**Table S1.** Characteristics of the patients, controls and skin samples

|  |  |  |  |
| --- | --- | --- | --- |
| VARIABLE | | SCC-AK GROUP  (n=10) | CONTROL GROUP (n=10) |
| Gender (M/F) | | 6/4 | 6/4 |
| Age | | 79,80 ±1,41\* | 47,9 ± 3,36\* |
| Phototype | I | 1 | 1 |
| II | 9 | 9 |
| Solar exposition | Occasional | ---- | ---- |
| Average | 10 | 10 |
| High | ---- | ---- |
| Sample location | Axila-genitals | ---- | 5 |
| Scalp-nape | ----- | 5 |
| Face-ear | 5 | ----- |
| Back hand | 5 | ------- |
| AK overlying the SCC | | 10/10 (100%) |  |
| AK at the edge of the SCC | | 9/10 (90%) |
| Size (cm) | | 1,85 ± 0,11 |
| Dermis Infiltration (mm) | | 1,57 ± 0,35 |
| Level of infiltration (cm) | | 2,9 ± 0,94 |
| Foci of ulceration | | 1/10 (10%) |
| Adnexal involvement | | 0/10 (0%) |
| Elastosis in dermis | | 10/10(100%) |

Results are represented as mean ± SD. Abbreviations: M: male; F: female; SCC-AK: squamous cell carcinoma arising in AK; cm: centimeters; mm: millimeters; AK: actinic keratosis; SCC: Squamous cell carcinoma; \*p<0.05 with respect to SCC.

**Table S2**. Comparison of the protein expression profile in normal skin (controls) and SCC-AK.

|  |  |  |  |
| --- | --- | --- | --- |
| **PROTEIN** | **CONTROLS**  **(N=10)** | **SCC-AK**  **(N=10)** | **P VALUE** |
| **Structural proteins** |  |  |  |
| Actin | 130,29 ± 49,14 | 271,60 ± 80,55 | 0,102 |
| Anexin I | 75,40 ± 37,00 | 44,72 ± 16,37 | 0,876 |
| Anexin IV |  |  |  |
| *Isoform 1* | 47,59 ± 14,51 | 53,20 ± 18,27 | 0,684 |
| *Isoform 2* | 32,68 ± 19,96 | 15,63 ± 8,99 | 0,400 |
| Anexin V |  |  |  |
| *Isoform 1* | 39,95 ± 12,23 | 36,15± 8,51 | 0,905 |
| *Isoform 2* | 35,65 ± 14,63 | 35,39 ± 8,96 | 1,000 |
| Cytokeratin |  |  |  |
| *Isoform 1* | 29,26 ± 9,77 | 34,10 ± 7,58 | 0,497 |
| *Isoform 2* | 26,99 ± 11,04 | 13,47 ± 2,89 | 0,431 |
| Calreticulin |  |  |  |
| *Isoform 1* | 28,21 ± 7,44 | 23,16 ± 7,15 | 0,497 |
| *Isoform 2* | 28,79 ± 13,78 | 25,84 ± 10,51 | 1,000 |
| *Isoform 3* | 20,29 ± 10,00 | 19,56 ± 11,72 | 0,898 |
| **Heat shock proteins** |  |  |  |
| Hsp70 | 17,28 ± 4,11 | 42,20 ± 8,34 | **0,035** |
| Hsp27 | 78,11 ± 49,03 | 308,50 ± 125,79 | **0,006** |
| **Antioxidant protein** |  |  |  |
| Glutathione-S-Transferase | 24,67 ± 9,98 | 29,92 ± 6,48 | 0,195 |
| **Tumor markers** |  |  |  |
| Maspin | 30,39 ± 12,15 | 22,86 ± 10,48 | 0,370 |
| SCCA-2 | 83,78± 29,81 | 174,04 ± 50,00 | 0,423 |
| **Transport proteins** |  |  |  |
| Alpha-hemoglobin | 32,63 ± 9,94 | 98,68 ± 18,11 | **0,006** |
| Apo-AI | 72,57 ± 23,43 | 74,79 ± 19,79 | 0,796 |
| **Transcription factor** |  |  |  |
| Rho-GDP | 46,63 ± 19,63 | 27,53 ± 9,76 | 0,549 |

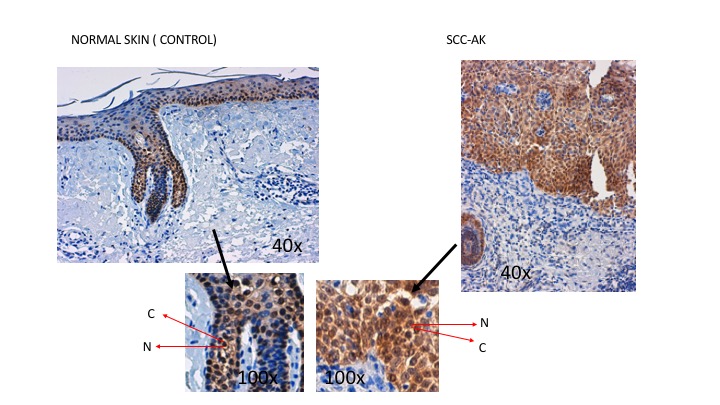
Results presented as mean ± SD. Abbreviations: SCC-AK: Squamous Cell Carcinoma over an AK; Hsp: Heat-shock protein; SCCA-2: Squamous Cell Carcinoma Antigen 2; Apo-AI: Apolipoprotein A1; Rho-GDP: Rho-Guanosine Triphosphate

**Table S3**. Spearman associations between level of SCC infiltration and the protein expression level of Hsp27, Hsp70 and alpha-hemoglobin.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **PROTEINS** | **CORRELATION**  **(Spearman, rho)** | **P VALUE** | **IHQ Hsp70**  **Nucleous** | **IHQ Hsp70**  **Citoplams** |
| **All SCC-AK levels of infiltration (n=10)** | | |  |  |
| Alpha-hemoglobin | 0,273 | 0,446 |  |  |
| Hsp27 | -0,176 | 0,627 | Mild +  (10/10) | Moderate++ (7/3)  High+++(3/3) |
| Hsp70 | -0,212 | 0,556 |  |  |
| **Levels of infiltration II y III (n=6)** | | |  |  |
| Alpha-hemoglobin | 0,200 | 0,704 |  |  |
| Hsp27 | 0,429 | 0,397 | Mild+  (6/6) | Moderate++(3/3)  High+++  (3/3) |
| Hsp70 | **0,829** | **0,042** |  |  |
| **Level of infiltration IV (n=4)** | | |  |  |
| Alpha-hemoglobin | 0,400 | 0,600 |  |  |
| Hsp27 | - 0,400 | 0,600 | Mild+  (4/4) | Moderate+++  (4/4) |
| Hsp70 | -0,600 | 0,400 |  |  |

\*Classification in Clark levels; SCC: Squamous cell carcinoma over an AK;

**Figure 1.**



**Figure 2.**

