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Characteristics of High-Risk Polycythemia Vera Patients With Suboptimal Response to First-Line Therapy Who Switched to Ruxolitinib vs Those Who Did Not Switch: Findings From PV-Switch, a Multinational, Retrospective Chart Review Study

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Disclosures

- This study was supported by Novartis Pharmaceuticals Corporation

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- Received honoraria for consulting for Novartis, Bristol Myers Squibb Company, AOP Orphan Pharmaceuticals GmbH, Janssen Pharmaceuticals, Inc, Geron, Pfizer Inc, Incyte Corporation, Ariad Pharmaceuticals, Celgene Corporation, Shire, and Roche
- Served on advisory committees and other for Novartis, Bristol Myers Squibb Company, AOP Orphan Pharmaceuticals GmbH, Janssen Pharmaceuticals, Inc, Geron, Pfizer Inc, Incyte Corporation, Ariad Pharmaceuticals, Celgene Corporation, CTI BioPharma, Roche, Baxalta, and Sanofi
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Patient Baseline Demographic Characteristics

- A total of 137 patients were included in the interim sample; 44 patients (32.1%) were classified as switchers and 93 (67.9%) as non-switchers (**Table 1**)
- Switchers tended to be younger than non-switchers at PV diagnosis (mean [SD], 66.5 [12.0] vs 70.2 [8.5] years) and at index date (68.9 [11.9] vs 73.0 [8.7] years) and were more likely male (52.3% vs 47.3%)
- Half of switchers had never smoked, while only 37.6% of non-switchers had never smoked
- Baseline body mass index (BMI) was comparable between the two groups
- Switchers were more likely than non-switchers to have been enrolled in an interventional clinical trial for an investigational PV treatment (6.8% vs 3.2%)

Table 1. Patient Baseline Demographic Characteristics[a]

	Switch n=44	Non-switch n=93
Age at PV diagnosis, years		
Mean (SD) [median]	66.5 (12.0) [70.5]	70.2 (8.5) [70.0]
Age at index date, years		
Mean (SD) [median]	68.9 (11.9) [72.2]	73.0 (8.7) [73.7]
Sex, n (%)		
Male	23 (52.3)	44 (47.3)
Female	21 (47.7)	49 (52.7)
Smoking status, n (%)		
Current smoker	4 (9.1)	6 (6.5)
Former smoker	13 (29.5)	23 (24.7)
Never smoker	22 (50.0)	35 (37.6)
Unknown	5 (11.4)	29 (31.2)
BMI		
BMI available, n (%)	38 (86.4)	50 (53.8)
Mean (SD)	27.5 (5.0)	27.4 (5.6)
Median (IQR)	25.9 (23.7-30.9)	26.2 (23.5-30.1)
Previous enrollment in interventional clinical trial for an investigational PV treatment, n (%)	3 (6.8)	3 (3.2)

BMI, body mass index; IQR, interquartile range; PV, polycythemia vera.
[a] Baseline period: 12 months prior to index date (ie, time of suboptimal response to 1L therapy).

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Patient Baseline Clinical Characteristics

- More switchers (54.4%) than non-switchers (31.2%) had a history of thrombosis at time of PV diagnosis (**Table 2**)
- Comorbidities tended to be less prevalent in switchers than in non-switchers prior to the index date
  - Commonly reported comorbidities in switchers vs non-switchers, respectively, included hypertension (43.2% vs 66.7%), cardiac conditions (18.2% vs 29.0%), hypercholesterolemia (9.1% vs 25.8%), and diabetes (2.3% vs 16.1%)
  - Switchers had a higher proportion of obesity than non-switchers (15.9% vs 7.5%)
- In both groups, fatigue (18.2% switchers vs 16.1% non-switchers) and pruritus (15.9% vs 14.0%) were the most observed PV-related symptoms in the baseline period; proportions were similar between groups
- Fewer switchers (36.4%) than non-switchers (60.2%) received phlebotomies in the baseline period, while the mean (SD) number of procedures was similar (3.8 [2.3] vs 3.9 [2.8]) between groups

Table 2. Patient Baseline Clinical Characteristics[a]

S	Switch n=44	Non-switch n=93
Prior history of thrombosis at time of PV diagnosis, n (%)	24 (54.5)	29 (31.2)
Comorbidities prior to the index date, n (%)		
Hypertension	19 (43.2)	62 (66.7)
Cardiac	8 (18.2)	27 (29.0)
Obesity	7 (15.9)	7 (7.5)
Hypercholesterolemia	4 (9.1)	24 (25.8)
Cancer	4 (9.1)	10 (10.8)
Diabetes	1 (2.3)	15 (16.1)
Other	9 (20.5)	39 (41.9)
None of the above	13 (29.5)	11 (11.8)
PV-related symptoms during the baseline period, n (%)		
Fatigue	8 (18.2)	15 (16.1)
Pruritus	7 (15.9)	13 (14.0)
Night sweats	3 (6.8)	3 (3.2)
Abdominal pain	2 (4.5)	4 (4.3)
Inactivity	1 (2.3)	0
Early satiety	0	3 (3.2)
Problems with concentration	0	2 (2.2)
Unintentional weight loss	0	2 (2.2)
Fever	0	1 (1.1)
Other	4 (9.1)	11 (11.8)
None of the above	32 (72.7)	66 (71.0)
Phlebotomies received during the baseline period, n (%)	16 (36.4)	56 (60.2)
Number of phlebotomies received, mean (SD) [median]	3.8 (2.3) [3.5]	3.9 (2.8) [3.0]

