Sunitinib for Metastatic Renal Cell Carcinoma: A Systematic Review and Meta-Analysis of Real-World and Clinical Trials Data

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Running heading: Real-world and clinical trial data for sunitinib in mRCC

Supplementary Table 1. Main characteristics of included RCTs

Author	Year	Phase	Treatment	Total patients, n	Median age, years	mPFS, months (95 % CI)	mOS, months (95 % CI)	ORR, % (95 % CI)
Motzer et al. [1]	2009	III	Sunitinib	375	-	11 (11–13)	26.4 (23.0–32.9)	47 (42–52)
			INF-α	375	-	5 (4–6)	21.8 (17.9–26.9)	12 (9–16)
Motzer et al. [2]	2012	II	Sunitinib 4/2	146	61	8.5 (6.9–11.1)	23.1 (17.4–25.4)	32 (24.7–40.4)
			Sunitinib CDD	146	64	7.0 (6.0–8.7)	23.5 (17.5–NR)	28 (21.0–36.1)
Motzer et al. [3]	2013	III	Sunitinib	553	-	9.5 (8.3–11.1)	29.3 (25.3–32.5)	25 (-)
			Pazopanib	557	-	8.4 (8.3–10.9)	28.4 (26.2–35.6)	31 (-)
Motzer et al. [4]	2014	II	Sunitinib	233	62	7.9 (5.6–8.2)	-	27 (-)
			Everolimus	238	62	10.7 (8.2–11.5)	-	8 (-)
Rini et al. [5]	2016	III	Sunitinib	135	59.8	15.1 (10.2–18.6)	NR	-
			Sunitinib + IMA901	204	62.2	15.2 (12.5–18.1)	33.2 (27.8–41.4)	-
Armstrong et al. [6]	2016	II	Sunitinib	51	59	8.3 (5.8–11.4)	31.5 (14.8–NR)	-
			Everolimus	57	64	5.6 (5.5–5.6)	13.2 (9.7–27.9)	-
Choueiri et al. [7]	2017	II	Sunitinib	78	64	5.6 (3.4–8.1)	21.8 (16.3–27.0)	18.8 (11.0–30.2)
			Cabozantinib	79	63	8.2 (6.2–8.8)	30.3 (14.6–35.0)	46 (34–57)

CDD, continuous daily dosing; CI, confidence interval; IFN-α, interferon-alpha; mOS, median overall survival; mPFS, median progression-free survival; NR, not reached;

ORR, objective response rate; RCTs, randomized controlled trials; 4/2, 4 weeks on 2 weeks off dosing

Supplementary Table 2. Main characteristics of included RWD studies

Author	Year	Database	Treatment	Total patients, *n*	Median age, years	mPFS, months (95 % CI)	mOS, months (95 % CI)	ORR, %
Heng et al. [8]	2009	British Columbia, Canada	Sunitinib	69	63	-	17.3	-
Bamias et al. [9]	2010	Greek Oncology, HECOG	Sunitinib	109	59	8.9 (6.4–11.4)	17.1 (13.7–20.6)	22.4
Schnadig et al. [10]	2014	McKesson Specialty Health US Oncology Network	Sunitinib	134	64	7.5 (5.3–11.6)	15.5 (12.3–24.0)	16.4
De Giorgi et al. [11]	2014	Italian oncology units	Sunitinib	185	74	11.0 (8.7–14.6)	25.5 (17.2–31.7)	34.6
Miyake et al. [12]	2014	Japanese patients from institution	Sunitinib	110	62.5	7.8	33.2	27.3
Sheng et al. [13]	2016	Chinese patients, Peking University Cancer Hospital	Sunitinib	165	55	11 (9–14)	28 (19–33)	31.9
Pan et al. [14]	2015	Changzheng and Changhai Hospital, China	Sunitinib	50	62	9.4	-	14.0
Tan et al. [15]	2015	National Cancer Centre Singapore Registry	Sunitinib	127	58	7.9 (5.2–11.0)	16.5 (15.1–21.6)	32.5
Day et al. [16]	2015	Australian academic hospitals	Sunitinib	125	60.7	-	27.6	-

