to patients via vein injection.

In Phase 1, patients were assigned to one of seven dose groups of veliparib ranging from 80 mg to 240 mg twice a day, taken for different periods of time in each treatment cycle with carboplatin and etoposide. After finishing 4 cycles of combination treatment, patients continued dosing with veliparib by itself at a higher dose (400 mg twice a day) unless they met stopping criteria.

Based on Phase 1, researchers determined the Phase 2 combination dose of veliparib with carboplatin and etoposide to be 240 mg twice a day for 14 days of every treatment cycle. In Phase 2, patients were randomly assigned to 1 of 3 arms:

- Arm A: veliparib 240 mg in combination with carboplatin/etoposide followed by veliparib monotherapy (taken by itself)
- Arm B: veliparib 240 mg in combination with carboplatin/etoposide followed by placebo monotherapy
- Arm C: placebo in combination with carboplatin/etoposide followed by placebo monotherapy

Patients in Phase 2 received treatment unless patients needed to stop treatment due to disease progression, death, or side effects. After finishing 4 to 6 cycles of combination treatment, patients in Arm A without disease progression received further dosing of veliparib by itself at a higher dose (400 mg twice a day, every day) and patients in Arm B and Arm C received placebo.

All patients continued dosing until they met stopping criteria. During the post-treatment period, patients continued attending study visits so study doctors could monitor their disease progression, side effects, and survival time.

4. What were the side effects?

Side effects are unwanted medical events that happen during a study. They may or may not be caused by the treatment in the study, and they may or may not be related to their disease.

A side effect is serious if it leads to death, is life-threatening, puts a participant in the hospital, keeps a participant in the hospital for a long time, or causes a disability that lasts a long time.

Related side effects are side effects that were considered by the study doctor to be at least possibly related to the study drug.

In Phase 1, about 52.5% of patients (21 patients) had serious side effects. The total number of patients that had serious side effects considered possibly related to veliparib was 15.0% of patients (6 patients). About 25.0% of patients (10 patients) stopped taking veliparib because of side effects; 2 patients stopped taking veliparib because of a side effect considered related to veliparib. Two patients (5.0% of patients) died during Phase 1 of the study as a result of a side effect, none of which were considered related to veliparib.

In Phase 2, about 55.0% of patients (33 patients) in Arm A, 67.2% of patients (39 patients) in Arm B, and 45.0% of patients (27 patients) in Arm C had serious side effects. The total number of patients that had serious side effects considered possibly related to veliparib was 15.0% of patients (9 patients) in Arm A, 20.7% of patients (12 patients) in Arm B, and 11.7% of patients (7 patients) in Arm C. About 26.7% of patients (16 patients) in Arm A and 29.3% of patients (17 patients) in Arm B stopped taking veliparib because of side effects; no patients stopped taking veliparib because of a side effect considered related to veliparib. A total of 7 patients (11.7% of patients) in Arm A, 10 patients (17.2% of patients) in Arm B, and 5 patients (8.3% of patients) in Arm C died during Phase 2 of the study as a result of a side effect, none of which were considered related to veliparib.

The table below shows information about the related serious side effects patients had in Phase 1 of this study, as well as related side effects patients had that led to the patient stopping the study drug, and related side effects leading to death.

Phase 1	80 mg BID n= 4 patients	120 mg BID n = 3 patients	160 mg BID n = 4 patients	200 mg BID n = 3 patients	240 mg 7 day n = 8 patients	240 mg 14 day n = 14 patients	240 mg Cont. n = 4 patients	Total n = 40 patients
Number of patients with related serious side effects	1 (25.0% of patients)	0 (0.0% of patients)	1 (25.0% of patients)	1 (33.3% of patients)	0 (0.0% of patients)	1 (7.1% of patients)	2 (50.0% of patients)	6 (15.0% of patients)
Number of patients who stopped taking the study drug because of related side effects	0 (0.0% of patients)	0 (0.0% of patients)	0 (0.0% of patients)	0 (0.0% of patients)	0 (0.0% of patients)	0 (0.0% of patients)	0 (0.0% of patients)	0 (0.0% of patients)
Number of patients with related side effects leading to death	0 (0.0% of patients)	0 (0.0% of patients)	0 (0.0% of patients)	0 (0.0% of patients)	0 (0.0% of patients)	0 (0.0% of patients)	0 (0.0% of patients)	0 (0.0% of patients)

The table below shows information about the related serious side effects patients had in Phase 2 of this study, as well as related side effects patients had that led to the patient stopping the study drug, and related side effects leading to death.

