

Supplemental Table 1. Odds ratios (95% CI) of keratinocyte cancers in relation to duration of oral contraceptive use stratified by time since last use

	SCC			BCC			Early-onset		
	controls N (%)	SCC cases N (%)	OR (95% CI) ^b	controls N (%)	BCC cases N (%)	OR (95% CI)	BCC Controls ^a N (%)	Early-onset BCC cases N (%)	OR (95% CI)
Non user	307 (68.2)	270 (69.8)	1.0 (ref)	236 (46.2)	200 (33.8)	1.0 (ref)	49(21.7)	57(16.7)	1.0 (ref)
Years since last OC use < 25 yrs.									
Duration of OC Use									
≤ 2 yrs.	34 (5.8)	11 (2.5)	1.3 (0.6-2.8)	34 (6.7)	47 (7.9)	1.4 (0.8-2.3)	32(14.2)	44(12.9)	1.2 (0.7-2.2)
3-6 yrs.	69 (11.8)	17 (3.9)	0.8 (0.4-1.6)	69 (13.5)	91 (15.4)	1.3 (0.9-2.0)	61(27.0)	80(23.4)	1.1 (0.7-1.9)
≥ 7 yrs.	110 (18.8)	49 (11.3)	1.1 (0.7-1.7)	108 (21.1)	170 (28.7)	1.7 (1.2-2.4)	69(30.5)	130(38.0)	1.6 (1.0-2.6)
Continuous			p _{trend} < 0.391			p _{trend} < 0.962			p _{trend} < 0.648
Years since last OC use ≥ 25 yrs.									
Duration of OC Use									
≤ 2 yrs.	36 (6.2)	36 (8.3)	1.7 (1.0-2.8)	36 (7.0)	40 (6.8)	1.2 (0.7-2.0)	12(5.3)	19(5.6)	1.3 (0.6-3.0)
3-6 yrs.	19 (3.3)	28 (6.5)	2.6 (1.4-4.8)	19 (3.7)	32 (5.4)	1.7 (0.9-3.2)	3(1.3)	11(3.2)	3.2 (0.8-12.2)
≥ 7 yrs.	9 (1.5)	21 (4.9)	3.0 (1.3-6.8)	9 (1.8)	12 (2.0)	1.7 (0.7-4.2)			**
Continuous			p _{trend} < 0.060			p _{trend} < 0.256			p _{trend} < 0.081

a. Early-onset BCC defined as age ≤ 50 at time of diagnosis.

b. Odds ratios and 95% confidence intervals adjusted for reference age and skin sensitivity to first solar exposure.

Supplemental Table 2. Odds ratios (95% CI) of keratinocyte cancers in relation to oral contraceptive use, hormone replacement therapy use, and combined use

	SCC			BCC			Early-onset BCC		
	controls N = 746 N (%)	SCC cases N = 570 N (%)	OR (95% CI) ^b	controls N = 550 N (%)	BCC cases N = 633 N (%)	OR (95% CI)	controls ^a N = 246 N (%)	Early-onset BCC cases N = 362 N (%)	OR (95% CI)
Any estrogen hormone use									
Neither OC nor HRT use	200 (28.2)	146 (26.3)	1.0 (ref)	161 (31.3)	137 (23.0)	1.0 (ref)	44 (19.4)	46 (13.4)	1.0 (ref)
HRT only	107 (15.1)	123 (22.2)	1.4 (1.0-1.9)	75 (14.6)	63 (10.6)	1.0 (0.7-1.5)	5 (2.2)	11 (3.2)	2.1 (0.7-6.6)
OC only	278 (39.2)	143 (25.8)	1.2 (0.9-1.7)	204 (39.7)	294 (49.4)	1.3 (0.9-1.8)	154 (67.8)	252 (73.3)	1.6 (1.0-2.5)
Both OC and HRT	125 (17.6)	143 (25.8)	1.9 (1.4-2.7)	74 (14.4)	101 (17.0)	1.4 (1.0-2.1)	24 (10.6)	35 (10.2)	1.3 (0.7-2.7)

a. Early-onset BCC defined as age \leq 50 at time of diagnosis.

b. Odds ratios and 95% confidence intervals adjusted for reference age and skin sensitivity to first solar exposure.

