

## 10. COMUNICACIONES Y PUBLICACIONES

### 10.1. Comunicaciones

1. Vidal D, Matías-Guiu X, Alomar A. Eficacia del tratamiento con imiquimod en 55 casos de carcinoma basocelular. Reunión Homenaje al profesor J.M. Giménez Camarasa. Barcelona, 16 de Febrero del 2002. Comunicación oral
2. Vidal D, Matías-Guiu X, Alomar A. Eficacia de imiquimod en 55 casos de carcinoma basocelular. XXX congreso nacional de la Academia Española de Dermatología y Venereología (AEDV). Madrid, 23 de Mayo de 2002. Congreso nacional. Póster
3. Puig L, Vidal D, Alomar A, J. Coll. Evaluación ecográfica de la inflamación producida por imiquimod en el carcinoma basocelular. XXX congreso nacional de la AEDV. Madrid, 23 de Mayo de 2002. Congreso nacional. Póster
4. Vidal D, Matías-Guiu X, Alomar A. Effect of topical application of imiquimod 5% cream on the apoptosis of basal cell carcinoma. XX congreso mundial de dermatología. París, 1 de Julio de 2002. Congreso internacional. Póster
5. Vidal D, Matías-Guiu X, Alomar A. Effect of imiquimod 5% cream on the expression of bcl-2, p53, ki-67 and the apoptotic rate of basal cell carcinoma. XXXII congreso de la Sociedad Europea de Investigación en Dermatología (ESDR). Ginebra, 19 de Septiembre del 2002. Congreso internacional. Póster.
6. Vidal D, Alomar A. Imiquimod. An update on proposed mechanisms of immunomodulation in basal cell carcinoma. IX congreso mundial de cáncer cutáneo. Sevilla, 7 de Mayo de 2003. Congreso internacional. Comunicación oral.
7. Vidal D, Matías-Guiu X, Alomar A. Mecanismo de acción de imiquimod en el carcinoma basocelular. XXXI congreso nacional de la AEDV. Bilbao, 9 de Junio de 2003. Congreso nacional. Póster.

## **10.2. Publicaciones**

1. Vidal D, Matías-Guiu X, Alomar A. Eficacia de imiquimod en 55 casos de carcinoma basocelular. *Actas Dermosifiliogr* 2002;93(S2):121-2
2. Puig L, Vidal D, Alomar A, J. Coll. Evaluación ecográfica de la inflamación producida por imiquimod en el carcinoma basocelular. *Actas Dermosifiliogr* 2002;93(S2):127
3. Vidal D, Matías-Guiu X, Alomar A. Effect of topical application of imiquimod 5% cream on the apoptosis of basal cell carcinomas. *Ann Dermatol Venereol* 2002;129(S1):773
4. Vidal D, Matías-Guiu X, Alomar A. Effect of imiquimod 5% cream on the expression of Bcl-2, P53, Ki-67 and the apoptotic rate of basal cell carcinoma. *J Invest Dermatol* 2002;119:1465

## 11. FOTOGRAFÍAS

**Fotografía 1. CBC plano superficial en el tronco**



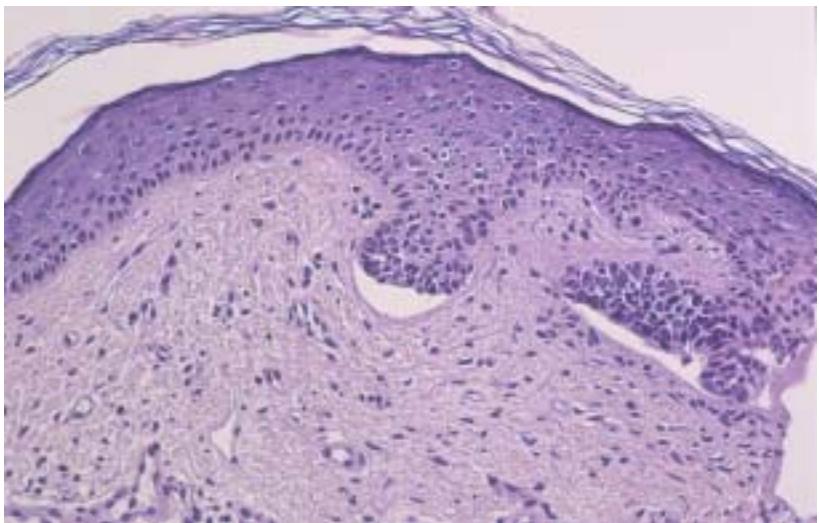
**Fotografía 2. CBC perlado en la nariz**