Phase 2	Arm A n= 60 patients	Arm B n = 58 patients	Arm C n = 60 patients
Number of patients with related serious side effects	9 (15.0% of patients)	12 (20.7% of patients)	7 (11.7% of patients)
Number of patients who stopped taking study drug because of related side effects	0 (0.0% of patients)	0 (0.0% of patients)	0 (0.0% of patients)
Number of patients with related side effects leading to death	0 (0.0% of patients)	0 (0.0% of patients)	0 (0.0% of patients)

In Phase 1, a total of 100.0% of patients (40 patients) had side effects. The total number of patients that had side effects considered possibly related to veliparib was 38 patients (95.0% of patients).

The table below shows information about the most common related side effects (in at least 13 or more patients) in Phase 1 of this study. The most common related side effect was nausea.

Phase 1	80 mg BID n= 4 patients	120 mg BID n = 3 patients	160 mg BID n = 4 patients	200 mg BID n = 3 patients	240 mg 7 day n = 8 patients	240 mg 14 day n = 14 patients	240 mg Cont. n = 4 patients	Total n = 40 patients
Number of patients with at least one related side effect	4 (100.0% of patients)	3 (100.0% of patients)	3 (75.0% of patients)	3 (100.0% of patients)	8 (100.0% of patients)	13 (92.9% of patients)	4 (100.0% of patients)	38 (95.0% of patients)
Most common side effects in 13 or more patients								
Nausea	1 (25.0% of patients)	2 (66.7% of patients)	0 (0.0% of patients)	1 (33.3% of patients)	4 (50.0% of patients)	7 (50.0% of patients)	1 (25.0% of patients)	16 (40.0% of patients)
Fatigue (tiredness)	2 (50.0% of patients)	3 (100.0% of patients)	1 (25.0% of patients)	2 (66.7% of patients)	3 (37.5% of patients)	4 (28.6% of patients)	1 (25.0% of patients)	16 (40.0% of patients)
Neutropenia (low neutrophil [a type of white blood cell] count)	0 (0.0% of patients)	0 (0.0% of patients)	2 (50.0% of patients)	0 (0.0% of patients)	3 (37.5% of patients)	7 (50.0% of patients)	2 (50.0% of patients)	14 (35.0% of patients)
Anemia (low red blood cell count)	0 (0.0% of patients)	1 (33.3% of patients)	1 (25.0% of patients)	1 (33.3% of patients)	4 (50.0% of patients)	4 (28.6% of patients)	2 (50.0% of patients)	13 (32.5% of patients)

In Phase 2, about 96.7% of patients (58 patients) in Arm A, 98.3% of patients (57 patients) in Arm B, and 96.7% of patients (58 patients) in Arm C had side effects. The total number of patients that had side effects considered possibly related to veliparib was 44 patients (73.3% of patients) in Arm A, 41 patients (70.7% of patients) in Arm B, and 32 patients (53.3% of patients) in Arm C.

The table below shows information about the most common related side effects (in at least 12 or more patients) in Phase 2 of this study. The most common related side effect was neutropenia (low neutrophil [a white blood cell] count).

Phase 2	Arm A n= 60 patients	Arm B n = 58 patients	Arm C n = 60 patients
Number of patients with at least one related side effect	44 (73.3% of patients)	41 (70.7% of patients)	32 (53.3% of patients)
Most common side effects in 12 or more patients			
Neutropenia (low neutrophil [a white blood cell] count)	22 (36.7% of patients)	19 (32.8% of patients)	12 (20.0% of patients)
Nausea	26 (43.3% of patients)	19 (32.8% of patients)	7 (11.7% of patients)
Anemia (low red blood cell count)	16 (26.7% of patients)	19 (32.8% of patients)	8 (13.3% of patients)
Thrombocytopenia (low platelet count)	13 (21.7% of patients)	17 (29.3% of patients)	7 (11.7% of patients)
Fatigue (tiredness)	12 (20.0% of patients)	6 (10.3% of patients)	9 (15.0% of patients)

5. What were the overall results of the study?

The study was completed as planned. A Phase 2 combination dose of 240 mg veliparib was determined in the Phase 1 portion of the study. The results of this study showed an improvement in progression-free survival after treatment with veliparib in combination with carboplatin and etoposide, followed by treatment with veliparib alone (Arm A), compared to treatment with placebo when combined with carboplatin and etoposide (Arm C). Adding veliparib to treatment with carboplatin and etoposide followed by veliparib treatment alone (Arm A) improved progression-free survival; however, it did not improve overall survival compared to treatment with carboplatin and etoposide without veliparib (Arm C). Side effects were the same as those expected in this patient population and similar to side effects seen with the chemotherapy drugs used in other studies.

