

Prognostic significance of anti-diabetic medications in pancreatic cancer: A meta-analysis

SUPPLEMENTARY MATERIALS

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Supplementary Table 1: Methodological quality of the included studies based on the Newcastle–Ottawa Scale

	Observational studies ^a							Overall quality (max 9)
	Design	Selection			Comparability	Outcome/exposure		
Lee <i>et al.</i> (2016)	Cohort	***			**	***		8
Kozak <i>et al.</i> (2016)	Cohort	***			**	***		8
Choi <i>et al.</i> (2016)	Cohort	***			**	**		7
Chaiteerakij <i>et al.</i> (2016)	Cohort	***			**	**		7
Cerullo <i>et al.</i> (2016)	Cohort	****			**	***		9
Ambe <i>et al.</i> (2016)	Cohort	***			**	***		8
Tseng <i>et al.</i> (2013)	Cohort	****			**	***		9
Hwang <i>et al.</i> (2013)	Cohort	****			**	**		8
Sadeghi <i>et al.</i> (2012)	Cohort	***			**	**		7
Amin <i>et al.</i> (2015)	Cohort	***			**	**		7
Jang <i>et al.</i> (2016)	Cohort	****			**	**		8
Jeon <i>et al.</i> (2014)	Cohort	***			**	**		7
Randomized controlled trials ^b								
	1	2	3	4	5	6	7	
Reni <i>et al.</i> (2016)	L	L	L	L	H	U	L	NA
Kordes <i>et al.</i> (2015)	L	L	L	L	H	U	L	NA

^a Study quality assessment of observational studies performed using the Newcastle–Ottawa scale (each asterisk represents if individual criterion within the subsection were fulfilled).

^b Cochrane Collaboration's tool for assessing risk of bias for randomized trials, which assesses the risk of bias (L=low, H=high, U=unclear) across 7 domains: 1 (Random sequence generation), 2 (Allocation concealment), 3 (Blinding of participants and researchers), 4 (Blinding of outcome assessment), 5 (Incomplete outcome data), 6 (Selective reporting) and 7 (Other bias). NA, not available

Supplementary Table 2: Search strategy for Pubmed (Publication date to 2016/08/17)

1. "Pancreatic Neoplasms"[Mesh]
 2. Pancreatic[Title/Abstract] OR Pancreas[Title/Abstract]
 3. (Cancer OR tumor OR tumor OR carcinoma OR neoplastic* OR malignant*)[Title/Abstract]
 4. 2 AND 3
 5. 1 OR 4
 6. "Hypoglycemic Agents"[Mesh]
 7. Hypoglycemic*[Title/Abstract] OR antihyperglycemic *[Title/Abstract] OR antidiabetic*[Title/Abstract]
 8. 6 OR 7
 9. "Metformin"[Mesh]
 10. metformin[Title/Abstract] OR dimethylbiguanidine [Title/Abstract] OR dimethylguanylguanidine [Title/Abstract] OR Glucophage[Title/Abstract]
 11. 9 OR 10
 12. "Sulfonylurea Compounds"[Mesh]
 13. sulfonylurea*[Title/Abstract]
 14. 12 OR 13
 15. "Thiazolidinediones"[Mesh]
 16. Thiazolidinedione*[Title/Abstract] OR Glitazone*[Title/Abstract]
 17. 15 OR 16
 18. "Insulin"[Mesh]
 19. Novolin[Title/Abstract] OR insulin[Title/Abstract]
 20. 18 OR 19
 21. 8 OR 11 OR 14 OR 17 OR 20
 22. "Mortality"[Mesh]
 23. "Survival"[Mesh]
 24. "Prognosis"[Mesh]
 25. prognosis*[Title/Abstract] OR survival[Title/Abstract] OR recurrence*[Title/Abstract] OR mortality[Title/Abstract] OR predict*[Title/Abstract] OR outcome*[Title/Abstract] OR death[Title/Abstract]
 26. 21 OR 22 OR 23 OR 24
 27. 5 AND 20 AND 25
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Supplementary Table 3: Search strategy for Embase (Publication date to 2016/08/17)

1. 'pancreas cancer'/exp
 2. (Pancreatic OR Pancreas):ab, ti
 3. (Cancer OR tumor OR tumor OR carcinoma OR neoplastic* OR malignant*):ab, ti
 4. 2 AND 3
 5. 1 OR 4
 6. 'antidiabetic agent'/exp
 7. (hypoglycemic* OR antihyperglycemic* OR antidiabetic*):ab, ti
 8. 6 OR 7
 9. 'metformin'/exp
 10. (metformin OR dimethylbiguanidine OR dimethylguanylguanidine OR glucophage):ab, ti
 11. 9 OR 10
 12. 'sulfonylurea derivative'/exp
 13. sulfonylurea*:ab, ti
 14. 12 OR 13
 15. '2,4 thiazolidinedione derivative'/exp
 16. (thiazolidinedione* OR glitazone*):ab, ti
 17. 15 OR 16
 18. 'insulin'/exp
 19. (novolin OR insulin):ab, ti
 20. 18 OR 19
 21. 8 OR 11 OR 14 OR 17 OR 20
 22. 'mortality'/exp
 23. 'survival'/exp
 24. 'cancer prognosis'/exp
 25. (prognosis* OR survival OR recurrence* OR mortality OR predict* OR outcome* OR death):ab, ti
 26. 22 OR 23 OR 24 OR 25
 27. 5 AND 21 AND 26
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Supplementary Table 4: Selection procedure of included and excluded studies

	Reference list no.
Studies included in the meta-analysis (n = 14)	1-14
Studies excluded from meta-analysis, and reasons are listed below (n = 28)	15-42
Reason for exclusion	
Publication with cases included in a selected study (n =7)	15-21
No prognostic outcomes recorded (n =3)	22-24
Letters, comments, reviews or meta-analyses (n =12)	25-36
No sufficient data for analysis (n =6)	37-42