

## 評価対象論文リスト(要因:肉・赤肉・加工肉、アウトカム:大腸がん)

評価判定日:2023/11/20

### ①既存の系統的レビュー・メタ解析・統合解析

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### ②日本人集団の個別疫学研究

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■メタ解析、系統的レビュー

Reference			Include study						Design	Category	Sub-Category	sex	Relative risk (95% CI or p)	Weight	Magnitude of association
Author	Title	Year	Ref No.	First author	Year	Study period	Study location	Event (*Definition)							
Pham NM et al. □	Meat consumption and colorectal cancer risk: an evaluation based on a systematic review of epidemiologic evidence among the Japanese population	2014	32	Kojima M	2004	1988-99		Death	Cohort Study	Red meat consumption	Subtotal	Men	1.46 (0.74, 2.87)	3.67	↑
			34	Oba S	2006	1992-2000		Incidence				Women	1.11 (0.57, 2.15)	3.80	
			33	Sato Y	2006	1990-2001		Incidence				Men	1.03 (0.64, 1.66)	6.08	
			35	Takachi R	2011	1995-2006		Incidence				Women	0.79 (0.49, 1.28)	6.02	
												Men&Women	1.46 (0.81, 2.63)	4.55	
												Men	1.27 (0.93, 1.74)	9.60	
												Women	<b>1.57 (0.95, 2.59)</b>	5.71	
			32	Kojima M	2004	1988-99		Death				Men	1.20 (1.00, 1.44)	39.44	
			33	Sato Y	2006	1990-2001		Incidence				Women	1.38 (0.68, 2.79)	3.44	
			35	Takachi R	2011	1995-2006		Incidence				Men&Women	<b>0.32 (0.09, 1.14)</b>	1.22	
												Men	1.11 (0.63, 1.96)	4.78	
												Women	0.93 (0.58, 1.49)	6.16	
												Men	0.81 (0.43, 1.52)	4.08	
												Women	0.95 (0.71, 1.28)	19.69	
			31	Khan MM	2004	1984-2002		Death				Men	2.90 (0.63, 13.34)	0.87	
			32	Kojima M	2004	1988-99	Japan	Death				Men	2.90 (0.63, 13.34)	0.87	
			34	Oba S	2006	1992-2000		Incidence				Women	1.44 (0.90, 2.31)	5.40	
			33	Sato Y	2006	1990-2001		Incidence				Men	0.94 (0.53, 1.66)	4.18	
			35	Takachi R	2011	1995-2006		Incidence				Men	<b>1.98 (1.24, 3.16)</b>	5.45	
												Women	0.85 (0.50, 1.44)	4.69	
						Men&Women	0.75 (0.45, 1.26)	4.77							
						Men	1.38 (0.85, 2.25)	5.18							
						Women	1.23 (0.73, 2.07)	4.74							
32	Kojima M	2004	1988-99		Death	Men	1.18 (0.92, 1.53)	34.40							
33	Sato Y	2006	1990-2001		Incidence	Women	1.00 (0.56, 1.78)	4.10							
35	Takachi R	2011	1995-2006		Incidence	Men&Women	<b>1.56 (0.69, 3.53)</b>	2.40							
						Men	1.10 (0.60, 2.02)	3.80							
						Women	0.70 (0.45, 1.09)	5.84							
						Men	0.98 (0.53, 1.80)	3.81							
						Women	0.94 (0.72, 1.21)	19.94							
						Men	<b>0.50 (0.11, 2.35)</b>	0.76							
						Women	1.40 (0.47, 4.20)	1.43							
						Subtotal	0.97 (0.37, 2.55)	2.19							

■ケースコントロール研究(メタアナリシス)

