COPIT Supplementary Appendix

Contents

Search Strategy	. 2
Inclusion and Exclusion Criteria	. 2
Supplementary Appendix Figure 1	. 3
Supplementary Appendix Figure 2	. 4
Supplementary Appendix Figure 3	. 6

Search Strategy

(coronary art*.mp OR coronary vess*.mp OR coronary.mp OR coronary artery OR coronary blood vessel OR coronary stenting OR percutaneous coronary intervention OR coronary artery disease)

AND

(perforation or perforation.mp OR coronary artery perforation OR artery perforation)

Inclusion and Exclusion Criteria

Studies were included if they:

- 1) Reported the number of perforations within the cohort of patients undergoing percutaneous coronary interventions (PCIs)
- 2) Reported a range of time during which these procedures were performed
- 3) Were randomised controlled trials, cohort studies or cross-sectional analysis.

Studies were excluded if they:

- 1) Were case reports and case series
- 2) Were studies detailing results in PCI population subgroups (e.g. Chronic total Occlusion, atheroablative devices or other specific interventional decies)
- 3) Reported on non-routine procedural practices

Supplementary Appendix Figure 1

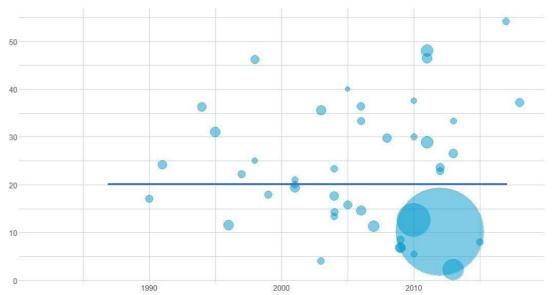
Forest plot of included studies reporting incidence of Ellis Grade 3 perforation. Data presented as percentage with 95% confidence interval.

				Events per 100 observations	Ever	nts p	per 100) obse	ervatio	ns
Study	Events	Total	Weight	IV, Random, 95% CI		IV, F	Rando	m, 95°	% CI	
Kiernan, T, 2009	13	68	3.7%	19.12 [10.59; 30.47]	-		- 1			
Fasseas, P, 2004	20	95	4.0%	21.05 [13.36; 30.62]	10		-			
Rother, J, 2015	8	35	3.2%	22.86 [10.42; 40.14]	-		—i			
Romaguera, R, 2011	17	69	3.9%	24.64 [15.05; 36.49]	13		- 1			
Ellis S, 1994	18	62	3.9%	29.03 [18.20; 41.95]		-				
Simsek, EC, 2018	6	18	2.7%	33.33 [13.34; 59.01]	-	_		- 12		
Stankovic, G, 2004	28	84	4.1%	33.33 [23.42; 44.46]		-				
Liu, Y, 2014	22	64	4.0%	34.38 [22.95; 47.30]		-				
Javaid, A, 2006	25	72	4.1%	34.72 [23.88; 46.86]		_				
Shimony, A, 2009	20	57	3.9%	35.09 [22.91; 48.87]		-				
Ford, T. 2019	57	161	4.5%	35.40 [28.04; 43.32]		-				
Ramana, RK, 2005	9	25	3.1%	36.00 [17.97; 57.48]		-		_		
Meguro, K, 2013	11	30	3.3%			-	-	_		
Silva, WA, 2012	7	18	2.8%	38.89 [17.30; 64.25]		-	-			
Witzke, CF	16	39	3.6%	41.03 [25.57; 57.90]		-		-		
Dippel, EJ, 2001	16	36	3.6%	44.44 [27.94; 61.90]		-	-			
Krishnegowda, C, 2020	25	51	3.9%	49.02 [34.75; 63.40]				-		
Ben-Gal, Y, 2010	17	33	3.5%	51.52 [33.54; 69.20]				-		
Eggebrecht H. 2004	10	19	2.9%	52.63 [28.86; 75.55]						
Mirza, A, 2009	13	24	3.2%	54.17 [32.82; 74.45]			-	-	-	
Shaukat, A. 2018	38	68	4.1%	55.88 [43.32; 67.92]			-	-		
Shirakabe, A, 2007	7	12	2.3%	58.33 [27.67; 84.83]		-				
Lemmert, ME, 2017	88	150	4.4%	58.67 [50.35; 66.64]						
Georgiadou, P. 2009	3	5	1.3%	60.00 [14.66; 94.73]	2					-
Hung, L. 2005	15	25	3.2%	60.00 [38.67; 78.87]						
Mansour, S. 2011	12	20	2.9%	60.00 [36.05; 80.88]			<u> </u>			
Rosseel, L, 2018	34	55	3.9%	61.82 [47.73; 74.59]					_	
Hussain, S. 2014	11	16	2.5%				-	-	-	
Hendry, C, 2012	36	44	3.3%					-		-
Total (95% CI)			100.0%				-	ž		
Heterogeneity: Tau ² = 0.3	229; Chi ²	= 125.	51, df = 2	8 ($P < 0.01$); $I^2 = 78\%$	-	1	1	1	1	1
1					0	20	40	60	80	100

