Supplemental data

Figure 1. PRISMA 2020 flow diagram for systematic reviews. CIADM = checkpoint inhibitor associated autoimmune diabetes.

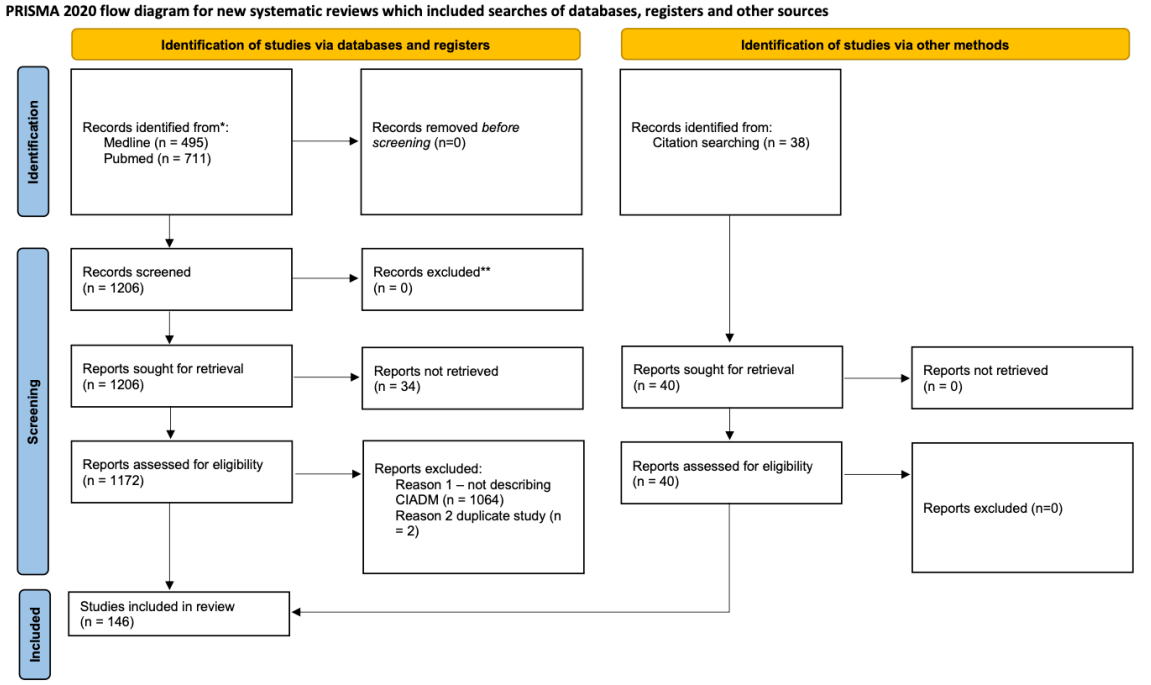

Table 1. Univariate analysis of associations between baseline variable and time to onset of CIADM using Mann Whitney U testing and one-way ANOVA.

Variable		Mean time to onset (weeks)	SD	Mean difference	p
Age	Under 60yr	22.1	24.1	2.0	0.20
	60yr or older	18.2	20.6		
Sex	Female	18.0	23.4	-3	0.05
	Male	20.7	21.0		
Cancer type	Melanoma	20.3	23.1		0.76
	NSCLC	20.1	25.2		
	Other	17.9	14.5		
ICI type	Anti-PD1	20.3	22.8		0.78
	Anti-PDL1	18.7	18.0		
	Combination	17.7	21.1		
Presence of irAE	Yes	22.1	25.3	2.0	0.23
	No	18.4	19.9		
HLA haplotyping	Susceptible	25.3	34.5		0.39
	Neutral	18.1	19.3		
	Protective	39.3	26.7		
	Mixed	34.5	40.3		
Type 1 diabetes autoantibodies	Positive	15.6	17.2	3.5	0.02*
	Negative	21.5	23.2		
Elevated lipase	Present	16.0	17.8	2.0	0.50
	Absent	14.9	8.3		

Supplemental Table 2. Details of included and excluded papers, modified Newcastle Ottawa (N-O) scores and reasons for exclusion.
Modified Newcastle Ottawa Criteria: Each scored 0/1 for total out of 4.

