Drug-Induced Hypertension in Classical Philadelphia-Negative Myeloproliferative Neoplasms (MPNs): Systematic Review

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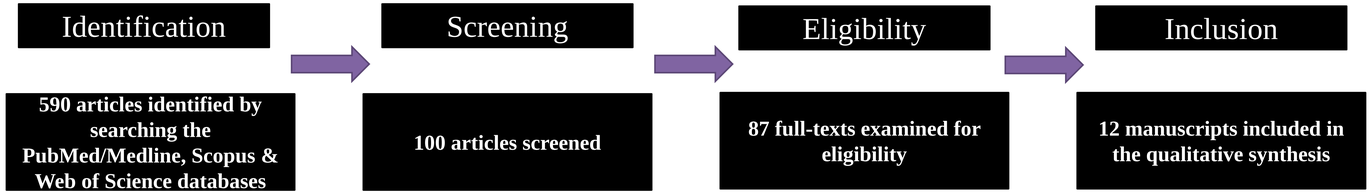
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BACKGROUND

Drug-induced hypertension (HTN) is a frequent cause of secondary HTN, including in patients with solid or hematological cancers. However, the link between targeted anticancer therapy (TAT) and the occurrence of drug-induced HTN has not been studied in MPNs.

METHODS

Comprehensive search in MEDLINE, SCOPUS and Web of Science using specific keywords/word combinations from the inception of these databases. Original papers that analyzed the occurrence of drug-induced HTN as an adverse effect (AE) of TAT for MPNs were included in the qualitative synthesis.



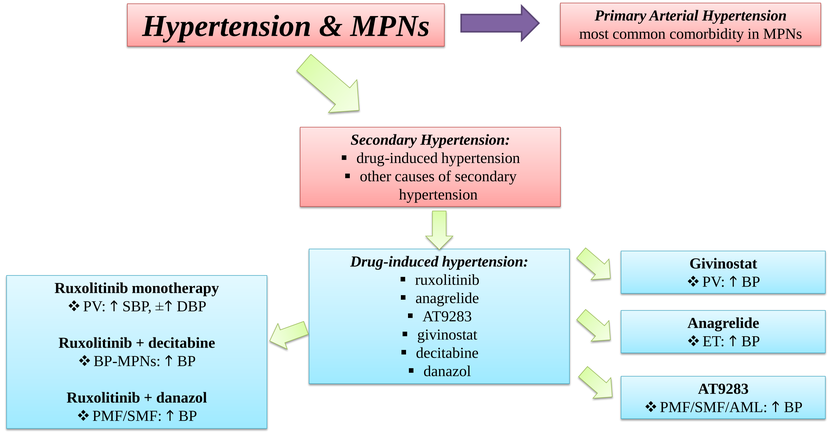
RESULTS

590 relevant records were identified based on the search strategy. Following removal of duplicates and screening of titles/abstracts, a total of 87 papers were selected for full-text review. After the inclusion and exclusion criteria were applied, 12 manuscripts were entered into the qualitative synthesis.[1-12]

Drug	Secondary HTN	Type of study	Observations	Ref.
RUX	No	Observational	No effect on SBP/DBP	1
RUX	Yes	RCT (RESPONSE-2)	↑ SBP; non-hem AE in 9% (n=7) of 74 PV: 3-4 grade AE (6%, n=5), grade 1-2 (3%, n=2)	2-5
RUX	Yes	RCT	Most frequent grade 3-4 AE in RUX and RUX cross-over arm	2-5
IFN	No	RCT (RESPONSE-1 & 2)	HTN most likely occurred in the BAT/physician's choice arm(s)	2-5
RUX + decitabine	Yes	RCT	AP/BP-MPNs: 3 cases (12%) of HTN: grade 1/2 (n=2), grade 3+ AE (n=1)	6
RUX + decitabine	Yes	RCT	HTN = grade 3 AE in 2/21 AP/BP-MPNs	7
RUX + danazol	Yes	RCT	HTN = 1/14 PMF/SMF cases (n=7.1%)	8
Anagrelide	Yes	RCT	HTN = 9 AE cases (vs. 1 for HU), n=146 ET	9
Anagrelide	Yes	Observational	HTN in 3.5% (n=8) of 232 ET subjects	10
AT9283	Yes	RCT	HTN = dose-limiting toxicity in advanced PMF/SMF & refractory AML	11
Givinostat	Yes	RCT	HTN = grade 3 AE in 1/50 PV cases	12

CONCLUSIONS

TAT can cause drug-induced HTN in MPNs. The most common pharmacological agents involved were RUX (± decitabine/danazol), anagrelide, AT9283 or givinostat.



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