Characteristics of included studies

Author/year	Country/type of study	No. pts	Median follow up	Stage (I–III *vs.* IV) %	Surgery (%)	Adj chemotherapy (%)	Type of analysis (UVA *vs.* MVA)	HR OS	HR DFS/PFS	Quality of paper (NOS)
Arnachellum/2016	France/retrospective	1,002	–	41/59	14.9	6.6	MVA	0.99 (0.86–1.14)	–	6
Artinyan/2008	USA/retrospective	33,752	–	39/61	19	–	MVA	0.90 (0.81–1.00)	–	6
Barugola/2012	Italy/retrospective	403	–	100/0	100	80.1	MVA	–	1.58 (1.00–2.50)	5
Bednar/2017	USA/retrospective	92	31.3 months	100/0	21	–	MVA	1.64 (0.95–2.83)	–	6
Ben/2010	China/retrospective	115	20 months	100/0	100	–	MVA	0.86 (0.52–1.44)	–	6
Chadha/2017	USA/retrospective	177	12 months	100/0	0	0	MVA	1.05 (0.74–1.49)	–	7
Chakraborty/2013	USA/retrospective	7,717	–	100/0	92.6	–	MVA	1.14 (0.87–1.49)	–	6
Chang DK/2009	Australia/retrospective	365	15.6 months	100/0	100	26.3	MVA	0.59 (0.44–0.80)*	–	7
Chang JS/2014	Korea/retrospective	388	32.3 months	67/33	0	0	MVA	0.99 (0.76–1.29)	–	7
Chen/2017	China/retrospective	134	–	0/100	–	–	UVA	0.99 (0.68–1.44)	–	5
Chung/2016	Korea/retrospective	183	–	38/62	0	0	MVA	1.06 (0.60–1.87)	–	5
Cui/2017	China/retrospective	106	–	84/16	100	–	MVA	1.55 (1.03–2.33)	–	5
Dholakia/2014	USA/prospective	32	13.4 months	100/0	0	0	MVA	0.48 (0.13–1.76)	–	6
Eloubeidi/2006	USA/retrospective	2,230	–	42/58	16.9	–	MVA	1.04 (0.92–1.17)	–	6
Enewold/2015	USA/retrospective	977	–	32/68	15.3	60	UVA	3.84 (1.49–9.88)	–	6
Fujimoto/1996	Japan/retrospective	25	–	92/8	100	0	MVA	1.76 (0.61–5.08)	–	5
Furukawa/2017	Japan/retrospective	182	–	90/10	100	–	MVA	1.18 (0.80–1.74)	–	5
Ganti/2002	USA/retrospective	308	–	55/45	14.6	–	MVA	0.70 (0.60–0.82)*	–	5
Gobbi/2013	Italy/retrospective	170	–	42/58	40.5	27	MVA	1.01 (0.72–1.41)	–	5
Gong/2011	USA/retrospective	1,954	11.3 years	33/67	11	–	MVA	0.91 (0.71–1.16)	–	8
Gu/2015	China/retrospective	52	–	100/0	0	0	MVA	0.42 (0.13–1.32)	–	5
Gundewar/2015	Sweden/retrospective	88	–	–	100	69	MVA	0.34 (0.16–0.69)*	–	5
Hang/2017	China/retrospective	142	–	28.9/71	0	0	MVA	1.38 (0.95–1.99)	–	6
Hayman/2015	US/retrospective	112	36 months	–	100	69.6	MVA	0.62 (0.32–1.19)	–	7
Herman/2015	US/prospective	49	13.9 months	Locally advanced [100]	8	–	MVA	0.61 (0.27–1.39)	–	7
Hirabayashi/2015	Japan/retrospective	162	–	96/4	100	–	MVA	0.96 (0.62–1.49)	–	5
Hori/2016	Japan/retrospective	352	–	93/7	100	42	MVA	1.96 (1.30–2.94)	1.46 (1.12–1.9)	5
Hu/2016	China/retrospective	88	–	–	100	–	MVA	0.83(0.49–1.41)	–	5
Hur/2016	US/retrospective	18,338	–	–	51.7	–	MVA	1.09 (1.04–1.13)	–	5
Inoue/2015	Japan/retrospective	440	18.7 months	67.5/32.5	45.4	–	MVA	0.93 (0.74–1.19)	–	6
Jiang/2012	China/retrospective	162	–	99/1	100	–	MVA	1.08 (0.59–1.98)	–	5
Kanda/2014	Japan/retrospective	324	13.9 months	88/12	100	83	MVA	1.33 (0.79–2.26)	–	7
Kim/2015	Korea/retrospective	343	–	0/100	0	0	MVA	0.79 (0.57–1.11)	0.92 (0.65–1.31)	5
Komoto/2009	Japan/retrospective	129	18.3 months	93/7	100	45	MVA	1.23 (0.71–2.12)	–	6
