

**Supplementary Table 4.** Incidence Rates (Unique Patients with Events Per 100 Patient-Years) for Malignancies in the JMDC Database

Group	Malignancy 1 <sup>a</sup>			Malignancy 2 <sup>b</sup>		
	No.	PY	IR (95% CI)	No.	PY	IR (95% CI)
Group 1 (CS, IM, or TNFi)						
Male	17	1,467.25	1.16 (0.61–1.71)	36	1,420.25	2.54 (1.71–3.36)
Female	14	836.67	1.67 (0.80–2.55)	32	807.42	3.96 (2.59–5.34)
<35 yr	2	697.17	0.29 (0.00–0.68)	10	672.25	1.49 (0.57–2.41)
≥35 yr	29	1,606.75	1.81 (1.15–2.46)	58	1,555.42	3.73 (2.77–4.69)
<50 yr	12	1,676.33	0.72 (0.31–1.12)	33	1,629.00	2.03 (1.34–2.72)
≥50 yr	19	627.58	3.03 (1.67–4.39)	35	598.67	5.85 (3.91–7.78)
<65 yr	28	2,248.83	1.25 (0.78–1.71)	65	2,171.58	2.99 (2.27–3.72)
≥65 yr	3	55.08	5.45 (0.00–11.61)	3	56.08	5.35 (0.00–11.40)
Group 2 (IM)						
Male	6	774.08	0.78 (0.16–1.40)	18	749.00	2.40 (1.29–3.51)
Female	6	447.25	1.34 (0.27–2.42)	15	432.67	3.47 (1.71–5.22)
<35 yr	0	331.08	0.00 (0.00–0.00)	6	317.00	1.89 (0.38–3.41)
≥35 yr	12	890.25	1.35 (0.59–2.11)	27	864.67	3.12 (1.95–4.30)
<50 yr	4	831.75	0.48 (0.01–0.95)	18	802.33	2.24 (1.21–3.28)
≥50 yr	8	389.58	2.05 (0.63–3.48)	15	379.33	3.95 (1.95–5.96)
<65 yr	10	1,192.75	0.84 (0.32–1.36)	31	1,151.67	2.69 (1.74–3.64)
≥65 yr	2	28.58	7.00 (0.00–16.69)	2	30.00	6.67 (0.00–15.91)
Group 2-1 (TAC or CyA)						
Male	0	21.92	0.00 (0.00–0.00)	4	14.25	28.07 (0.56–55.58)
Female	1	30.75	3.25 (0.00–9.63)	2	29.83	6.70 (0.00–16.00)
<35 yr	0	6.92	0.00 (0.00–0.00)	2	2.08	96.00 (0.00–229.05)
≥35 yr	1	45.75	2.19 (0.00–6.47)	4	42.00	9.52 (0.19–18.86)
<50 yr	0	30.58	0.00 (0.00–0.00)	4	23.5	17.02 (0.34–33.70)
≥50 yr	1	22.08	4.53 (0.00–13.40)	2	20.58	9.72 (0.00–23.18)
<65 yr	1	47.67	2.10 (0.00–6.21)	6	39.08	15.35 (3.07–27.64)
≥65 yr	0	5.00	0.00 (0.00–0.00)	0	5.00	0.00 (0.00–0.00)
Group 2-2 (6-MP or AZA)						
Male	6	752.17	0.80 (0.16–1.44)	14	734.75	1.91 (0.91–2.90)
Female	5	416.50	1.20 (0.15–2.25)	13	402.83	3.23 (1.47–4.98)
<35 yr	0	324.17	0.00 (0.00–0.00)	4	314.92	1.27 (0.03–2.52)
≥35 yr	11	844.50	1.30 (0.53–2.07)	23	822.67	2.80 (1.65–3.94)
<50 yr	4	801.17	0.50 (0.01–0.99)	14	778.83	1.80 (0.86–2.74)
≥50 yr	7	367.50	1.91 (0.49–3.32)	13	358.75	3.62 (1.65–5.59)
<65 yr	9	1,145.08	0.79 (0.27–1.30)	25	1,112.58	2.25 (1.37–3.13)
≥65 yr	2	23.58	8.48 (0.00–20.23)	2	25.00	8.00 (0.00–19.09)

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Supplementary Table 4. Continued

Group	Malignancy 1 <sup>a</sup>			Malignancy 2 <sup>b</sup>		
	No.	PY	IR (95% CI)	No.	PY	IR (95% CI)
Group 3 (TNFi)						
Male	4	255.08	1.57 (0.03–3.11)	6	249.92	2.40 (0.48–4.32)
Female	1	142.08	0.70 (0.00–2.08)	2	140.00	1.43 (0.00–3.41)
<35 yr	3	124.08	2.42 (0.00–5.15)	4	124.17	3.22 (0.06–6.38)
≥35 yr	2	273.08	0.73 (0.00–1.75)	4	265.75	1.51 (0.03–2.98)
<50 yr	4	300.83	1.33 (0.03–2.63)	6	298.83	2.01 (0.40–3.61)
≥50 yr	1	96.33	1.04 (0.00–3.07)	2	91.08	2.20 (0.00–5.24)
<65 yr	5	389.17	1.29 (0.16–2.41)	8	381.92	2.10 (0.64–3.55)
≥65 yr	0	8.00	0.00 (0.00–0.00)	0	8.00	0.00 (0.00–0.00)
Group 4 (IM and TNFi)						
Male	0	208.58	0.00 (0.00–0.00)	4	194.92	2.05 (0.04–4.06)
Female	0	77.00	0.00 (0.00–0.00)	0	77.00	0.00 (0.00–0.00)
<35 yr	0	77.83	0.00 (0.00–0.00)	0	77.83	0.00 (0.00–0.00)
≥35 yr	0	207.75	0.00 (0.00–0.00)	4	194.08	2.06 (0.04–4.08)
<50 yr	0	215.75	0.00 (0.00–0.00)	3	204.83	1.47 (0.00–3.12)
≥50 yr	0	69.83	0.00 (0.00–0.00)	1	67.08	1.49 (0.00–4.41)
<65 yr	0	281.25	0.00 (0.00–0.00)	4	267.58	1.50 (0.03–2.96)
≥65 yr	0	4.33	0.00 (0.00–0.00)	0	4.33	0.00 (0.00–0.00)

<sup>a</sup>Malignancy 1 was defined as an ICD-10 code of malignancy (C00–C97 malignant neoplasm or D00–D09 *in situ* neoplasms) along with a cancer management code (B-001-00-03, B-001-00-18, B-001-00-22, B-001-00-23, B-001-00-24, B-005-06, and H-007-02) within the same claim month.

<sup>b</sup>Malignancy 2 was defined as confirmed diagnosis within two consecutive claims months.

JMDC, Japan Medical Data Center; PY, patient-years; IR, incidence rate (unique patients with events per 100 PY); CI, confidence interval; CS, corticosteroid; IM, immunosuppressant; TNFi, tumor necrosis factor inhibitor; TAC, tacrolimus; CyA, cyclosporine; 6-MP, 6-mercaptopurine; AZA, azathioprine.