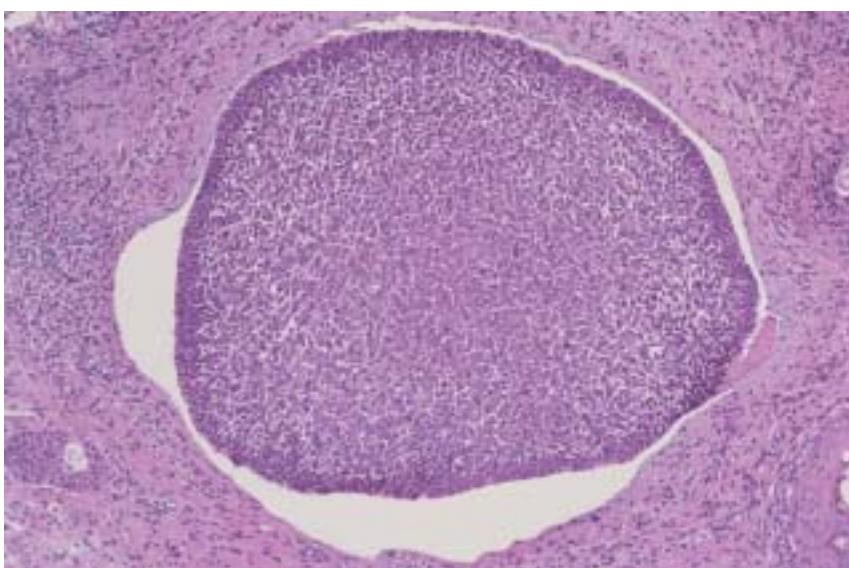
**Fotografía 3. CBC perlado ulcerado en la sien**



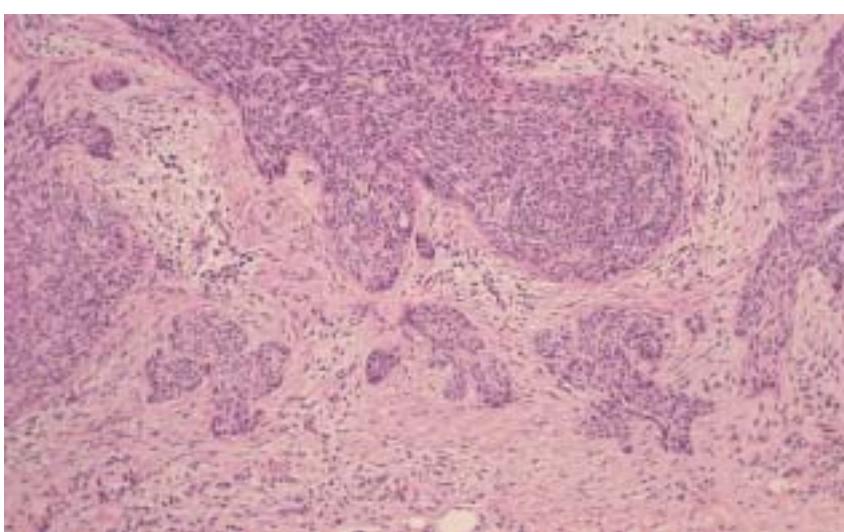
**Fotografía 4. CBC con patrón histológico superficial**



**Fotografía 5. CBC con patrón histológico nodular**



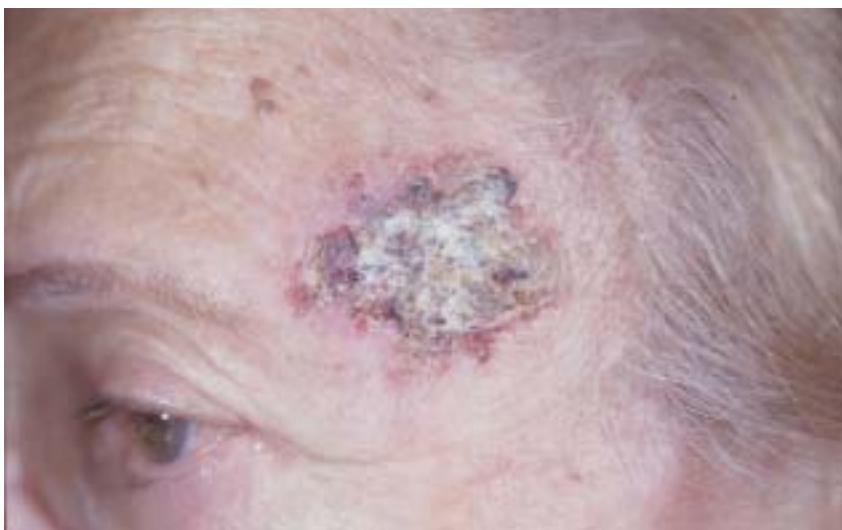
**Fotografía 6. CBC con patrón histológico infiltrante**



**Fotografía 7. CBC infiltrante en la sien de una mujer de 78 años.**  
**Tratamiento con imiquimod 3 días por semana durante 8 semanas**



