

Supplementary Table 1. Baseline characteristics of the included studies

| Study | Intervention type | Control/ comparison type | Study design | Study setting (for observational studies) | Inclusion criteria described | Exclusion criteria described | Overall sample size | Average/ last follow-up (mo) |
|--|---|----------------------------------|---------------|---|------------------------------|------------------------------|---------------------|---------------------------------|
| Al-Shahi Salman (2014; Scotland) ⁵¹ | Multimodality | Conservative/ medical | Observational | Prospective | Yes | Yes | 204 | 82.8 |
| Bervini (2014; Australia) ⁵² | Microsurgical resection | Conservative/ medical | Observational | Prospective | Yes | Yes | 377 | 9 |
| Ding (2016; USA) ¹⁴ | Radiosurgery | N/A | Observational | Retrospective | Yes | Yes | 509 | 86 |
| Ding (2017; USA, Canada) ³⁵ | Radiosurgery | N/A | Observational | Retrospective | Yes | Yes | 232 | 90.5 |
| Halim (2004; USA) ⁵³ | Unknown | Ruptured | Observational | Retrospective | No | No | 793 | 120 |
| Hanakita (2016; Japan) ⁵⁴ | Radiosurgery | N/A | Observational | Retrospective | No | No | 292 | 62 |
| Javadpour (2016; UK) ¹⁷ | Microsurgical resection | Multimodality | Observational | Retrospective | Yes | Yes | 143 | 69 |
| Jiao (2018; China) ⁵⁵ | Microsurgical resection | N/A | Observational | Retrospective | No | No | 201 | 14.2 |
| Kim (2014; USA, Scotland) ⁵ | Conservative | Ruptured | Observational | Mixed | Yes | Yes | 5,050 | Variable |
| Koltz (2013; USA) ⁵⁶ | Radiosurgery | Ruptured | Observational | Retrospective | No | No | 102 | 102 |
| Laakso (2011; Finland) ⁵⁷ | Conservative | Ruptured | Observational | Prospective | Yes | No | 63 | 132 |
| Lang (2018; USA) ⁵⁸ | Multimodality | Radiosurgery+ embolization | Observational | Retrospective | Yes | Yes | 105 | 43 |
| Link (2018; USA) ¹³ | Multimodality | N/A | Observational | Prospective | Yes | Yes | 86 | At least 6 months |
| Lv (2010; China) ⁵⁹ | Embolization | Ruptured | Observational | Retrospective | No | No | 144 | 82.8 |
| Lv (2012; China) ²⁹ | Embolization | Ruptured | Observational | Retrospective | No | No | 147 | 67.2 |
| Mohr (2014; Germany) ⁸ | Multimodality | Conservative/ medical | RCT | Prospective | Yes | Yes | 223 | 32.9 |
| Nerva (2015; USA) ⁵¹⁰ | Microsurgical resection +/- embolization | Radiosurgery +/- embolization | Observational | Retrospective | Yes | Yes | 61 | 15.6 |
| Nerva (2018; USA) ⁵¹¹ | Radiosurgery | Ruptured | Observational | Retrospective | Yes | No | 70 | 51.6 |
| Pollock (2013; USA) ¹⁵ | Radiosurgery | N/A | Observational | Prospective | Yes | Yes | 174 | 64 |
| Potts (2015; USA) ²⁸ | Microsurgical resection | Ruptured | Observational | Prospective | No | No | 232 | 20.4 |
| Rutledge (2014; USA) ¹¹ | Multimodality | Conservative/ medical | Observational | Prospective | Yes | Yes | 74 | 21 |
| Singfer (2017; Belgium) ⁵¹ | Embolization | N/A | Observational | Prospective | Yes | No | 61 | 60 |
| Thenier-Villa (2017; Spain) ⁵¹² | Radiosurgery | Ruptured | Observational | Retrospective | Yes | No | 195 | 121.91 |
| Yang (2009; South Korea) ⁵¹³ | Radiosurgery +/- embolization | Ruptured | Observational | Prospective | Yes | No | 46 | 66.5 |
| Yang (2012; South Korea) ⁵¹⁴ | Radiosurgery | N/A | Observational | Prospective | Yes | Yes | 78 | 92.5 |

N/A, not applicable; RCT, randomized controlled trial.