1) Is the case definition adequate – meeting diagnostic criteria for hyperglycaemia and insulin deficiency?

2) Do the reported cases represent all eligible cases over a defined time period, in a defined catchment area, or an appropriate sample of those cases?

3) Have other diagnostic possibilities been excluded, including demonstration that the outcome of interest was not present at the start of the study?

4) Is the duration of follow up adequate to confirm/exclude the diagnosis (minimum 1 month if not meeting criteria at presentation)?

Ref	First Author	Year	Cases	Modified N-O Scale					Included Y/N	Reasons if excluded
				1	2	3	4	Total		
1	Abdullah	2019	1	1	0	1	1	3	Yes	
2	Abu-sbieh	2019	6	0	1	0	1	2	No	Results to support diagnosis of diabetes not provided
3	Akturk	2018	1	1	0	1	1	3	Yes	
4	Aleksova	2016	1	1	0	1	1	3	Yes	
5	Alhusseini	2016	1	1	0	1	1	3	Yes	
6	Alrifai	2019	1	1	0	1	1	3	Yes	
7	Alzenaidi	2017	1	1	0	1	0	2	Yes	
8	Araujo	2017	1	1	0	1	1	3	Yes	
9	Asif Humayun	2016	1	1	0	1	0	2	Yes	
10	Atkins	2018	1	1	0	1	1	3	Yes	

11	Banatwalla	2021	1	1	0	1	0	2	Yes	
12	Bastin	2020	1	1	0	1	1	3	Yes	
13	Boswell	2021	1	1	0	1	1	3	Yes	
14	Boyle	2018	1	1	0	1	0	2	Yes	
15	Byun	2020	18	1	1	1	1	4	No	Lack of individual data
16	Caccioti	2020	1	0	1	0	0	1	No	Not an adult; no results to support diagnosis provided
17	Cao	2021	1	1	0	1	1	3	Yes	
18	Capitao	2017	1	1	0	1	1	3	Yes	
19	Chae	2017	1	1	0	1	1	3	Yes	
20	Chan	2017	1	1	0	1	1	3	Yes	
21	Changizaddeh	2017	1	1	0	1	1	3	Yes	
22	Chokr	2018	1	1	0	1	1	3	Yes	
23	Clontz	2021	1	1	0	1	1	3	Yes	
24	Clotman	2018	1	1	0	1	0	2	Yes	
25	Cuenca	2020	1	1	0	1	0	2	Yes	
26	de Filette	2019	1	1	0	1	0	2	Yes	
27	Delasos	2021	1	1	0	1	0	2	Yes	
28	Edahiro	2019	1	1	0	1	1	3	Yes	
29	Fu	2021	1	1	0	1	1	3	Yes	
30	Fukui	2016	1	1	0	1	1	3	Yes	
31	Galligan	2018	9	1	1	1	1	4	Yes	
32	Gauci	2017	1	1	0	1	1	3	Yes	
33	Gaudy	2015	1	1	0	1	1	3	Yes	
34	Godwin	2017	1	1	0	1	1	3	Yes	
35	Gunawan	2018	1	1	0	1	1	3	Yes	
36	Gunjur	2019	1	1	0	1	1	3	Yes	