**Fotografía 8. Lesión a las 8 semanas de tratamiento**



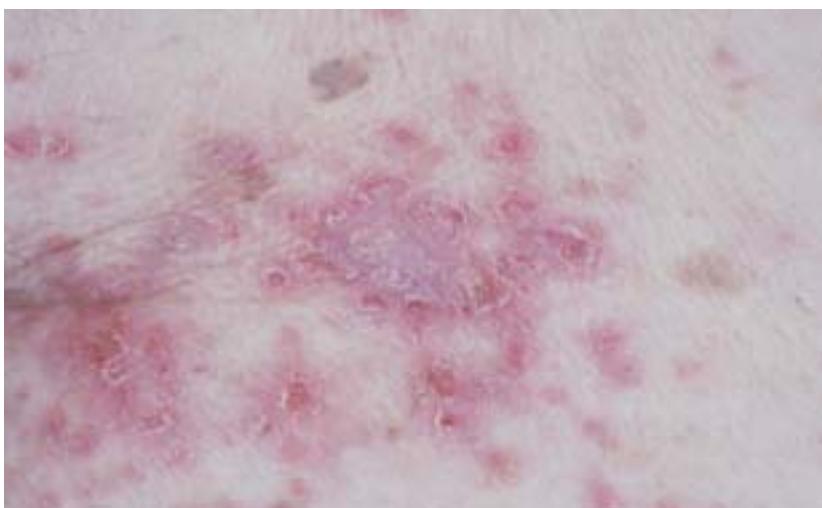
**Fotografía 9. Lesión 6 semanas después del tto. Histología sin tumor**



**Fotografía 10. CBC infiltrante en el tronco de un hombre de 70 años  
Tratamiento con imiquimod 3 días por semana durante 8 semanas**



**Fotografía 11. Lesión a las 4 semanas de tratamiento**



**Fotografía 12. Lesión 6 semanas después del tto. Histología sin tumor  
Persistencia de la queratosis seborreica**



**Fotografía 13. CBC en el tronco de un hombre de 82 años**  
**Tratamiento con imiquimod 3 días por semana durante 8 semanas**



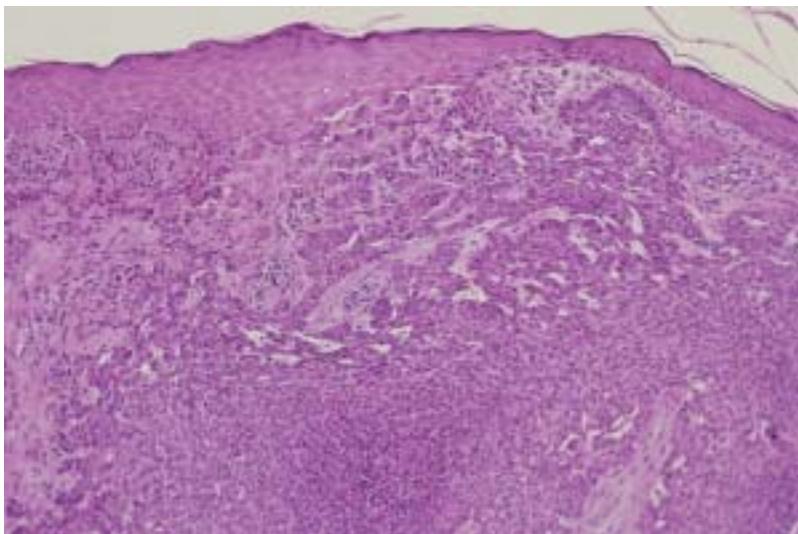
**Fotografía 14. Lesión a las 4 semanas de tratamiento**



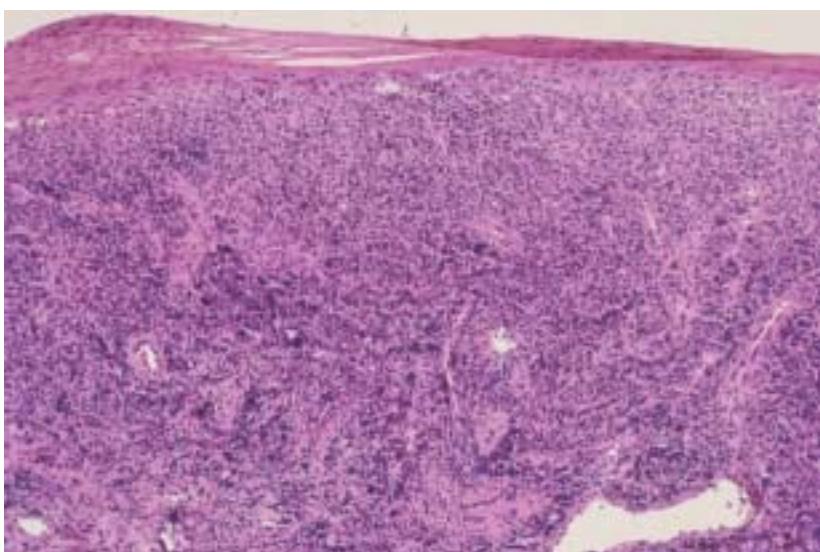
**Fotografía 15. Lesión 6 semanas después del tratamiento**  
**Persistencia de CBC sólo en la pápula pigmentada**



