

Supplementary Table 1: Excluded studies, with the reasons for their exclusion

First author, year of publication	Review article	Abstract only	Not peer reviewed journal	Fewer than 20 patients	Diagnosis not certain in all patients	No treatment data	Unable to extract data	>10% extra-cerebral CCM	Duplicate publication	>20% lost to follow-up	Not obtainable	Report of a smaller series of an included series	No translator available
Abla AA, 2010 ¹												*	
Acciarri N, 1995 ²												*	
Acciarri N, 2008 ³									*				
Acciarri N, 2009 ⁴												*	
Alexander 3 rd E, 1992 ⁵				*									
Alexiou GA, 2012 ⁶						*							
Alonso-Vanegas MA, 2011 ⁷	*												
Amin-Hanjani S, 1998 ⁸					*								
Amin-Hanjani S, 1998 ⁹					*								
Awad I, 2006 ¹⁰	*												
Awad I, 2012 ¹¹							*						
Banfi P, 2006 ¹²				*									
Barker FG, 2001 ¹³						*							
Baumann CR, 2007 ¹⁴												*	
Belousova OB, 2003 ¹⁵									*				
Bertalanffy H, 1991 ¹⁶					*								
Bertalanffy H, 1992 ¹⁷			*										
Bertalanffy H, 2002 ¹⁸												*	
Bigi S, 2011 ¹⁹				*									
Blamek SC, 2010 ²⁰		*											
Bozinov O, 2010 ²¹	*												
Braun V, 1996 ²²					*								
Brunon J, 2007 ²³	*												
Cappabianca P, 1997 ²⁴							*						
Casazza M, 1996 ²⁵												*	
Chang HS, 2001 ²⁶						*							
Chang EF, 2011 ²⁷												*	
Chazal J, 2007 ²⁸	*												
Chen L, 2011 ²⁹												*	
Chen S-J, 1997 ³⁰							*						
Chung TT, 2012 ³¹											*		
Cristofori L, 1998 ³²					*								
Cubo Delgado E, 1995 ³³				*									
De Oliveira JG, 2010 ³⁴												*	
Dhamija R, 2011 ³⁵				*									
Di Rocco C, 1996 ³⁶												*	
Dodick DW, 1994 ³⁷				*									
Dorsch NWC, 1998 ³⁸	*												
Ebeling U, 1993 ³⁹				*									
Ebrahimi A, 2009 ⁴⁰				*									
Enchev YP, 2008 ⁴¹				*									
Esposito P, 2003 ⁴²				*									
Fahlbusch R, 1991 ⁴³				*									
Farmer JP, 1988 ⁴⁴							*						

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Vespignani H, 1989 ¹³⁷												*	
Vespignani H, 1994 ¹³⁸					*								
Vinas FC, 2002 ¹³⁹				*									
Wang C, 2002 ¹⁴⁰							*						
Wang L, 2004 ¹⁴¹				*									
Wang J, 2011 ¹⁴²							*						
Wang S-K, 1995 ¹⁴³							*						
Wang YD, 2011 ¹⁴⁴							*						
Werring DJ, 2007 ¹⁴⁵	*												
Winkler D, 2004 ¹⁴⁶												*	
Xia C, 2009 ¹⁴⁷												*	
Xia CY, 2008 ¹⁴⁸												*	
Xie J, 2002 ¹⁴⁹												*	
Yamasaki T, 1986 ¹⁵⁰					*								
Yeon JY, 2009 ¹⁵¹						*							
Yoon PH, 1998 ¹⁵²			*										
Zhang N, 2000 ¹⁵³					*								
Zhao JZ, 2003 ¹⁵⁴						*							
Zhao J-Z, 2005 ¹⁵⁵												*	
Zhao J, 2007 ¹⁵⁶												*	
Zhao Y, 2007 ¹⁵⁷												*	
Zhou LF, 2003 ¹⁵⁸								*					
Total number of studies:	19	4	5	31	21	23	13	3	3	2	2	31	1
CCM, cerebral cavernous malformation													

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