	Year	Source	Drug	N	Age	mPFS	mOS	ORR
Poprach et al. [17]	2016	RENIS Register, Czech Republic	Sunitinib	1016	62	10.8 (9.8–11.8)	31.9 (27.9–35.9)	-
			Sunitinib	299	74	8.8 (7.2–10.4)	26.3 (21.3–31.2)	-
De Groot et al. [18]	2016	PERCEPTION Dutch Cancer Registry	Sunitinib	153	64	-	6.8 (5.8–8.8)	-
Zhang et al. [19]	2017	Chinese hospitals	Sunitinib	362	-	10.0	24.0	21.0
			Sorafenib	483	-	11.1	24.0	16.8
Maroun et al. [20]	2017	French National Health Insurance claims database	Sunitinib	238	64	8.7 (6.9–9.9)	14.7 (11.9–18.3)	-
Noize et al. [21]	2017	SANTORIN French Observational Cohort	Sunitinib	302	62.3	8.4 (7.6–9.9)	23.6 (20.2–NR)	31.1
Lalani et al. [22]	2017	Canadian Kidney Cancer Information System	Sunitinib	577	64	-	31.7	-
			Pazopanib	93	65	-	20.6	

CI, confidence interval; HECOG, Hellenic Cooperative Oncology Group; mOS, median overall survival; mPFS, median progression-free survival; NR, not reached; ORR, objective response rate; PERCEPTION, population-based registry; RENIS, RENal information system; RWD, real world data