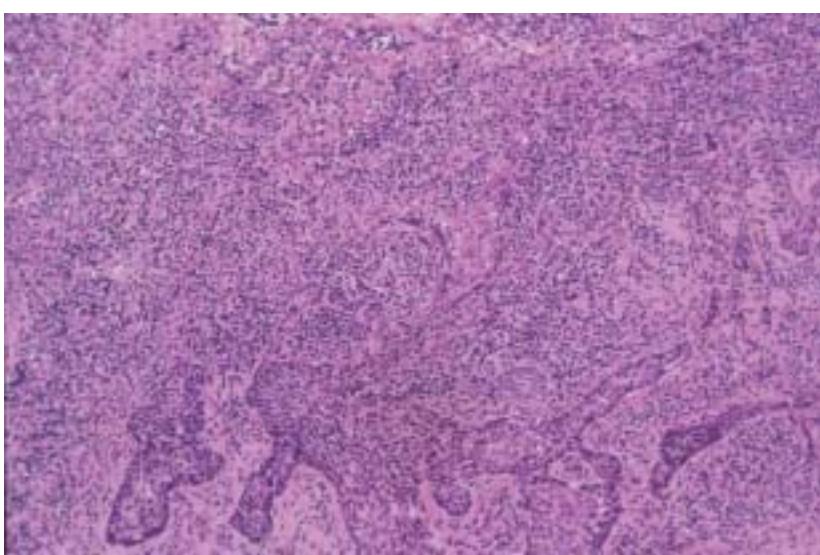
**Fotografía 16. CBC previo al tto con imiquimod (HEx100)**



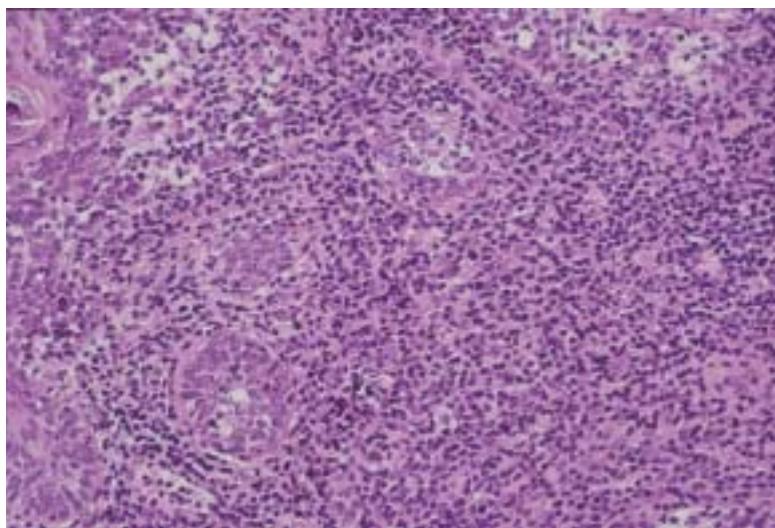
**Fotografía 17. CBC a las 2 semanas de tto con imiquimod (HEx100)**



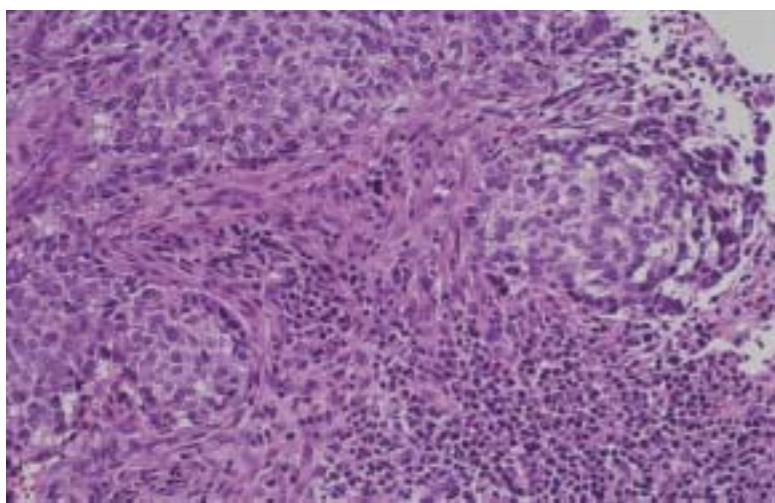
**Fotografía 18. CBC a las 2 semanas de tto con imiquimod (HEx100)**