37	Hakami	2019	1	1	0	1	1	3	Yes	
38	Hansen	2016	1	0	0	0	1	1	No	No DKA and C-peptide >0.4nmol/L
39	Hao	2017	1	1	0	1	0	2	Yes	
40	Haque	2020	1	1	0	1	1	3	Yes	
41	Harsch	2018	1	1	0	1	1	3	Yes	
42	Hatakeyama	2019	1	1	0	1	1	3	Yes	
43	Hickmott	2017	1	1	0	1	1	3	Yes	
44	Ho	2018	1	0	0	0	0	1	No	Results to support diagnosis of diabetes not provided
45	Hofmann	2016	3	1	1	1	1	4	Yes	
46	Hong	2020	4	1	1	1	0	3	Yes	
47	Honoki	2020	1	0	0	0	0	0	No	Pre-existing type 2 diabetes on insulin
48	Huang	2021	1	1	0	1	1	3	Yes	
49	Hughes	2015	5	1	0	1	1	3	Yes	
50	Inaba	2022	7	1	1	1	1	4	Yes	
51	Ishi	2021	2	1	0	1	1	3	Yes	
52	Ishikawa	2017	1	1	0	1	1	3	Yes	
53	Jouneghani	2022	1	1	0	1	0	2	Yes	
54	Kahler	2020	5	1	1	1	1	4	Yes	
55	Kapke	2017	2	1	0	1	1	3	Yes	
56	Kedzior	2021	1	1	0	1	1	3	Yes	
57	Keerty	2020	1	1	0	1	1	3	Yes	
58	Kethireddy	2021	1	0	0	0	1	1	No	Results to support diagnosis of diabetes not provided
59	Kichloo	2020	1	1	0	1	0	2	Yes	
60	Kikuchi	2021	1	1	0	1	1	3	Yes	
61	Knight	2021	4	0/1	1	0/1	0	3	2/4	2 patients excluded (No DKA, no C-peptide reported)
62	Kong	2016	1	1	0	1	1	3	Yes	

63	Kotwal	2019	12	0/1	1	0/1	0	3	8/12	4 excluded (3 no C-peptide/ DKA report; 1 had C-peptide >0.4nmol/L)
64	Kumagai	2017	1	1	0	1	1	3	Yes	
65	Kurihara	2020	1	1	0	1	1	3	Yes	
66	Kusuki	2020	1	1	0	1	1	3	Yes	
67	Kyriacou	2020	1	1	0	1	1	3	Yes	
68	Lanzolla	2019	1	1	0	1	0	2	Yes	
69	Lee	2018	1	1	0	0	1	2	No	DKA whilst on SGLT2 inhibitor
70	Leonardi	2017	1	1	0	1	1	3	Yes	
71	Li, Li	2017	1	1	0	1	1	3	Yes	
72	Li, Sicheng	2018	1	1	0	1	1	3	Yes	
73	Li, Wei	2020	1	1	0	1	1	3	Yes	
74	Lopes	2020	1	1	0	1	0	2	Yes	
75	Lowe	2016	1	1	0	1	1	3	Yes	
76	Maamari	2019	1	1	0	1	0	2	Yes	
77	Mae	2020	1	1	0	1	1	3	Yes	
78	Maekawa	2019	1	1	0	1	1	3	Yes	
79	Magis	2018	5	1	1	1	1	4	Yes	
80	Makiguchi	2022	1	1	0	1	0	2	Yes	
81	Marchand	2019	6	0/1	0	0/1	1	3	4/6	2 patients excluded (C-peptide >0.4nmol/L and no DKA)
82	Marshall	2020	1	1	0	1	1	3	Yes	
83	Martin-Liberal	2015	1	1	0	1	1	3	Yes	
84	Matsumura	2017	1	1	0	0	1	2	No	Confounding factors - partial pancreatectomy
85	Matsuura	2018	1	0	0	0	1	1	No	Pre-existing type 2 diabetes on insulin
86	Mellati	2015	2	1	0	1	0	2	Yes	
87	Mengibar	2019	1	1	0	1	1	3	Yes	