PV, polycythemia vera.
[a] Baseline period: 12 months prior to index date (ie, time of suboptimal response to 1L therapy).

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Suboptimal Response to First-line Cytoreductive Therapy on the Index Date

- The median (IQR) time from PV diagnosis to index date was shorter for switchers than non-switchers (13.6 [12.3-22.3] vs 20.6 [14.7-37.0] months) (**Table 3**)
- Distribution of suboptimal response criteria on the index date differed for the 2 groups
  - For switchers, the most common criterion was “persistence of PV-related symptoms or presence of new PV-related symptoms”, which was reported in 47.7% of patients; only 15.1% of non-switchers experienced this criterion
  - For non-switchers, the most common criterion was “need for ≥3 phlebotomies within 1 year to maintain hematocrit <45%,” which was reported in 45.2% of patients; only 22.7% of switchers experienced this criterion

Table 3. Suboptimal Response to First-Line Cytoreductive Therapy on the Index Date

	Switch n=44	Non-switch n=93
Time from PV diagnosis to suboptimal response, months		
Mean (SD)	22.3 (17.6)	28.2 (17.9)
Median (IQR)	13.6 (12.3-22.3)	20.6 (14.7-37.0)
Suboptimal response,[a] n (%)		
Need for ≥3 phlebotomies within 1 year to maintain hematocrit <45%	10 (22.7)	42 (45.2)
Leukocyte count >15×10^9/L	13 (29.5)	20 (21.5)
Platelet count >600×10^9/L	14 (31.8)	34 (36.6)
Persistence of PV-related symptoms or presence of new PV-related symptoms[b]	21 (47.7)	14 (15.1)
Cytopenias at the lowest dose of cytoreductive therapy required to achieve a response[c]	0	5 (5.4)
Absolute neutrophil count <1.0×10^9/L	0	3 (3.2)
Platelet count <100×10^9/L	0	0
Hemoglobin level <100 g/L	0	3 (3.2)
Failure to reduce splenomegaly by >50% as measured by palpation or progressive splenomegaly	1 (2.3)	5 (5.4)

IQR, interquartile range; PV, polycythemia vera.
[a] Patients can experience >1 criterion defining suboptimal response. [b] PV-related symptoms include pruritus, fatigue, night sweats, fever, unintentional weight loss, abdominal pain, early satiety, problems with concentration, and inactivity. [c] >1 cutoff can be used to diagnose cytopenias.

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Spleen Assessments on the Index Date

- Data from spleen size assessment by palpation were available for 13 switchers (29.5%) and 38 non-switchers (40.9%) on the index date (**Table 4**)
- On the index date, switchers tended to have a lower proportion of normal spleen size (61.5% vs 92.1%) and a higher proportion of mild or moderate splenomegaly (38.5% vs 7.9%) than non-switchers
- Spleen length assessments revealed the following results:
  - 20 switchers (45.5%) and 14 nonswitchers (15.1%) had available spleen length results
  - The mean (SD) spleen lengths were 15.6 (5.0) and 13.8 (2.6) cm, respectively, which further supported the findings from palpation
  - Almost all spleen lengths were assessed by ultrasound

Table 4. Spleen Assessments on Date of Suboptimal Response to First-Line Cytoreductive Therapy[a,b]

	Switch n=44	Non-switch n=93
Spleen size assessed by palpation, n (%)	13 (29.5)	38 (40.9)
Normal	8 (61.5)	35 (92.1)
Mild splenomegaly	5 (38.5)	1 (2.6)
Moderate splenomegaly	0	2 (5.3)
Massive splenomegaly	0	0
Spleen length assessed by imaging, n (%)	20 (45.5)	14 (15.1)
Mean (SD)	15.6 (5.0)	13.8 (2.6)
Median (IQR)	14.4 (12.2-17.8)	14.4 (12.0-15.4)
Modality, n (%)		
Ultrasound	20 (100)	13 (92.9)
MRI	0	0
CT	0	0
Other	0	0
Unknown	0	1 (7.1)

CT, computed tomography; IQR, interquartile range; MRI, magnetic resonance imaging; PV, polycythemia vera.
[a] The types of spleen assessment (ie, spleen length and spleen size) are not mutually exclusive categories. [b] If data from the index date are unavailable, then the data from the most recent date prior to the index date are reported.

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