Reference			Study subjects					Category	Number among cases	Relative risk (95%CI or p)	P for trend	Confounding variables considered	Magnitude of association
Author	Title	Year	Study period	Type and source	Definition	Number of cases	Number of controls						
Wang H et al.	Interaction between Red Meat Intake and NAT2 Genotype in Increasing the Risk of Colorectal Cancer in Japanese and African Americans	2015	N/A	the Fukuoka Colorectal Cancer Study	<u>colorectal cancer</u>	662	749	Processed meat					
				the Nagano Colorectal Cancer Study		105	102	Q1	1.00(Reference)				
				Japan Public Health Center-Based prospective study		653	640	Q2	1.02 (0.88, 1.19)	0.0002			
				Multiethnic Cohort Study		797	2,297	Q3	1.11 (0.95, 1.30)		Adjusted for age, sex, BMI (continuous), the first 4 principal components and study separately in the Japanese and AA.	↑	
								Q4	<b>1.38 (1.17, 1.62)</b>				
								Red meat without processed meat	N/A				
								Q1	1.00(Reference)				
								Q2	1.12 (0.96, 1.32)	0.006			
					Q3	1.14 (0.97, 1.33)							
					Q4	<b>1.27 (1.08, 1.49)</b>		↑					
					Total red meat								
					Q1	1.00(Reference)							
					Q2	<b>1.18 (1.00, 1.38)</b>	0.002						

Q3  
Q4

1.11 (0.95, 1.30)  
**1.33 (1.13, 1.57)**

0.002

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■コホート研究(コホートのプール解析含む)