Supplementary Appendix Figure 2

				Events per 100 observations	Events per 100 observations
Study	Events	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Parsh, J. 2017	14.000	625	2.6%	2.24 [1.33; 3.75]	-
Ramana, RK, 2005	1.000	25	1.1%	4.00 [0.56; 23.55]	
Silva, WA, 2012	1.000	18	1.1%	5.56 [0.78; 30.65]	
Fernandez-Cisnal, A, 2016	6.000	88	2.2%	6.82 [3.10; 14.36]	
Romaguera, R, 2016	6.000	88	2.2%	6.82 [3.10; 14.36]	
Prabhakaran, K, 2017	2.000	25	1.5%	8.00 [2.01; 26.94]	
Rother, J, 2015	3.000	35	1.8%	8.57 [2.79; 23.44]	
Nairooz, R, 2020	1400.000	13779	2.9%	10.16 [9.67; 10.68]	•
Bauer, T, 2015	14.012	124	2.5%	11.30 [6.81; 18.18]	
Fasseas, P, 2004	11.000	95	2.5%	11.58 [6.53; 19.71]	
Kinaird, T, 2016	222.000	1762	2.8%	12.60 [11.13; 14.23]	
Meguro, K, 2013	4.000	30	2.0%	13.33 [5.10; 30.59]	
Doll, JA, 2009	5.000	35	2.1%	14.29 [6.07; 30.05]	
Kini, A, 2009	12.000	82	2.5%	14.63 [8.50; 24.03]	-
Shimony, A, 2009	9.000	57	2.4%	15.79 [8.43; 27.65]	
Ajluni S, 1994	6.000	35	2.2%	17.14 [7.91; 33.26]	
Kiernan, T, 2009	12.000	68	2.5%	17.65 [10.30; 28.56]	
Witzke, CF	7.000	39	2.3%	17.95 [8.81; 33.14]	
Javaid, A, 2006	14.000	72	2.5%	19.44 [11.87; 30.20]	
Hung, L, 2005	5.000	25	2.1%	20.00 [8.58; 39.98]	
Eggebrecht H, 2004	4.000	19	1.9%	21.05 [8.13; 44.55]	
Dippel, EJ, 2001	8.000	36	2.3%	22.22 [11.52; 38.53]	
Abtan J, 2018	8.000	35	2.3%	22.86 [11.86; 39.47]	
Teis, A, 2010	7.000	30	2.2%	23.33 [11.55; 41.50]	
Rosseel, L, 2018	13.000	55	2.5%	23.64 [14.25; 36.57]	
Ellis S, 1994	15.000	62	2.5%	24.19 [15.14; 36.33]	
Shirakabe, A, 2007	3.000	12	1.7%	25.00 [8.28; 55.18]	
Shaukat, A, 2018	18.000	68	2.6%	26.47 [17.36; 38.16]	
Guttmann, O, 2017	43.000	149	2.7%	28.86 [22.16; 36.64]	
Liu, Y, 2014	19.000	64	2.6%	29.69 [19.81; 41.92]	
Mansour, S, 2011	6.000	20	2.1%	30.00 [14.14; 52.72]	
Grubergh, L, 2000	26.000	84	2.6%	30.95 [22.01; 41.59]	
Ben-Gal, Y, 2010	11.000	33	2.4%	33.33 [19.51; 50.77]	
Simsek, EC, 2018	6.000	18	2.1%	33.33 [15.80; 57.12]	
Stathopoulos, I, 2013	26.000	73	2.6%	35.62 [25.52; 47.18]	
Fukutomi, T, 2002	25.000	69	2.6%	36.23 [25.80; 48.14]	
Hendry, C, 2012	16.000	44	2.5%	36.36 [23.62; 51.37]	
Krishnegowda, C, 2020	19.000	51	2.5%	37.25 [25.18; 51.16]	
Hussain, S, 2014	6.000	16	2.0%	37.50 [17.90; 62.28]	
Georgiadou, P, 2009	2.000	5	1.2%	40.00 [10.02; 79.96]	
Gunning, MG, 2002	24.000	52	2.6%	46.15 [33.20; 59.65]	
Kuno, T, 2019	45.000	97	2.7%	46.39 [36.73; 56.33]	
Lemmert, ME, 2017	72.000	150	2.8%	48.00 [40.12; 55.98]	
Mirza, A, 2009	13.000	24	2.3%	54.17 [34.62; 72.51]	
Winza, A, 2003	10.000	24	2.070	54.17 [54.02, 72.01]	
Total (95% CI)		18373	100.0%	21.13 [17.15; 25.76]	•
Heterogeneity: $Tau^2 = 0.6370$;	$Chi^2 = 654$				
			10 V		0 20 40 60 80

A Forest plot of included studies reporting cardiac tamponade due to coronary perforation. Data presented as percentage with 95% confidence interval.



B Temporal trend of cardiac tamponade due to coronary perforation. Bubble plot illustrating stable incidence of cardiac tamponade due to coronary perforation over the last three decades. Sample size of study represented by bubble size.

Supplementary Appendix Figure 3

Bubble plot representation of incidence of coronary perforation as related to age. Sample size of study represented by bubble size.