88	Meyers	2018	1	0	0	0	0	0	No	Results to support diagnosis of diabetes not provided
89	Miyauchi	2020	1	1	0	1	1	3	Yes	
90	Miyoshi	2016	1	1	0	1	1	3	Yes	
91	Mellah	2017	1	1	0	1	0	2	Yes	
92	Munakata	2016	1	1	0	1	1	3	Yes	
93	Nikouline	2021	1	1	0	1	1	3	Yes	
94	Nishioki	2020	1	1	0	1	0	2	Yes	
95	Ohara	2020	1	0	0	0	1	1	No	C-peptide >0.4nmol/L with no DKA
96	Okahata	2019	1	1	0	1	1	3	Yes	
97	Oldfield	2021	1	1	0	0	1	2	No	DKA whilst on SGLT2 inhibitor
98	Omodaka	2018	1	1	0	1	1	3	Yes	
99	Patel	2019	1	1	0	1	1	3	Yes	
100	Patti	2018	1	1	0	1	1	3	Yes	
101	Peyrony	2020	1	1	0	1	0	2	Yes	
102	Pornatharukcharoen	2020	1	1	0	1	1	3	Yes	
103	Presotto	2019	1	1	1	1	0	3	Yes	
104	Rahman	2020	1	1	0	1	1	3	Yes	
105	Ramos-Levi	2018	1	1	1	1	0	3	Yes	
106	de Vera Gomez	2021	1	1	0	1	1	3	Yes	
107	Sakaguchi	2019	1	1	0	1	1	3	Yes	
108	Sakai	2017	1	1	0	1	1	3	Yes	
109	Sakurai	2018	1	1	0	1	1	3	Yes	
110	Shah	2016	1	1	0	1	0	2	Yes	
111	Shiba	2018	1	1	0	1	1	3	Yes	
112	Shibayama	2019	1	1	0	1	1	3	Yes	

113	Smith-Cohn	2017	1	1	0	1	1	3	Yes	
114	Sothornwit	2019	1	1	0	1	1	2	Yes	
115	Stamatouli	2018	27	1	1	1	1	4	No	Data for individual patients not available
116	Sum	2018	1	1	0	1	1	3	Yes	
117	Takahashi	2018	1	1	0	1	1	3	Yes	
118	Takata	2021	1	1	0	1	0	2	Yes	
119	Tassone	2018	1	1	0	1	1	3	Yes	
120	Telo	2016	1	1	0	1	0	2	Yes	
121	Teramoto	2016	1	1	0	1	0	2	Yes	
122	Tittel	2021	15	0	1	0	0	1	No	Results to support diagnosis of diabetes not provided
123	Thoreau	2017	1	1	0	1	1	3	Yes	
124	Tohi	2019	1	1	0	1	1	3	Yes	
125	Trinh	2019	1	0	0	0	1	1	No	C-peptide >0.4nmol/L with no DKA
126	Tsang	2019	10	1	1	1	1	4	Yes	
127	Tsiogka	2017	1	1	0	1	1	3	Yes	
128	Tzoulis	2018	1	1	0	1	1	3	Yes	
129	Usui	2016	2	1	0	1	1	3	Yes	
130	Venetsanaki	2019	1	1	0	1	1	3	Yes	
131	Villareal	2018	1	1	0	1	1	3	Yes	
132	Way	2017	2	1	0	1	1	3	Yes	
133	Wen	2020	1	1	0	1	0	2	Yes	
134	Wong	2020	1	0	0	0	0	0	No	C-peptide >0.4nmol/L with no DKA
135	Wright	2017	2	1	0	1	1	3	1/2	One patient excluded as no C-peptide available, no DKA
136	Wu	2021	1	1	0	1	1	3	Yes	
137	Yamaguchi	2020	1	1	0	1	1	3	Yes	
138	Yamamoto	2019	1	1	0	1	0	2	Yes	

139	Yaura	2021	1	1	0	1	1	3	Yes
140	Yilmaz	2021	1	1	0	1	1	3	Yes
141	Yoneda	2019	1	1	0	1	1	3	Yes
142	Yun	2020	5	1	1	1	1	4	Yes
143	Zagouras	2020	1	1	0	1	1	3	Yes
144	Zaied	2018	1	1	0	1	1	3	Yes
145	Zand Irani	2022	1	1	0	1	1	3	Yes
146	Zezza	2019	2	1	0	1	1	3	Yes

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