Note of clarification of data in the meta-analysis of evidences on XPC polymorphisms and lung cancer susceptibility

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Dear Editor,

We read with great interest the paper [1]. The author conducted a meta-analysis of 13 case–control studies to estimate the association of Ala499Val, Lys939Gln, and PAT polymorphisms in XPC gene with lung cancer. His meta-analysis think that there is no significant association of these polymorphisms with lung cancer. It is a valuable study.

Nevertheless, careful examination of the data provided by the author (Table 1 in the original text) revealed some issues that are worth noticing. First, the ethnicity is inconsistent with the original studies. One study was a population-based case–control study of lung cancer in Xuan Wei, China [2]. And the other study examined variants in six NER genes (include XPC) in association with primary lung cancer risk among 113 Latino and 255 African American [3]. But they were used as Caucasian for data analysis. Second, the same text data referenced twice. There are two articles that have the same author, same writing time, exactly same case–control samples.

After checking carefully the original article, we found they are two versions of an article, a publication in Chinese journal [4], the other is included in the foreign journal [5].

Therefore, we reassessed the association between XPC Ala499Val, Lys939Gln polymorphisms, and lung cancer (result in Table 2). In addition, we update with a new article [6] about the association between Lys939Gln polymorphisms and lung cancer, and another hotspot PAT polymorphism which is in XPC gene to our meta-analysis (Table 3) [7–14]. Though the Table 4 showed that there was no significant difference for association of XPC Ala499Val polymorphisms with lung cancer under the additive model, dominant model, and recessive model. However, there was an association of PAT polymorphisms with lung cancer in Caucasian which was under recessive model (OR=1.307; 95 % confidence interval (CI), 1.037~1.648; $p=0.023$) (Fig. 1). The people with Glu/Glu had more inflexibility compared with the Lys-carriers, according to the recessive model (OR=1.257; 95 % CI, 1.038~1.522; $p=0.013$) (Fig. 2).

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Table 1 The distribution of the XPC variant for cases and controls (original text)

Author	Publication year	Case			Control			P^a	Population
Lys939Gln		A/A	A/C	C/C	A/A	A/C	C/C		
Sakoda LC	2012	263	379	100	520	739	218	0.088	Caucasian
Chang JS	2008	46	55	11	151	121	26	0.162	African
Chang JS	2008	143	90	22	132	116	26	0.944	Latino
Raaschou-Nielsen O	2008	159	195	73	305	388	96	0.105	Caucasian
Bai Y	2007	390	459	142	404	465	123	0.544	Asian
Hu ZB	2005	126	154	40	141	152	29	0.184	Asian
Shen M	2005	43	50	21	39	58	8	0.031	Asian
Vogel U	2005	100	113	43	115	116	38	0.321	Caucasian
Ala499Val		C/C	C/T	T/T	C/C	C/T	T/T		
Sakoda LC	2012	401	299	43	822	566	87	0.421	Caucasian
Bai Y	2007	452	435	107	446	456	88	0.060	Asian
Hu ZB	2005	124	171	25	158	145	19	0.055	Asian
Shen M	2005	56	47	13	50	47	13	0.702	Asian
Lee GY	2005	28	184	220	31	187	214	0.252	Asian

^a P value for Hardy–Weinberg equilibrium in control group**Table 2** ORs and 95 % CI for skin cancer and XPC polymorphisms under different genetic models

SNP	Type of ethnicity	Genetic model											
		Additive						Recessive			Dominant		
		OR [95 % CI] P^b	P_1^c	P_2^d	OR [95 % CI] P^b	P_1^c	P_2^d	OR [95 % CI] P^b	P_1^c	P_2^d			
939A>C	Caucasian	1.044 [0.950~1.148] 0.373	0.229	0.602	1.102 [0.916~1.325] 0.304	0.055	0.602	1.037 [0.906~1.187] 0.600	0.700	0.117			
	Asian	1.069 [0.972~1.175] 0.168	0.385	0.497	0.019 [1.038~1.522] 0.019	0.263	0.174	1.021 [0.895~1.165] 0.759	0.362	1.000			
	Others ^a	0.968 [0.787~1.192] 0.762	0.032	0.317	0.986 [0.619~1.571] 0.954	0.628	0.317	0.952 [0.728~1.245] 0.720	0.013	0.317			
	Total	1.048 [0.983~1.117] 0.151	0.186	0.273	1.159 [1.020~1.317] 0.023	0.183	0.100	1.020 [0.933~1.115] 0.665	0.239	0.273			
499C>T	Caucasian	1.044 [0.905~1.205] 0.552	—	—	0.980 [0.673~1.428] 0.916	—	—	1.074 [0.899~1.282] 0.432	—	—			
	Asian	1.077 [0.976~1.188] 0.141	0.260	—	1.141 [0.949~1.371] 0.159	0.778	—	1.078 [0.936~1.243] 0.298	0.101	—			
	Total	1.066 [0.983~1.156] 0.121	0.388	0.624	1.108 [0.940~1.307] 0.222	0.809	1.000	1.076 [0.964~1.203] 0.192	0.183	0.327			

