Table 1: Previous approaches to WMH segmentation with respect to image sources and reported performance.

| # | Ref. | Year | Authors | MRI Sequences | I | S | SI |
|---|---|---|---|---|---|---|---|
| 1 | [21] | 2015 | Harmouche et al. | T1, T2, PD, FLAIR | 100 | 35 | 0.56 |
| 2 | [33] | 2012 | Samaille et al. | T1, FLAIR | 67 | 6 | 0.72 |
| 3 | [28] | 2016 | Knight et al. | FLAIR | 15 | 3 | 0.7 |
| 4 | [5] | 2004 | Anbeek et al. | T1, T2, PD, FLAIR, IR | 20 | 1 | 0.61 |
| 5 | [4] | 2005 | Anbeek et al. | T1, T2, PD, FLAIR, IR | 10 | 1 | 0.78 |
| 6 | [15] | 2011 | García-Lorenzo et al. | T1, T2, FLAIR | 10 | 1 | 0.65 |
| 7 | [42] | 2013 | Sweeney et al. | T1, T2, PD, FLAIR | 111 | 1 | 0.61 |
| 8 | [16] | 2011 | Geremia et al. | T1, T2, FLAIR | 20 | 2 | |
| 9 | [44] | 2017 | Valverde et al. | T1, FLAIR | 33 | 2 | |
| 10 | [45] | 2001 | Van Leemput et al. | T1, T2, PD | 20 | 1 | 0.51 |
| 11 | [38] | 2011 | Smart et al. | T1, FLAIR | 30 | 1 | |
| 12 | [29] | 2006 | Lao et al. | T1, T2, PD, FLAIR | 45 | 1 | |
| 13 | [27] | 2008 | Khayati et al. | FLAIR | 20 | 1 | 0.75 |
| 14 | [9] | 2017 | Dadar et al. | T1, FLAIR | 80 | 3 | 0.62 |
| 15 | [25] | 2014 | Khademi et al. | FLAIR | 25 | 1 | 0.78 |
| 16 | [47] | 2008 | Wels et al. | T1, T2, FLAIR | 6 | 1 | 0.57 |
| 17 | [19] | 2015 | Guizard et al. | T1, T2, PD, FLAIR | 108 | 32 | 0.6 |
| 18 | [48] | 2006 | Wu et al. | T1, T2, PD | 12 | 1 | |
| 19 | [2] | 2005 | Admiraal-Behloul et al. | T2, PD, FLAIR | 100 | 1 | 0.75 |
| 20 | [22] | 2008 | Herskovits et al. | T1, T2, PD, FLAIR | 42 | 2 | 0.6 |
| 21 | [26] | 2012 | Khademi et al. | FLAIR | 24 | 1 | 0.83 |
| 22 | [24] | 2015 | Jain et al. | T1, FLAIR | 20 | 1 | 0.67 |
| 23 | [43] | 2015 | Tomas-Fernandez et al. | T1, T2, FLAIR | 51 | 2 | |
| 24 | [7] | 2008 | Bricq et al. | T2, FLAIR | 25 | 2 | |
| 25 | [46] | 2015 | Wang et al. | T1, T2, FLAIR | 70 | 2 | 0.84 |
| 26 | [30] | 2016 | Mechrez et al. | T1, T2, FLAIR | 20 | 2 | 0.31 |
| 27 | [31] | 2015 | Roy et al. | FLAIR | 38 | 3 | 0.56 |
| 28 | [12] | 2008 | Dyrby et al. | T1, T2, FLAIR | 362 | 10 | 0.56 |
| 29 | [6] | 2009 | Boer et al. | T1, PD, FLAIR | 20 | 2 | 0.72 |
| 30 | [17] | 2010 | Gibson et al. | T1, T2, FLAIR | 18 | 1 | 0.81 |
| 31 | [8] | 2015 | Brosch et al. | T1, T2, FLAIR | 20 | 2 | 0.36 |
| 32 | [32] | 2006 | Sajja et al. | T2, PD, FLAIR | 23 | 1 | 0.78 |
| 33 | [13] | 2015 | Fartaria et al. | FLAIR | 39 | 1 | 0.55 |
| 34 | [37] | 2010 | Shiee et al. | T1, FLAIR | 10 | 1 | 0.63 |
| 35 | [39] | 2008 | Souplet et al. | T1, T2, FLAIR | 25 | 2 | |
| 36 | [10] | 2013 | Datta et al. | T1, T2, FLAIR | 90 | 3 | |
| 37 | [14] | 2009 | García-Lorenzo et al. | T1, T2, PD | 10 | 1 | 0.63 |
| 38 | [34] | 2012 | Schmidt et al. | T1, FLAIR | 53 | 1 | 0.75 |
| 39 | [51] | 2002 | Zijdenbos et al. | T1, T2 | 10 | 1 | 0.6 |
| 40 | [3] | 2009 | Akselrod-Ballin et al. | T1, T2, PD, FLAIR | 41 | 1 | 0.53 |
| 41 | [41] | 2016 | Strumia et al. | T1, FLAIR | 20 | 3 | 0.52 |
| 42 | [23] | 2001 | Jack et al. | FLAIR | 39 | 1 | |
| 43 | [20] | 2006 | Harmouche et al. | T1, T2, PD | 10 | 1 | 0.61 |
| 44 | [1] | 2012 | Abdullah et al. | T1, T2, FLAIR | 61 | 3 | |
| 45 | [36] | 2010 | Scully et al. | T1, T2, FLAIR | 17 | 1 | |
| 46 | [18] | 2016 | Griffanti et al. | T1, FLAIR | 130 | 2 | 0.76 |
| 47 | [49] | 2014 | Yoo et al. | FLAIR | 32 | 2 | 0.76 |
| 48 | [11] | 2015 | Deshpande et al. | T1, T2, PD, FLAIR | 52 | 1 | 0.5 |
| 49 | [40] | 2013 | Steenwijk et al. | T1, FLAIR | 40 | 2 | 0.8 |
| 50 | [] | | | T1, FLAIR | 20 | 2 | 0.34 |
| 51 | [35] | 2009 | Schwarz et al. | T1, T2, PD | 165 | 2 | |
| 52 | [50] | 2017 | Zhan et al. | T1, T2, FLAIR | 50 | 2 | 0.76 |

Abbreviations. I: number of MR image sets used for validation; S: number of MRI scanners used for validation; SI: reported validation similarity index.

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