6. How has the study helped patients and researchers?

The results of this study showed that progression-free survival was improved in Arm A, wherein veliparib was added to carboplatin and etoposide and continued by itself in the treatment of small cell lung cancer. Findings from this study may be used in other studies to learn whether patients are helped by the study drug.

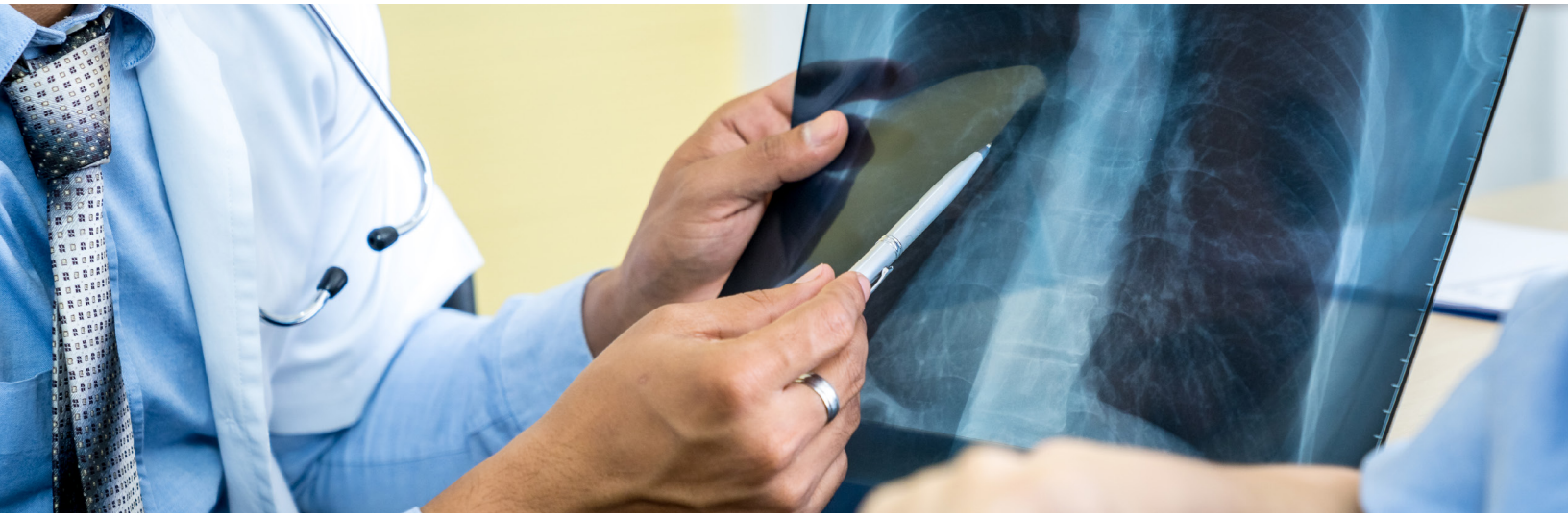
This summary only shows the results of this study, which may be different from the results of other studies. Patients should consult their physicians and/or study doctors with further questions about their individual care and should not make changes in their treatment based on the results of a single study.

7. Are there any plans for future studies?

There is a possibility for future studies that include veliparib. Studies of veliparib in the treatment of other types of cancer are currently ongoing.

8. Who sponsored this study?

This study was sponsored by AbbVie. This summary was reviewed for readability by a patient advocacy group.



9. Where can I find out more information about this study?

Title of Study	A Phase 1 Dose Escalation and Phase 2 Randomized Double-Blind Study of Veliparib in Combination with Carboplatin and Etoposide as a Therapy of Treatment-Naïve Extensive Stage Disease Small Cell Lung Cancer
Protocol Number	M14-361
Clinicaltrials.gov	NCT02289690 https://clinicaltrials.gov/ct2/show/NCT02289690
EudraCT	2014-001764-35 https://www.clinicaltrialsregister.eu/ctr-search/search?query=2014-001764-35
AbbVie.com	https://www.abbvie.com/our-science/clinical-trials/clinical-trials-data-and-information-sharing/results-summaries-for-study-participants.html
Study Sponsor	AbbVie Inc Phone: (800) 633-9110 Email: abbvieclinicaltrials@abbvie.com

Thank You

AbbVie wants to thank all the participants for their time and effort that went into making this study possible.

Clinical study participants help advance science!