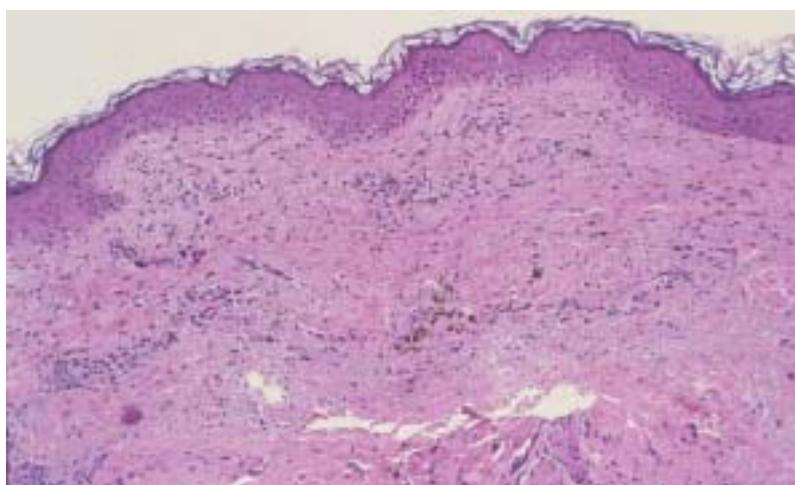
**Fotografía 19. CBC a las 3 semanas de tto con imiquimod  
Infiltrado inflamatorio alrededor de los nidos tumorales (HEx200)**



**Fotografía 20. CBC a las 3 semanas de tto con imiquimod  
Infiltrado inflamatorio alrededor de los nidos tumorales (HEx200)**



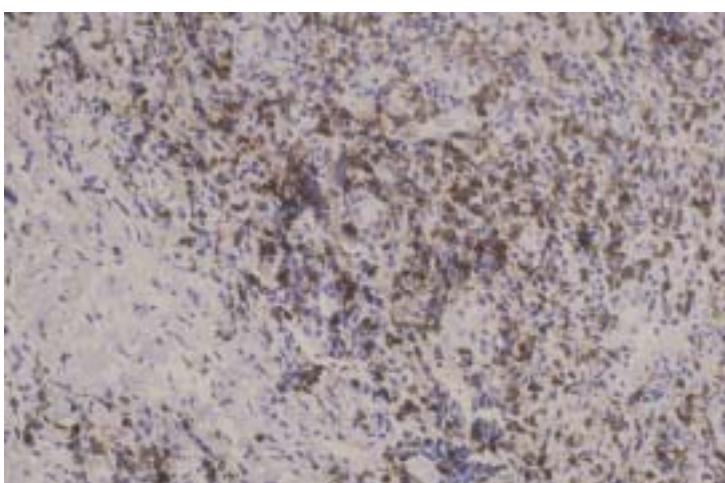
**Fotografía 21. Piel 6 semanas después del tto con imiquimod  
Melanófagos en la dermis y ausencia de CBC (HEx100)**



**Fotografía 22. CBC a las 3 semanas de tto con imiquimod**  
**Múltiples linfocitos CD3 + en la dermis (x100)**



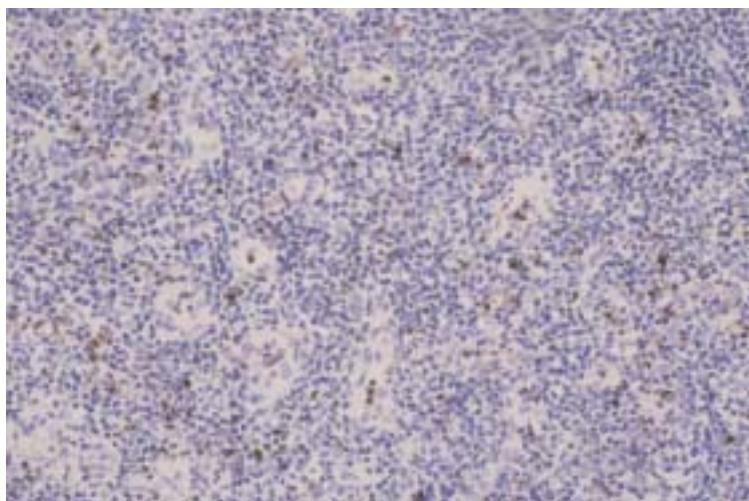
**Fotografía 23. CBC a las 3 semanas de tto con imiquimod**  
**Múltiples linfocitos CD8 + en la dermis (x200)**