Kondo N/2010	Japan/retrospective	109	33 months	95/5	100	74	MVA	1.34 (0.91–1.97)	–	6
Kondo S/2012	Japan/prospective	37	–	38/62	0	0	MVA	0.94 (0.46–1.92)	–	5
Kooby/2013	US/retrospective	11,526	–	87/13	100	54.8	MVA	1.16 (0.96–1.40)	–	6
Kosuge/2006	Japan/retrospective	81	44.8 months	–	100	47	MVA	0.70 (0.40–1.24)	–	6
Kurata/2017	Japan/retrospective	847	–	100/0	100	–	MVA	0.82 (0.62–1.08)	–	5
Kuroda/2013	Japan/retrospective	1,082	5.8 months	82/18	17.3	9,2	MVA	0.83 (0.71–0.97)*	–	7
Lee C/2013	China/prospective	60	15 months	93 I–II/7 III–IV	100	–	MVA	0.50 (0.13–1.96)	–	6
Lee SH/2016	Korea/retrospective	237	10.3 months	52/48	–	–	MVA	1.03 (0.73–1.44)	–	7
Lian/2016	China/retrospective	160	–	–	–	–	MVA	0.89 (0.42–1.87)	–	5
Liu L/2016	China/prospective	92	–	100/0	100	100	MVA	1.65 (0.69–3.95)	0.69 (0.38–1.25)	5
Liu P/2015	China/prospective	113	12.0 months	100/0	0	–	MVA	0.78 (0.52–1.17)	–	6
Lorgis/2012	France/retrospective	84	10.0 months	0/100	41	38	MVA	1.35 (0.83–2.19)	–	6
Luo/2013	China/retrospective	11,672	–	34/66	5.8	–	MVA	1.29 (0.97–1.71)	–	6
Marchegiani/2017	Italy-US/prospective	1,507	–	100/0	100	–	MVA	0.40 (0.05–3.20)	–	5
Mayo/2012	US/retrospective	1,822	–	100/0	100	–	MVA	1.03 (0.87–1.22)	–	6
Mellon/2014	US/retrospective	2,966	–	100/0	100	100	MVA	0.97 (0.82–1.15)	–	6
Merchant/2009	US/prospective	673	12.2 months	100/0	100	44.4	MVA	0.93 (0.56–1.55)	0.91 (0.59–1.40)	7
Moghanaki/2011	US/retrospective	91	78 months	100/0	100	100	MVA	1.43 (0.66–3.09)	–	6
Moon/2006	Korea/retrospective	94	16.7 months	100/0	100	39	MVA	1.54 (0.80–2.96)	–	6
Morganti/2014	Italy-Holland-Spain-France-Austria-US/ retrospective	1,120	21 months	100/0	100	48.9	MVA	0.93 (0.83–1.04)	–	7
Nagai/2009	Japan/prospective	53	–	93/7	100	54.7	MVA	0.71 (0.40–1.26)	–	5
Nakamori/1995	Japan/prospective	37	–	62/38	100	–	MVA	0.66 (0.25–1.72)	–	5
Nakata/2008	Japan/prospective	89	15.7 months	96/4	100	–	MVA	0.74 (0.39–1.43)	–	6
Ninomiya/2017	Japan/retrospective	265	16.3 months	243/22	100	65	UVA	0.9 (0.5–1.62)	–	7
Ogura/2013	Japan/retrospective	242	–	35/65	0	–	MVA	0.81 (0.60–1.09)	–	5
Oguro/2013	Japan/retrospective	393	20.5 months	91/9	100	31.5	MVA	1.39 (0.39–4.95)	1.32 (1.03–1.70)	7
Paiella/2018	Italy/retrospective	30	15 months	100/0	76.7	–	MVA	0.48 (0.17–1.34)	–	5
Papadoniou/2008	Greece/retrospective	273	–	60/40	11.2	–	MVA	0.20 (0.11–0.39)*	–	5
Park/2017	US/retrospective	270	12.9 months	100/0	0	100 (for advanced disease)	MVA	1.07 (0.79–1.47)	–	7
Pollom/2014	US/retrospective	167	7.9 months	79.6 (non-operable)/8.4	0	87.5 (for advanced disease)	UVA	0.61 (0.22–1.73)°	–	6
Qi/2016	China/retrospective	574	–	32 (III)/68	0	100 (for advanced disease)	UVA	1.06 (0.86–1.30)	1.21 (1.01–1.46)	6
Qiu/2016	US/retrospective	52,759	–	86/14	20	–	MVA	0.99 (0.98–1.00)*	–	7
Riall/2006	US/retrospective	24,016	–	38/62#	8.3	–	MVA	0.91 (0.83–0.99)*	–	6
Satoi S/2013	Japan/retrospective	159	–	63 (III)/IV	36	100 (for advanced disease)	UVA	1.25 (0.87–1.80)	–	6