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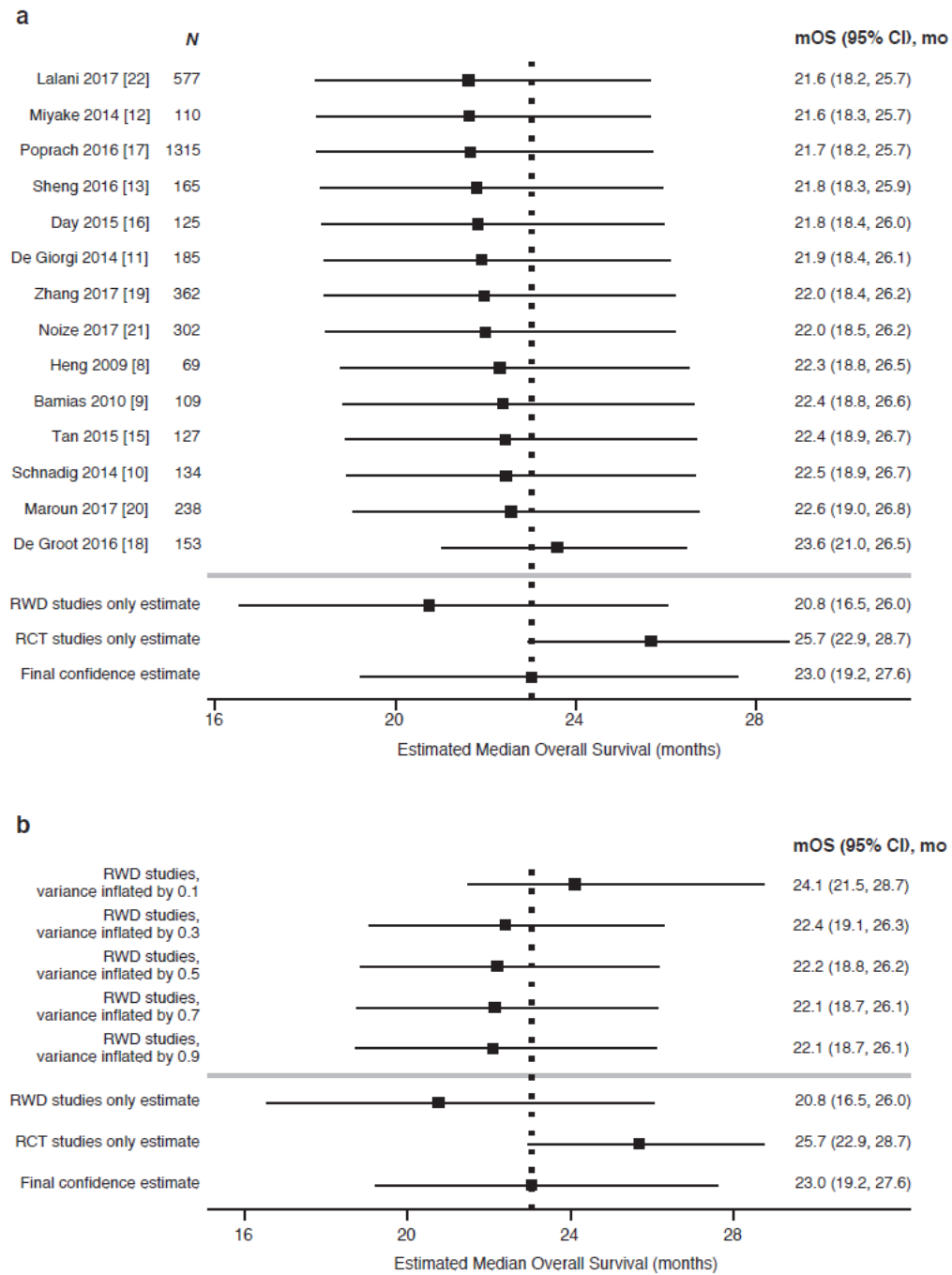
Supplementary Fig. 1 Sensitivity analyses for mPFS
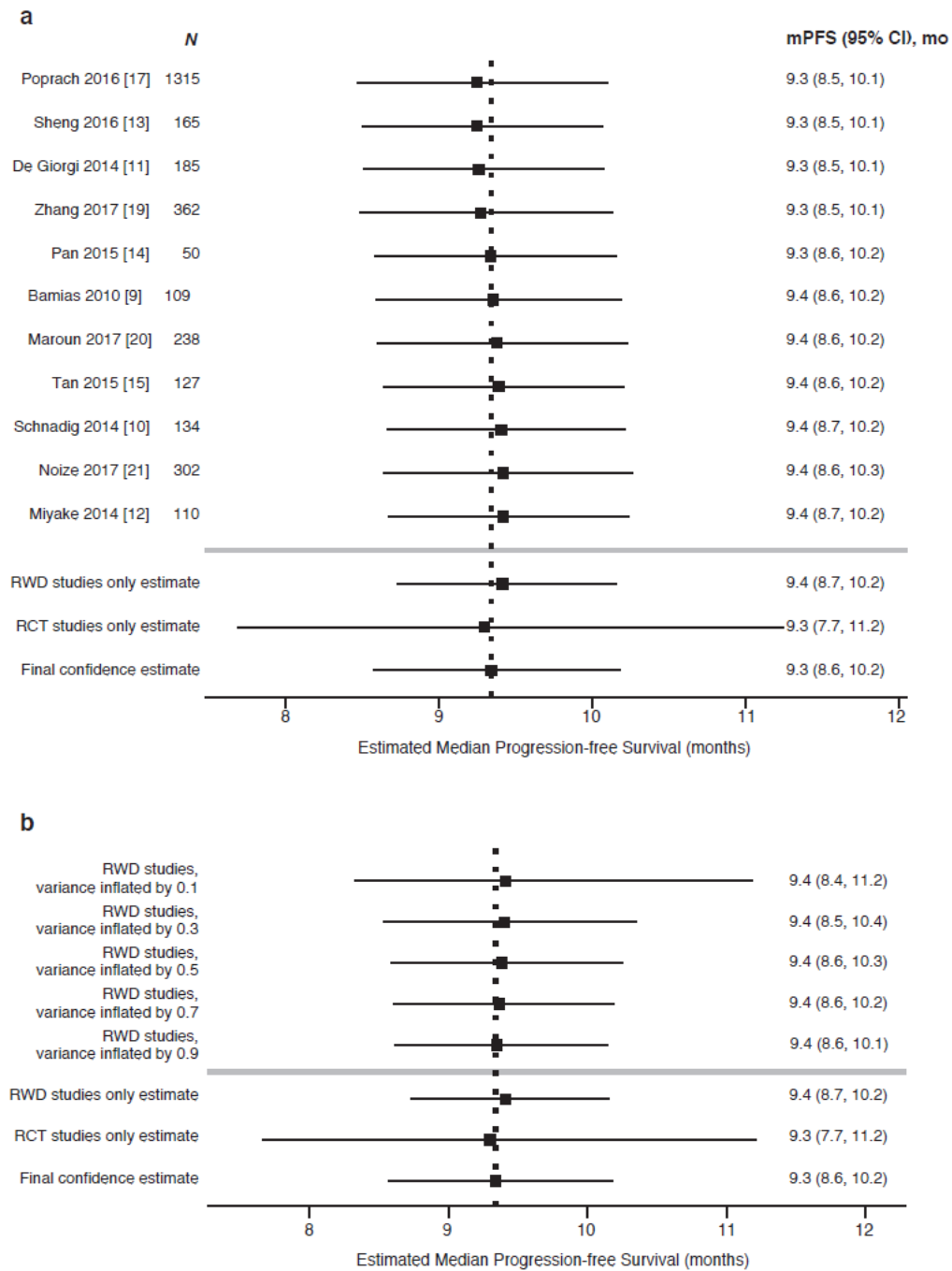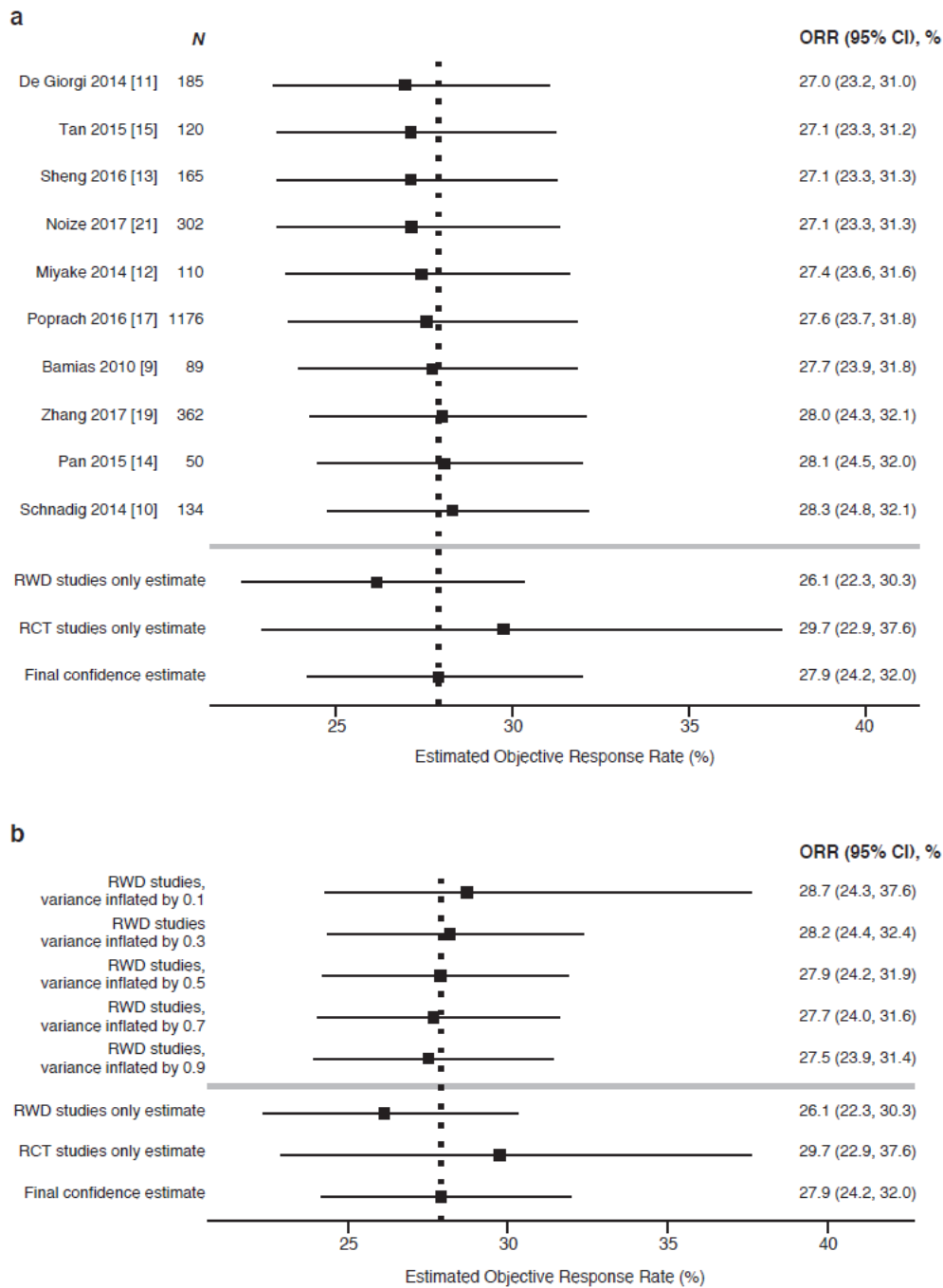

mPFS, median progression-free survival; RCT, randomized controlled trial; RWD, real-world data

Supplementary Fig. 2 Sensitivity analyses for mOS

mOS, median overall survival; RCT, randomized controlled trial; RWD, real-world data

Supplementary Fig. 3 Sensitivity analyses for ORR

ORR, objective response rate; RCT, randomized controlled trial; RWD, real-world data.