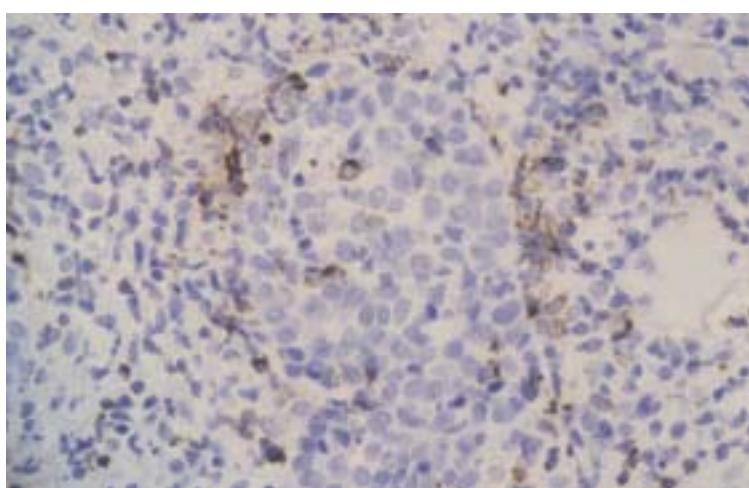
**Fotografía 24. CBC a las 3 semanas de tto con imiquimod**  
**Múltiples linfocitos CD20 + en la dermis (x100)**



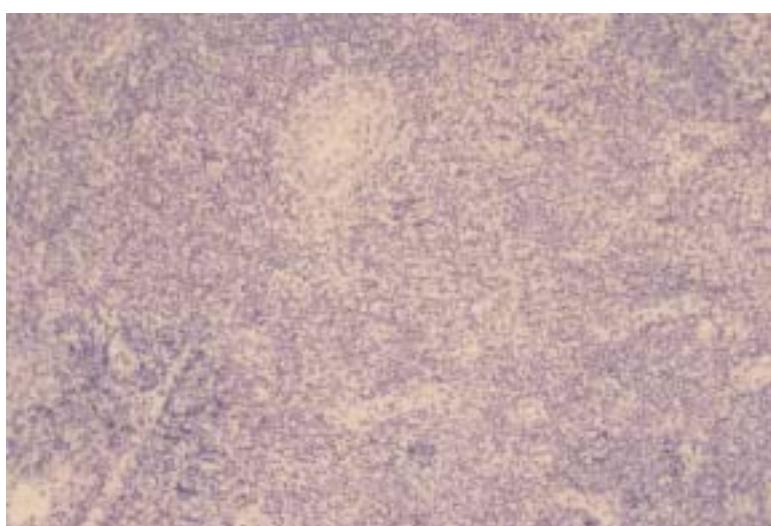
**Fotografía 25. CBC a las 3 semanas de tto con imiquimod  
Múltiples linfocitos Grancima B + en la dermis (x200)**



**Fotografía 26. CBC a las 3 semanas de tto con imiquimod  
Múltiples linfocitos Grancima B + alrededor del tumor (x400)**



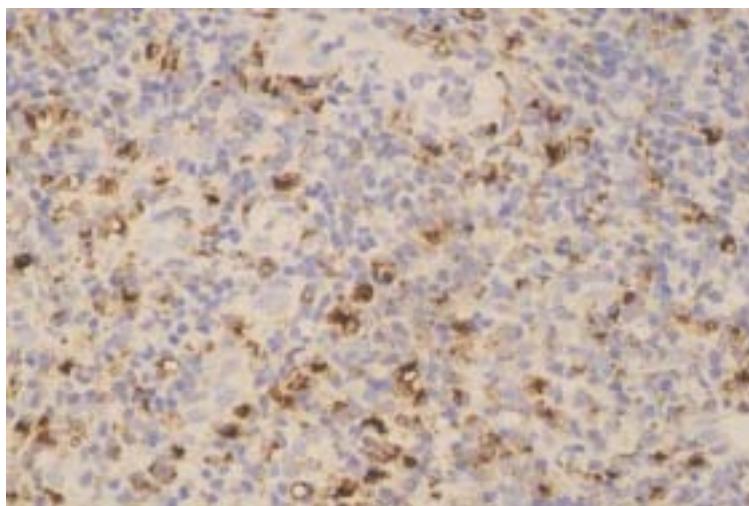
**Fotografía 27. CBC a las 3 semanas de tto con imiquimod  
Ausencia de células asesinas naturales CD56 + en la dermis (x100)**



