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Supplementary Materials: Meta-Analysis of Gastrointestinal Adverse Events from Tyrosine Kinase Inhibitors for Chronic Myeloid Leukemia

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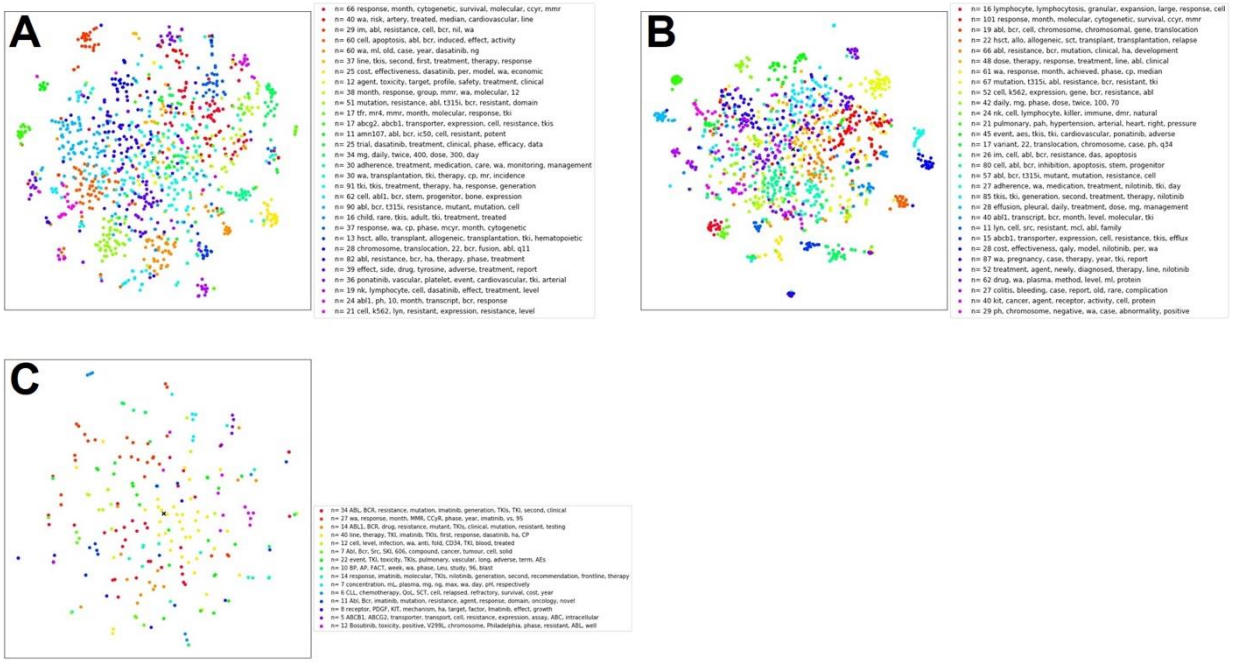

Figure S1. Text mining to identify adverse events from literature text. Text mining was performed to assess top breadth and sufficient sample size. Broad field wide plots mapping commonly occurring term cluster within abstracts containing "chronic myeloid leukemia" and a specific treatment ("dasatinib", "nilotinib", or "bosutinib") were created to use in topic decision. Abstracts were lemmatized and weighted with term frequency-inverse document frequency scores to eliminate commonly occurring, non-informative words. The k-means clustering algorithm was applied to the TF-IDF matrices, and clusters containing articles which had similar groups of significant terms were formed. Dimensionality of the clusters was reduced using singular value decomposition followed by t-stochastic neighbor embedding (t-SNE) to allow for visualization. Panel A shows the clustering for abstracts containing "chronic myeloid leukemia" and "dasatinib" (n = 1325 abstracts). Panel B shows the clustering for abstracts containing "chronic myeloid leukemia" and "bosutinib" (n = 232 abstracts). Panel C shows the clustering for abstracts containing "chronic myeloid leukemia" and "nilotinib" (n = 1166 abstracts). A notable cluster is a cluster (n = 27 abstracts) with 'colitis' and 'bleeding' in Panel A.

