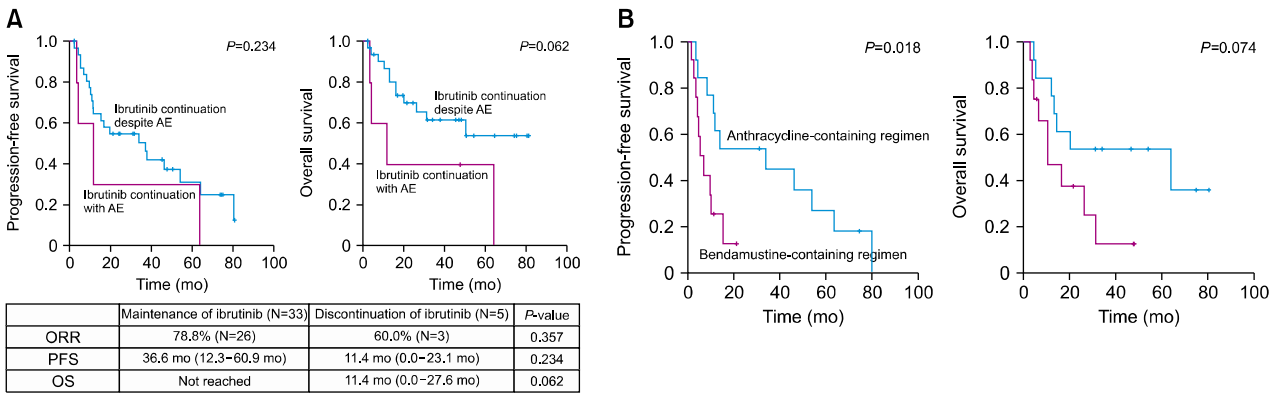

	Maintenance of ibrutinib (N=33)	Discontinuation of ibrutinib (N=5)	*P*-value
ORR	78.8% (N=26)	60.0% (N=3)	0.357
PFS	36.6 mo (12.3–60.9 mo)	11.4 mo (0.0–23.1 mo)	0.234
OS	Not reached	11.4 mo (0.0–27.6 mo)	0.062

Supplementary Fig. 1. Comparison of survival outcomes by maintenance versus interruption of ibrutinib in patients with adverse events **(A)**. Comparison of ibrutinib efficacy according to front-line treatment in patients older than 70 years **(B)**.

Supplementary Table 1. Demographics and disease characteristics at ibrutinib treatment (N=42).

Characteristics		N
Age (yr)	Median (range)	67 (45–81)
	<70	27 (64.3%)
	≥70	15 (35.7%)
Leukocytosis	Absence	33 (78.6%)
	Present	9 (21.4%)
Anemia	Absence	32 (76.2%)
	Present	10 (23.8%)
Thrombocytopenia	Absence	30 (71.4%)
	Present	12 (28.6%)
Serum LDH	Absence	10 (23.8%)
	Elevated	32 (76.2%)
Splenomegaly (≥11 cm)	Absence	24 (57.1%)
	Present	18 (42.9%)
Prior number of treatment	Prior 1 line	29 (69.0%)
	Prior ≥2 lines	13 (31.0%)
Best response to ibrutinib	Complete remission	21 (50.0%)
	Partial response	8 (19.0%)
	Stable disease	9 (21.5%)
	Progressive disease	4 (9.5%)
Post-ibrutinib management (N=23)	Novel agent &/or clinical trial	15 (65.2%)
	Conventional cytotoxic treatment only	8 (34.8%)

Abbreviations: LDH, lactate dehydrogenase.

Supplementary Table 2. Adverse events of ibrutinib treatment.

Hematologic adverse events	Total	Grade 1–2	Grade 3	Grade 4
Neutropenia	3 (7.1%)	1 (2.4%)	1 (2.4%)	1 (2.4%)
Anemia	3 (7.1%)	2 (4.8%)	1 (2.4%)	-
Thrombocytopenia	5 (11.9%)	2 (4.8%)	3 (7.1%)	-
Non-hematologic adverse events	**Total**	**Grade 1–2**		**Grade 3–4**
General weakness/fatigue	14 (33.3%)	10 (23.8%)		4 (9.5%)
Skin rash	20 (47.6%)	16 (38.1%)		4 (9.5%)
Diarrhea	13 (30.9%)	10 (23.8%)		3 (7.1%)
Heart failure	1 (2.4%)	1 (2.4%)		-
Bleeding	3 (7.1%)	3 (7.1%)		-
Sensory neuropathy	4 (9.5%)	4 (9.5%)		-
Mucositis	5 (11.9%)	5 (11.9%)		-
Atrial fibrillation (any degree)		3 (7.1%)		
Herpes zoster (any degree)		2 (4.8%)		
Treatment discontinuation due to toxicity		5 (11.9%)		
Dose reduction due to toxicity		6 (14.3%)		