

Supplementary Table 1: Main characteristics of the eligible studies

Study	Country	Year	Institution	Recruitment period	Study design	Pathology stain method	Definition of LVI	Definition of BCR (ng ml ⁻¹)	Number of patients	Median age at operation, range (Year)	PLND	Neo	ADT	EBRT	Median follow-up, range (months)
Yee <i>et al.</i> ³⁴	USA	2010	Memorial Sloan-Kettering Cancer Center	2004–2007	Prospective	HE	Yes	PSA ≥ 0.1	1298	59, NA	1298	0	24	NA	27, NA
Lee <i>et al.</i> ³²	Korea	2010	Pusan National University Hospital	1999–2010	Retrospective	HE	Yes	PSA ≥ 0.2	361	69.0±6.8, 49–94	NA	0	0	NA	42.4±33.6, 6.5–141.6
Cho <i>et al.</i> ³¹	Korea	2010	Korea Nation Cancer Center	2005–2009	Retrospective	NA	No	PSA ≥ 0.4	167	64.4, 49–80	NA	NA	0	NA	23.3, 2–51
Jeon <i>et al.</i> ³⁰	Korea	2009	Seoul Nation University Hospital	1995–2004	Retrospective	NA	Yes	PSA ≥ 0.2	237	64.5, 44–86	135	18	30	NA	41.4, 1–141.4
Whittemore <i>et al.</i> ²⁸	USA	2008	Wiford Hall Medical Center	1988–2003	Retrospective	NA	No	PSA ≥ 0.2	214	NA, NA	NA	0	0	0	NA, NA
Yamamoto <i>et al.</i> ²⁹	Japan	2008	Cancer Institute Hospital, Tokyo	1994–2005	Retrospective	HE	Yes	PSA ≥ 0.2	94	68, 52–76	94	0	NA	NA	47.4, 9.1–146.8
May <i>et al.</i> ²⁶	Germany	2006	Carl-Thiem Hospital Vivantes-Clinic Am Urban	1996–2003	Retrospective	IHC (CD31) HE	Yes	PSA ≥ 0.2	412	63.7, 44–79	412	0	0	NA	52.5, 10–116
Hofer <i>et al.</i> ²³	Germany	2005	University of Ulm Hospital	1986–2002	Retrospective	NA	Yes	PSA ≥ 0.4	201	64, 48–78	201	0	201	NA	41, 1–151
Antunes <i>et al.</i> ²¹	Brazil	2006	Syrian Lebanese Hospital	1993–2000	Retrospective	NA	Yes	PSA ≥ 0.4	428	62.8, 40–83	NA	0	0	NA	53.9±20.1, NA
Loeb <i>et al.</i> ²⁴	USA	2006	Washington University School of Medicine North Western University Feinberg School of Medicine	1989–2002 2003–2004	Retrospective	HE	Yes	PSA ≥ 0.2	1709	NA, NA	NA	NA	NA	NA	34, 1–122
Brooks <i>et al.</i> ²²	USA	2005	Walter Reed Army Medical Center National Naval Medical Center	1991–2001	Retrospective	NA	No	PSA ≥ 0.2	160	NA, NA	160	NA	NA	32	99.6, NA
Cheng <i>et al.</i> ²⁰	USA	2005	Indiana University Hospital	1990–1998	Retrospective	HE	Yes	PSA ≥ 0.1	504	62, NA	504	0	NA	NA	44, 1.5–144
Shariat <i>et al.</i> ¹⁹	USA	2004	University of Texas South Western Medical Center	1994–2002	Retrospective	HE	Yes	PSA ≥ 0.2	630	60.9, 40–75	630	NA	NA	NA	43.9, 4–100
Ito <i>et al.</i> ¹⁷	Japan	2002	Keio University School of Medicine	1989–1998	Retrospective	HE	Yes	PSA ≥ 0.2	82	66.5±0.5, 56–74	82	0	0	0	21.7±1.9, 9–84.2
de la Taille <i>et al.</i> ¹⁴	USA	1999	Columbia-Presbyterian Medical Center	1993–1998	Retrospective	HE	Yes	PSA ≥ 0.2	241	62, 42–77	NA	NA	NA	NA	22.9, 6–77.6
van den Ouden <i>et al.</i> ¹³	Netherlands	1997	Erasmus University and Academic Hospital	1977–1994	Retrospective	HE	Yes	PSA ≥ 0.1	273	63.8, 45–75	273	NA	NA	NA	49, 1–206
Leng <i>et al.</i> ³⁷	Korea	2013	Veterans Health Service Medical Center	2005–2010	Retrospective	NA	No	PSA ≥ 0.2	166	NA, NA	167	0	0	0	33.7±18.7, NA
Chromecki <i>et al.</i> ³⁵	USA	2011	Weil Cornell Medical College	NA	Retrospective	NA	No	PSA ≥ 0.2	232	62.6, NA	232	0	0	0	69.0, 4.3–113.4
Quinn <i>et al.</i> ¹⁶	Australia	2001	St. Vincent's Hospital Campus	1986–1999	Retrospective	NA	Yes	PSA ≥ 0.4	732	62.1, 40.7–76.7	724	83	NA	NA	41.1, 1.0–167.7
Huang <i>et al.</i> ²⁵	China	2007	Kaohsiung Medical University Kaohsiung Veterans General Hospital	2000–2005	Prospective	NA	No	PSA ≥ 0.2	126	NA, NA	NA	NA	NA	NA	NA, NA
Jung <i>et al.</i> ³³	Korea	2011	Yonsei University College of Medicine	2005–2009	Retrospective	NA	Yes	PSA ≥ 0.2	407	63.24, 38–82	407	0	0	0	18.43, 6–50
Ferrari <i>et al.</i> ¹⁸	USA	2004	Stanford University Medical Center	1984–1999	Retrospective	HE	Yes	PSA ≥ 0.1	620	64.5, 42–78	614	0	NA	NA	90, 24–216
Luo <i>et al.</i> ³⁶	China	2012	Kaohsiung Chang Gung Memorial Hospital	1998–2010	Retrospective	NA	No	PSA ≥ 0.2	87	63, 49–83	NA	NA	NA	NA	40.9, 0.6–99.9
Herman <i>et al.</i> ¹⁵	USA	2000	Memorial Sloan-Kettering Cancer Center	1983–1997	Retrospective	HE	Yes	PSA ≥ 0.4	263	64, NA	263	8	NA	NA	36, 1–158
Baydar <i>et al.</i> ²⁷	Turkey	2007	Hacettepe University, School of Medicine	1992–2001	Retrospective	IHC (CD31) HE	Yes	PSA ≥ 0.2	71	62, 48–75	69	0	NA	NA	54, 4–145

BCR: biochemical recurrence; PSA: prostate specific antigen; EBRT: external beam radiotherapy; RP: radical prostatectomy; ADT: androgen deprivation therapy; PLND: pelvic lymph node dissection; Neo: neoadjuvant; HE: hematoxylin and eosin; IHC: immunohistochemistry; NA: not available; LVI: lymphovascular invasion