Satoi S/2015	Japan/retrospective	984	19.7 months	27 (R + BR)/73 (UR)	100	56	MVA	1.16 (0.94–1.43)	–	8
Sawaki/2008	Japan/retrospective	66	–	0/100	0	100 (for advanced disease)	MVA	1.72 (0.69–4.3)	–	5
Shin/2016	Korea/retrospective	81	–	96.3/3.7	100	–	UVA	0.98 (0.46–2.10)	–	5
Sugawara/2014	US/retrospective	2,532	16 months	91.7/8.3	100	–	MVA	1.14 (0.52–2.49)	–	6
Suzuki/2016	Japan/retrospective	31	–	Locally advanced or metastatic [100]	0	100 (for advanced disease)	MVA	0.27 (0.11–0.67)*	0.4 (0.18–0.88)*	5
Tanaka/2008	Japan/retrospective	264	–	9/91	16	100 (for advanced disease)	UVA	1.14 (0.52–2.49)	–	5
Tao/2017	US/retrospective	28,918	–	100/0	1.6	45.2 (for advanced disease)	MVA	0.92 (0.90–0.95)	–	6
Tsavaris/2009	Greece/retrospective	215	–	Locally advanced or metastatic [100]	36	55 (for advanced disease)	MVA	0.20 (0.11–0.39)*	–	5
Wang D/2012	China/retrospective	177	31.3 months	–	17.5	48.5 (for advanced disease)	UVA	0.94 (0.81–1.09)	–	6
Wang Z/2015	China/retrospective	63	9.1 months	Locally advanced or metastatic [100]	0	41.2 (for advanced disease)	MVA	3.57 (1.41–9.05)	–	6
Wang HC/2015	China/retrospective	80	–	Resectable [100]	100	–	UVA	0.87 (0.53–1.42)	–	5
Watanabe/2004	Japan/retrospective	209	15 months	45/55	21	–	MVA	0.63 (0.50–0.79)*	–	7
Wentz/2012	US/retrospective	169	–	97/3	100	19.5	UVA	0.79 (0.46–1.36)	0.6 (0.35–1.04) RFS	6
Wild/2016	US/prospective + retrospective	133	13.9 months	Unresectable [100]	0	95 (before or after RT)	MVA	0.83 (0.52–1.32)	–	7
Worni/2013	US/retrospective	33,452	–	0/100	0	–	MVA	0.91 (0.88–0.93)*	–	6
Wu/2016	China/retrospective	233	–	Locally advanced or metastatic [100]	0	69 (for advanced disease)	UVA	1.12 (0.71–1.76)	–	5
Wylie/2013	Australia/case control study	121	–	Locally advanced or metastatic [79]	64	–	MVA	0.9 (0.52–1.59)	–	5
Xu HX/2017	China/retrospective	353	–	100/0	100	82	UVA	0.88 (0.67–1.17)	0.81 (0.64–1.03)	5
Xu H/2016	China/retrospective	40	–	85/15	100	–	MVA	1.37 (0.31–6.00)	–	5
Xue/2014	China/retrospective	252	–	Locally advanced or metastatic [100]	0	100 (for advanced disease)	UVA	0.95 (0.72–1.25)	0.97 (0.74–1.27)	5
Yamada Suguru/2016	Japan/retrospective	275	14.2 months	100/0	100	76	MVA	3.04 (0.63–14.67)	–	6
Yamada Mihoko/2018	Japan/retrospective	352	29 months	320/32	100	70	MVA	1.25 (0.65–2.41)	–	8
Yamada Misuzu/2018	Japan/retrospective	258	–	248/10	100	–	UVA	1.15 (0.84–1.58)	–	5
Zhang/2012	China/retrospective	302	–	45/55	15	38 (for advanced disease)	UVA	0.80 (0.60–1.06)	–	5
Zhu/2016	China/retrospective	76	–	53/47	100	0	MVA	0.85 (0.44–1.64)	–	5

*, statistically significant; #, 62% distant disease; °, body vs tail comparison. R, resectable; BR, borderline resectable; UR, unresectable; UVA, univariate analysis; MVA, multivariate analysis; RT, radiotherapy; RFS, relapse-free survival; pts, patients; HR, hazard ratio; OS, overall survival; DFS, disease-free survival; PFS, progression-free survival; NOS, Nottingham-Ottawa Scale.