**Table S1: General characteristics of the included studies with clinical features.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| First author | country | Ethnicity | Method | Sample | Cancer | Male  | Female | > 60 years | < 60 years | Grade 3-4 | Grade 1-2 | Stage 2-4 | Stage Ta-1 | Single | Multiple  | Node+ | Node- |
| N (M %) | M/N | M/N | M/N | M/N | M/N | M/N | M/N | M/N | M/N | M/N | M/N | M/N |
| Maruyama 2001 | USA | Caucasians | MSP | Tissue | 98 (34.7) |  |  |  |  | 28/65 | 6/32 |  |  |  |  |  |  |
| Dulaimi 2004 | USA | Caucasians | MSP | Tissue | 45 (68.9) | 24/33 | 7/12 | 22/35 | 9/10 | 14/22 | 15/21 | 13/17 | 18/28 |  |  | 4/5 | 27/40 |
| Dulaimi 2004 | USA | Caucasians | MSP | Urine | 45 (55.6) | 20/33 | 5/12 | 17/35 | 8/10 | 11/22 | 13/21 | 10/17 | 15/28 |  |  | 3/5 | 22/40 |
| Neuhausen 2006 | Germany | Caucasians | MSP | Tissue | 96 (44.8) |  |  |  |  | 31/64 | 12/32 | 40/80 | 3/16 |  |  | 13/22 | 30/74 |
| Pan 2010 | China | Asians | MSP | Tissue | 110 (82.7) | 66/78 | 25/32 | 61/70 | 30/40 | 49/50 | 42/60 | 60/62 | 31/48 | 51/65 | 40/45 | 23/27 | 68/83 |
| Eissa 2011 | Egypt | Caucasians | MSP | Urine | 210 (59.5) | 86/145 | 39/65 |  |  | 36/57 | 89/153 | 80/133 | 45/77 |  |  |  |  |
| Serizawa 2011 | Denmark | Caucasians | MethyLight | Tissue | 105 (30.5) | 28/80 | 4/25 | 24/84 | 8/21 | 21/50 | 10/54 | 12/19 | 20/86 | 22/73 | 9/31 |  |  |
| Chen 2011 | China | Asians | MSP | Tissue | 210 (35.7) |  |  |  |  |  |  | 26/55 | 49/155 |  |  |  |  |
| Berrada 2012 | Morocco | Caucasians | MSP | Tissue | 29 (100) | 25/25 | 4/4 | 16/16 | 5/5 | 18/18 | 9/9 | 5/5 | 22/22 |  |  |  |  |
| Berrada 2012 | Morocco | Caucasians | MSP | Urine | 29 (79.3) | 21/25 | 2/4 | 13/16 | 2/5 | 17/18 | 4/9 | 5/5 | 16/22 |  |  |  |  |
| Bilgrami 2014 |  Pakistan | Caucasians | MSP | Tissue | 76 (71.1) |  |  |  |  |  |  | 32/33 | 22/43 |  |  |  |  |
| Pietrusiński 2017 | Poland | Caucasians | MSP | Urine | 113 (46) | 　 | 　 | 　 | 　 | 29/52 | 25/61 | 15/23 | 39/90 | 　 | 　 | 　 | 　 |

MSP: methylation-specific polymerase chain reaction; M: methylation; N: sample size; Node: lymph node status.