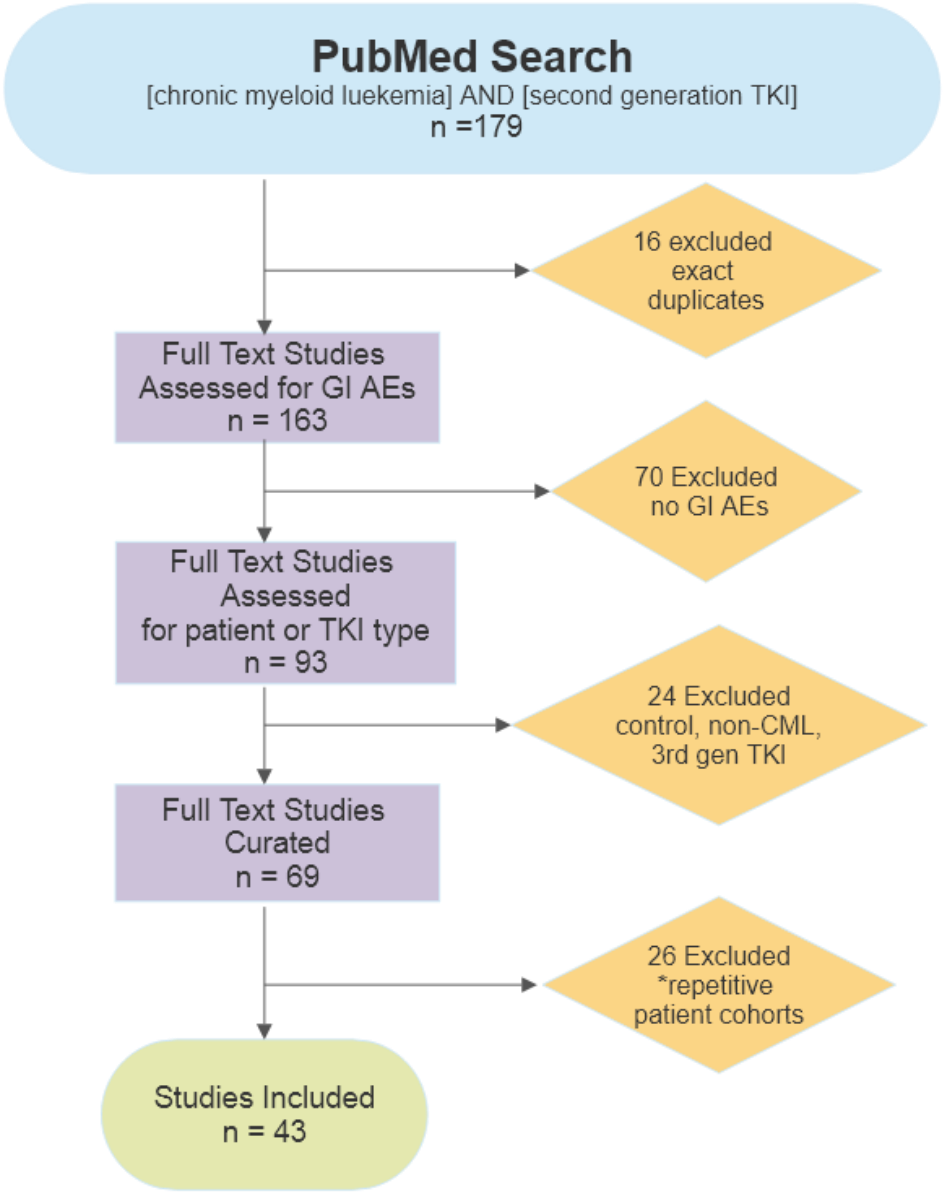

Figure S2. PRISMA diagram illustrating meta-analysis study inclusion and exclusion criteria. Details are give in the Methods section of the main manuscript. Note that "repetitive" studies include patient cohorts that are secondarily analyzed by follow-up publications. Only the original or most complete unique patient cohort meeting inclusion criteria is included in the final set of studies for analysis.

Table S1. Table of included studies in the meta-analysis. Includes all data sources where data was extracted and analyzed. Full citation reference corresponding to the numbered reference for each study under the "Citation" column is given below the table.

PMID	Author	Total Number of Patients	Age	Type of Age (Mean/Median)	Citation
16775234	Talpaz et al.	84	56	Median	[1]
17138817	Hocchaus et al.	186	59	Median	[2]
17185463	Cortes et al.	116	52–55	Median	[3]
17264298	Guilhot et al.	107	57	Median	[4]
17317857	Kantarjian et al.	150	51	Median	[5]
17715389	Kantarjian et al.	280	58	Median	[6]
18048643	Coutre et al.	119	57	Median	[7]
18754032	Cortes et al.	157	49.5–55	Median	[8]
19263190	Sakamaki et al.	54	43–64	Median	[9]
19280591	Quintas-Cardama et al.	138	57	Median	[10]
19369231	Kantarjian et al.	317	56	Median	[11]
19449194	Tojo et al.	34	62	Median	[12]
19536906	Kantarjian et al.	150	51	Median	[13]
19729517	Garg et al.	48	52	Median	[14]
19822896	Rosti et al.	73	51	Median	[15]
20139391	Shah et al.	670	54–56	Median	[16]
20520639	Giles et al.	60	58–62	Median	[17]
20525993	Saglio et al.	846	46–47	Median	[18]
20525995	Kantarjian et al.	519	46–49	Median	[19]
21732337	Nicolini et al.	1422	53	Median	[20]
22076466	Coutre et al.	137	57	Median	[21]
22271898	Pemmaraju et al.	846			[22]
22915637	Radich et al.	246	47–50	Median	[23]
24333114	O'Dwyer et al.	60	54	Median	[24]
24345751	Kantarjian et al.	570	53	Median	[25]
25196702	Brummendorf et al.	502	47–48	Median	[26]
25519749	Yeung et al.	210	48.5	Median	[27]
25540064	Nakaseko et al.	63	55	Median	[28]
25703064	Murai et al.	54	63.5	Median	[29]
25766724	Wang et al.	267	39–41	Median	[30]
26437782	Hocchaus et al.	1089	53	Median	[31]
26993758	Cortes et al.	52	51.7	Mean	[32]
27509035	Takahashi et al.	174	47–49	Median	[33]
27771544	Miyamura et al.	45	47	Median	[34]
28218239	Hocchaus et al.	190	55	Median	[35]
28550414	Shiseki et al.	16	50	Mean	[36]
28699641	Hughes et al.	421	48	Median	[37]
28795321	Hara et al.	31	55.2	Mean	[38]
28895203	Murai et al.	79	62	Median	[39]
29058817	Kumagai et al.	54	56	Median	[40]
29362980	Ishikawa et al.	38	57.5	Median	[41]
29556695	Kim et al.	39	57	Median	[42]
29713954	Noguchi et al.	76	54.5–55	Median	[43]

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