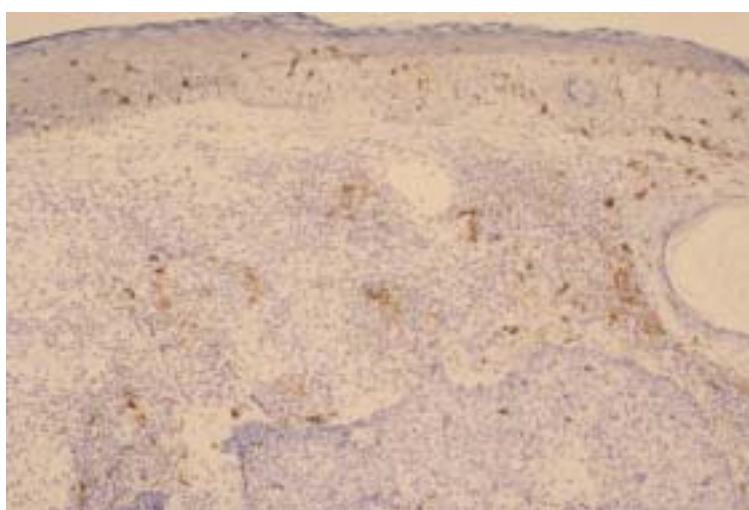
**Fotografía 28. CBC a las 3 semanas de tto con imiquimod**  
**Múltiples macrófagos CD68 + en la dermis (x100)**



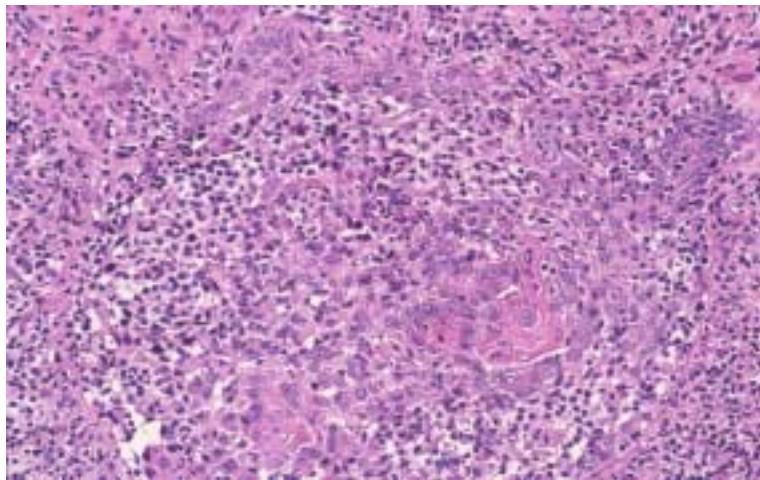
**Fotografía 29. CBC a las 3 semanas de tto con imiquimod**  
**Macrófagos CD68 + en fagocitosis (x400)**



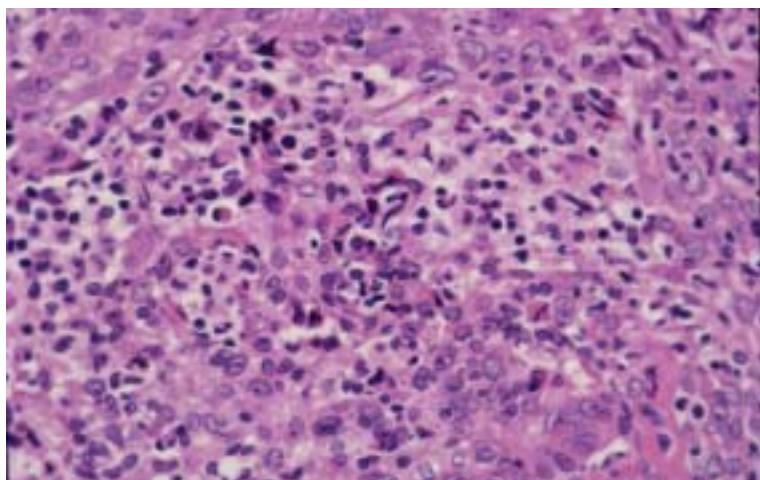
**Fotografía 30. CBC a las 3 semanas de tto con imiquimod**  
**Células dendríticas S-100 + en epidermis y dermis (x100)**



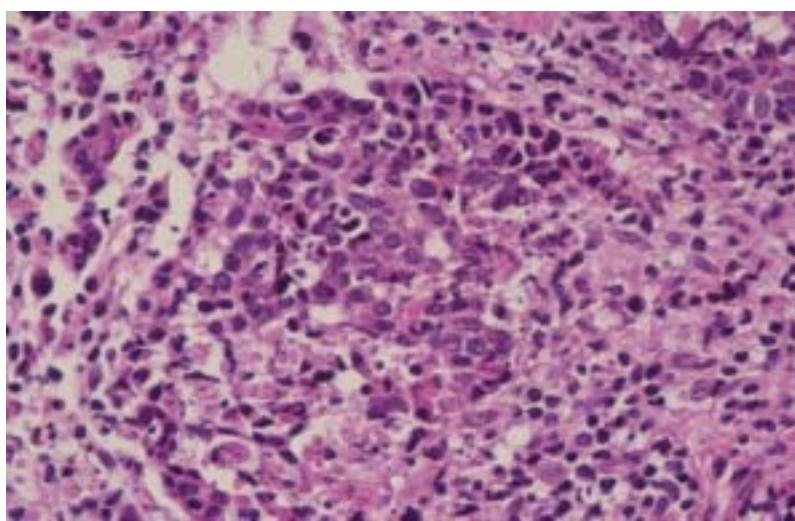
**Fotografía 31. CBC a las 3 semanas de tto con imiquimod  
Células del CBC en apoptosis (HEx200)**