Reference			Study subjects					Category	Relative risk (95%CI or p)				P for trend	Heterogeneity P, I2 (%)	Confounding variables considered	Magnitude of association
Author	Title	Year	Study period	Number of subjects	Source of subjects	Event followed	Number of incident cases or deaths									
Islam Z et al.	Meat subtypes and colorectal cancer risk: A pooled analysis of 6 cohort studies in Japan	2019	1990-2013	Total for frequency of meat intake 232,403 men; 107,777 women; 124,626	JPHC I, JPHC II, JACC, MIYAGI, OHSAKI,	<b>colorectal cancer;</b>	Total 5,694 men; 3,428 women; 2,266	Japanese	<b>Meat consumption (quantity)</b>							
				Total for quantity of meat intake 123,635 men; 57,672 women; 65,963	JPHC-5y, TAKAYAMA		Total 3,550 men; 2,108 women; 1,442			Q1(lowest)	Q2	Q3	Q4(highest)			
									<b>Men; colorectal cancer</b>							
									Unprocessed red meat	1.00(Reference)	0.99 (0.88-1.11)	1.05 (0.93-1.18)	1.13 (0.76-1.68)	0.51	0.01, 85.8	
									Beef	1.00(Reference)	1.06 (0.88-1.27)	1.05 (0.93-1.18)	1.08 (0.93-1.26)	0.31	0.26, 21.7	Q4:-
									Pork	1.00(Reference)	0.94 (0.83-1.07)	0.99 (0.88-1.11)	1.11 (0.82-1.49)	0.46	0.04, 75.4	Q4:-
									Processed red meat	1.00(Reference)	0.90 (0.80-1.02)	0.90 (0.79-1.01)	1.00 (0.76-1.32)	0.94	0.07, 69.9	Q4:-
									Chicken	1.00(Reference)	1.02 (0.90-1.15)	0.89 (0.79-1.01)	1.03 (0.90-1.19)	0.84	0.28, 15.9	Q4:-
									<b>Colon cancer</b>							
									Unprocessed red meat	1.00(Reference)	1.02 (0.88-1.18)	1.04 (0.84-1.27)	1.05 (0.78-1.41)	0.73	0.11, 60.7	Q4:-
									Beef	1.00(Reference)	1.12 (0.86-1.45)	1.06 (0.91-1.23)	1.06 (0.92-1.24)	0.49	0.54, 0.0	Q4:-
									Pork	1.00(Reference)	0.89 (0.76-1.03)	0.99 (0.85-1.14)	1.05 (0.80-1.38)	0.60	0.13, 57.3	Q4:-
									Processed red meat	1.00(Reference)	0.90 (0.78-1.05)	0.92 (0.79-1.07)	1.09 (0.78-1.52)	0.65	0.07, 70.5	Q4:-
									Chicken	1.00(Reference)	1.06 (0.92-1.23)	0.93 (0.80-1.08)	1.08 (0.88-1.33)	0.87	0.22, 34.6	Q4:-
									<b>Rectal Cancer</b>							
									Unprocessed red meat	1.00(Reference)	0.90 (0.73-1.11)	1.04 (0.85-1.28)	1.21 (0.67-2.18)	0.42	0.02, 82.5	Q4:-
									Beef	1.00(Reference)	0.97 (0.79-1.20)	0.97 (0.78-1.20)	1.08 (0.83-1.41)	0.56	0.25, 26.1	Q4:-
									Pork	1.00(Reference)	1.08 (0.88-1.32)	0.93 (0.75-1.16)	1.16 (0.88-1.55)	0.50	0.22, 33.6	Q4:-
									Processed red meat	1.00(Reference)	0.88 (0.72-1.08)	0.83 (0.67-1.02)	0.87 (0.70-1.08)	0.14	0.71, 0.0	Q4:-
									Chicken	1.00(Reference)	0.90 (0.74-1.10)	0.83 (0.67-1.03)	0.96 (0.78-1.18)	0.53	0.85, 0.0	Q4:-
									<b>Women; colorectal cancer</b>							
									Unprocessed red meat	1.00(Reference)	1.04 (0.89-1.20)	0.95 (0.76-1.20)	1.06 (0.91-1.24)	0.67	1.00, 0.0	Q4:-
									Beef	1.00(Reference)	1.12 (0.97-1.30)	0.94 (0.72-1.23)	1.09 (0.94-1.28)	0.58	0.77, 0.0	Q4:-
									Pork	1.00(Reference)	1.08 (0.93-1.25)	0.92 (0.74-1.13)	1.04 (0.89-1.22)	0.91	0.84, 0.0	Q4:-
									Processed red meat	1.00(Reference)	1.04 (0.89-1.21)	1.14 (0.90-1.45)	1.04 (0.89-1.23)	0.29	0.99, 0.0	Q4:-
									Chicken	1.00(Reference)	1.04 (0.89-1.22)	1.01 (0.87-1.18)	0.97 (0.78-1.22)	0.89	0.19, 41.7	Q4:-
									<b>Colon cancer</b>							
									Unprocessed red meat	1.00(Reference)	1.09 (0.92-1.29)	0.89 (0.59-1.34)	1.11 (0.93-1.33)	0.52	0.79, 0.0	Q4:-
									Beef	1.00(Reference)	1.09 (0.78-1.52)	0.94 (0.59-1.52)	<b>1.20 (1.01-1.44)</b>	0.11	0.65, 0.0	Q4: ↑
									Pork	1.00(Reference)	1.13 (0.95-1.34)	0.98 (0.82-1.17)	1.04 (0.86-1.25)	0.90	0.78, 0.0	Q4:-
									Processed red meat	1.00(Reference)	1.00 (0.76-1.31)	1.14 (0.88-1.48)	1.05 (0.85-1.31)	0.31	0.27, 17.7	Q4:-
									Chicken	1.00(Reference)	1.03 (0.85-1.25)	0.99 (0.83-1.18)	0.98 (0.81-1.18)	0.73	0.30, 6.1	Q4:-
									<b>Rectal Cancer</b>							
									Unprocessed red meat	1.00(Reference)	0.92 (0.69-1.22)	1.00 (0.75-1.33)	0.98 (0.73-1.32)	0.99	0.57, 0.0	Q4:-
									Beef	1.00(Reference)	1.10 (0.84-1.45)	0.91 (0.68-1.22)	0.95 (0.71-1.28)	0.49	0.77, 0.0	Q4:-
									Pork	1.00(Reference)	0.94 (0.71-1.24)	0.79 (0.56-1.11)	1.04 (0.78-1.39)	0.92	0.99, 0.0	Q4:-
									Processed red meat	1.00(Reference)	1.04 (0.74-1.47)	1.17 (0.88-1.55)	1.06 (0.60-1.89)	0.93	0.08, 67.1	Q4:-
									Chicken	1.00(Reference)	1.03 (0.78-1.37)	1.05 (0.79-1.40)	0.99 (0.74-1.33)	0.99	0.50, 0.0	Q4:-