CI confidence interval

^a The others include Latino and African American^b Value for OR^c Value for heterogeneity test^d Value for Begg's test (publication bias)

Table 3 The distribution of the XPC variant for cases and controls (updated)

Author	Publication year	Case			Control			P^a	Population
		A/A	A/C	C/C	A/A	A/C	C/C		
Lys939Gln									
Sakoda LC	2012	263	379	100	520	739	218	0.088	Caucasian
Chang JS	2008	46	55	11	151	121	26	0.162	African
Chang JS	2008	143	90	22	132	116	26	0.944	Latino
Raaschou-Nielsen O	2008	159	195	73	305	388	96	0.105	Caucasian
Bai Y	2007	390	459	142	404	465	123	0.544	Asian
Hu ZB	2005	126	154	40	141	152	29	0.184	Asian
Shen M	2005	43	50	21	39	58	8	0.031	Asian
Vogel U	2005	100	113	43	115	116	38	0.321	Caucasian
L. Letkova	2013	28	61	22	55	77	21	0.467	Caucasian
PAT		−/−	+/−	+/+	−/−	+/−	+/+		
Wang YG	2003	251	279	67	193	253	63	0.152	Asian
M Felicitas López-Cima l	2007	172	243	101	190	259	84	0.784	Caucasian
Kim De Ruycka	2007	35	59	16	35	53	21	0.907	Caucasian
M. Soledad Man'ñ	2004	110	175	74	132	190	53	0.242	Caucasian

^a P value for Hardy–Weinberg equilibrium in control group**Table 4** ORs and 95 % CI for skin cancer and XPC polymorphisms under different genetic models

SNP	Type of ethnicity	Genetic model									
		Additive			Recessive				Dominant		
		OR [95 % CI] P^b	P_1^c	P_2^d	OR [95 % CI] P^b	P_1^c	P_2^d		OR [95 % CI] P^b	P_1^c	P_2^d
939A>C	Caucasian	1.024 [0.94~1.115] 0.59	0.284	0.497	1.13 [0.946~1.349] 0.177	0.08	0.497		1.067 [0.936~1.217] 0.333	0.324	0.042
	Asian	1.069 [0.972~1.175] 0.168	0.385	0.497	0.019 [1.038~1.522] 0.019	0.263	0.174		1.021 [0.895~1.165] 0.759	0.362	1.000
	Others ^a	0.968 [0.787~1.192] 0.762	0.032	0.317	0.986 [0.619~1.571] 0.954	0.628	0.317		0.952 [0.728~1.245] 0.720	0.013	0.317
	Total	1.037 [0.967~1.102] 0.239	0.196	0.243	1.257 [1.038~1.522] 0.013	0.209	0.102		1.034 [0.947~1.128] 0.462	0.134	0.1.2
PAT	Caucasian	1.149 [1.014~1.303] 0.3	0.347	–	1.307 [1.037~1.648] 0.023	0.158	–		1.14 [0.947~1.372] 0.168	0.801	–
	Asian	0.892 [0.749~1.061] 0.197	–	–	0.895 [0.62~1.291] 0.553	–	–		0.842 [0.661~1.072] 0.163	–	–
	Total	1.054 [0.952~1.167] 0.314	0.058	1.000	1.173 [0.965~1.427] 0.109	0.085	1.000		1.018 [0.879~1.18] 0.807	0.238	0.734

CI confidence interval

^a The others include Latino and African American^b Value for OR^c Value for heterogeneity test^d Value for Begg's test (publication bias)

Fig. 1 Association of PAT polymorphisms with lung cancer in Caucasian

Fig. 2 OR and % weight value among Asian, Caucasian, and other races

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