Supplemental Table 3. Odds ratios (95% CI) of keratinocyte cancers in relation to hormone replacement therapy use by subgroups according to body mass index (BMI)

	SCC			BCC		
	controls N (%)	SCC cases N (%)	OR (95% CI) ^a	controls N (%)	BCC cases N (%)	OR (95% CI)
Hormone Replacement Therapy						
Normal BMI						
Non user	108 (55.7)	91 (42.7)	1.0 (ref)	65 (55.1)	87 (55.1)	1.0 (ref)
Ever user	86 (44.3)	122 (57.3)	1.5 (1.0-2.3)	53 (44.9)	71 (44.9)	1.0 (0.6-1.6)
Overweight						
Non user	63 (54.3)	79 (57.7)	1.0 (ref)	42 (57.5)	33 (55.9)	1.0 (ref)
Ever user	53 (45.7)	58 (42.3)	0.9 (0.5-1.5)	31 (42.5)	26 (44.1)	1.0 (0.5-2.0)
Obese						
Non user	78 (64.5)	45 (47.9)	1.0 (ref)	41 (71.9)	26 (63.4)	1.0 (ref)
Ever user	43 (35.5)	49 (52.1)	2.0 (1.1-3.4)	16 (28.1)	15 (36.6)	1.4 (0.6-3.4)
Duration of HRT use						
Normal BMI						
Non user	108 (56.3)	91 (43.3)	1.0 (ref)	65 (56.0)	87 (55.4)	1.0 (ref)
> 0- ≤ 5 yrs.	30 (15.6)	30 (14.3)	1.3 (0.7-2.4)	20 (17.2)	34 (21.7)	1.1 (0.6-2.1)
> 5 yrs.	4 (28.1)	89 (42.4)	1.7 (1.0-2.6)	31 (26.7)	36 (22.9)	0.9 (0.5-1.6)
Overweight						
Non user	63 (54.3)	79 (58.5)	1.0 (ref)	42 (57.5)	33 (57.9)	1.0 (ref)
> 0- ≤ 5 yrs.	18 (15.5)	12 (8.9)	0.6 (0.3-1.3)	10 (13.7)	9 (15.8)	0.9 (0.3-2.6)
> 5 yrs.	35 (30.2)	44 (32.6)	1.0 (0.6-1.7)	21 (28.8)	15 (26.3)	0.9 (0.4-2.0)
Obese						
Non user	78 (64.5)	45 (47.9)	1.0 (ref)	41 (71.9)	26 (63.4)	1.0 (ref)
> 5 yrs.	16 (13.2)	18 (19.1)	2.0 (0.9-4.4)	6 (10.5)	5 (12.2)	1.1 (0.3-4.1)
> 0- ≤ 5 yrs.	27 (22.3)	31 (33.0)	1.9 (1.0-3.7)	10 (17.5)	10 (24.4)	1.6 (0.6-4.6)

a. Odds ratios and 95% confidence intervals adjusted for reference age and skin sensitivity to first solar exposure.

Supplemental Table 4. Case-case odds ratios (95% CI) of keratinocyte cancers in relation to oral contraceptive and hormone replacement therapy use by subgroups according to degree of solar elastosis in skin adjacent to the tumor

Solar elastosis	SCC cases			BCC cases			Early-onset BCC cases ^a		
	None-moderate N (%)	Severe N (%)	OR (95% CI) ^b	None-moderate N (%)	Severe N (%)	OR (95% CI)	None-moderate N (%)	Severe N (%)	OR (95% CI)
Oral contraceptive use									
Non user	35 (34.7)	128 (53.6)	1.0 (ref)	32 (23.7)	72 (35.6)	1.0 (ref)	19 (18.3)	18 (17.8)	1.0 (ref)
Any user	66 (65.3)	111 (46.4)	0.4 (0.3-0.7)	103 (76.3)	130 (64.4)	0.6 (0.3-0.9)	85 (81.7)	83 (82.2)	1.1 (0.5-2.2)
Hormone replacement therapy									
Non user	49 (48.5)	121 (50.4)	1.0 (ref)	106(77.9)	138(67.6)	1.0 (ref)	94 (88.7)	88 (86.3)	1.0 (ref)
Any user	52 (51.5)	119 (49.6)	0.9 (0.6-1.5)	30 (22.1)	66 (32.4)	1.7 (1.0-2.8)	12 (11.3)	14 (13.7)	1.2 (0.5-2.8)
Exclusive estrogen	30 (38.0)	72 (37.3)	0.9 (0.5-1.6)	7 (13.8)	37 (21.1)	1.6 (0.9-3.1)	6 (6.0)	5 (5.4)	0.8 (0.2-2.8)
Estrogen + progestin	13 (21.0)	36 (22.9)	1.2 (0.6-2.5)	7 (6.2)	21 (13.2)	2.3 (0.9-5.7)	2 (2.1)	5 (5.4)	2.9 (0.5-15.7)

a. Early-onset BCC defined as age \leq 50 at time of diagnosis.

b. Odds ratios and 95% confidence intervals adjusted for reference age and skin sensitivity to first solar exposure.

Supplemental Table 5. Case-case odds ratios (95% CI) of squamous cell carcinoma (SCC) in relation to oral contraceptive and hormone replacement therapy use by subgroups according to presence of actinic keratosis in skin adjacent to the tumor

	SCC cases		
	Actinic keratosis absent	Actinic keratosis present	OR (95% CI) ^a
	N (%)	N (%)	
Oral contraceptive use			
Non user	100 (41.8)	73 (52.1)	1.0 (ref)
Any user	139 (58.2)	67 (47.9)	0.7 (0.4-1.0)
Hormone replacement therapy			
Non user	124 (51.7)	60 (42.9)	1.0 (ref)
Any user	116 (48.3)	80 (57.1)	1.5 (1.0-2.2)
Any estrogen	101 (44.9)	73 (54.9)	1.6 (1.0-2.4)
Exclusive estrogen	63 (33.7)	51 (45.9)	1.7 (1.0-2.7)
Estrogen + progestin	38 (23.5)	22 (26.8)	1.3 (0.7-2.4)

a. Odds ratios and 95% confidence intervals adjusted for reference age and skin sensitivity to first solar exposure.

Supplemental Table 6. Case-case odd ratios (95% CI) of keratinocyte cancers in relation to oral contraceptive and hormone replacement therapy use by subgroups according to anatomic site

Anatomic site	SCC cases			BCC cases			Early-onset BCC cases ^a		
	Trunk and limbs	Head and neck	OR (95% CI) ^b	Trunk and limbs	Head and neck	OR (95% CI)	Trunk and limbs	Head and neck	OR (95% CI)
	N (%)	N (%)		N (%)	N (%)		N (%)	N (%)	
Oral contraceptive use									
Non user	151 (47.2)	118 (50.2)	1.0 (ref)	76 (31.4)	123 (34.9)	1.0 (ref)	28 (19.6)	29 (14.5)	1.0 (ref)
Any user	169 (52.8)	117 (49.8)	0.9 (0.6-1.3)	166 (68.6)	229 (65.1)	0.9 (0.6-1.2)	115 (80.4)	171 (85.5)	1.5 (0.8-2.6)
Hormone replacement therapy									
Non user	167 (52.0)	123 (52.3)	1.0 (ref)	172 (70.5)	265 (74.2)	1.0 (ref)	127 (88.2)	174 (86.1)	1.0 (ref)
Any user	154 (48.0)	112 (47.7)	1.0 (0.7-1.4)	72 (29.5)	92 (25.8)	0.8 (0.6-1.2)	17 (11.8)	28 (13.9)	1.2 (0.6-2.3)
Any estrogen	136 (44.9)	100 (44.8)	1.0 (0.7-1.4)	61 (26.2)	81 (23.4)	0.9 (0.6-1.3)	12 (8.6)	20 (10.3)	1.2 (0.6-2.5)
Exclusive estrogen	95 (36.3)	64 (34.2)	0.9 (0.6-1.3)	44 (20.4)	57 (17.7)	0.8 (0.5-1.3)	8 (5.9)	10 (5.4)	0.9 (0.3-2.4)
Estrogen + progestin	41 (19.7)	36 (22.6)	1.2 (0.7-2.0)	17 (9.0)	24 (8.3)	1.0 (0.5-1.9)	4 (3.1)	10 (5.4)	1.8 (0.6-6.0)

a. Early-onset BCC defined as age \leq 50 at time of diagnosis.

b. Odds ratios and 95% confidence intervals adjusted for reference age and skin sensitivity to first solar exposure