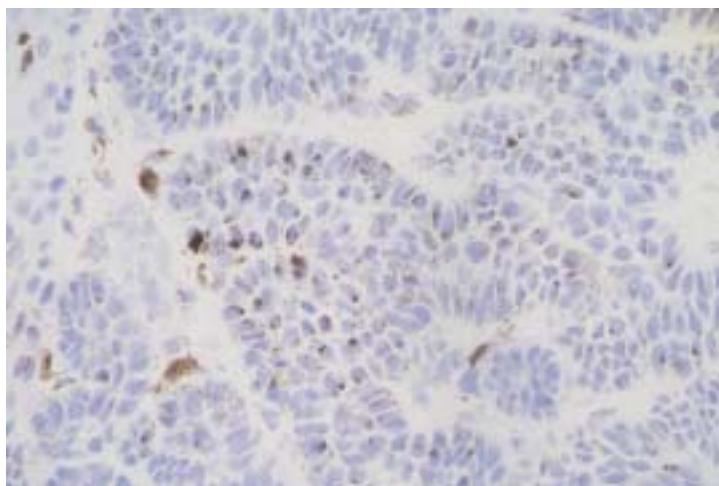
**Fotografía 32. CBC a las 3 semanas de tto con imiquimod  
Células del CBC en apoptosis (HEx400)**



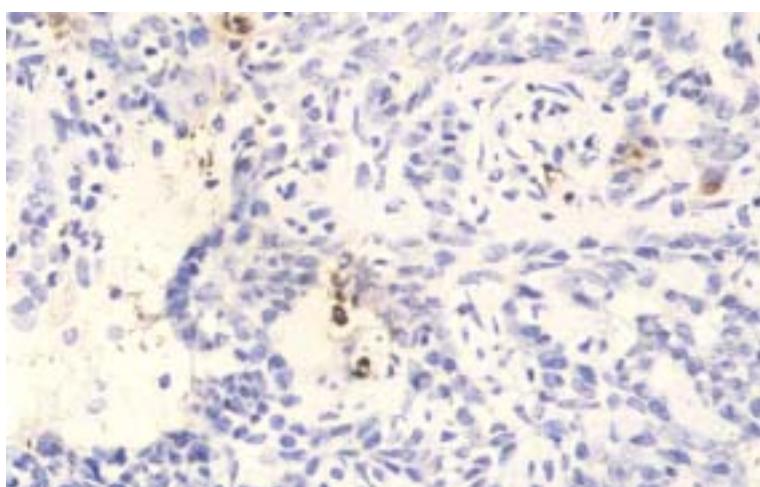
**Fotografía 33. CBC a las 3 semanas de tto con imiquimod  
Células del CBC en apoptosis (HEx400)**



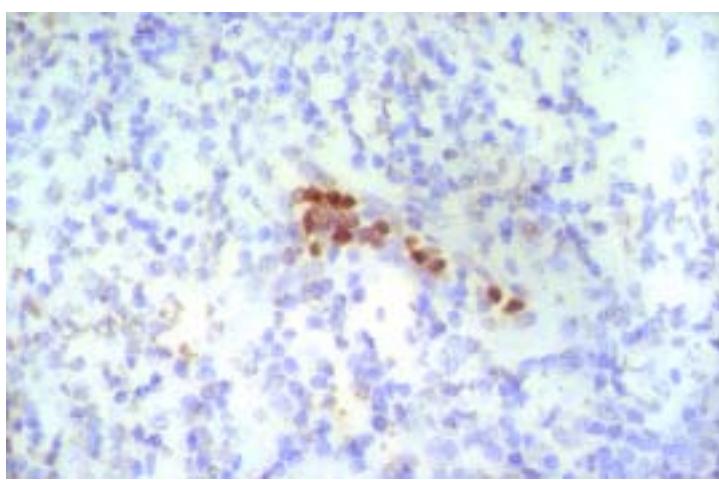
**Fotografía 34. CBC a las 3 semanas de tto con imiquimod  
Tinción de control de la técnica de Tunel con melanina (Hx400)**



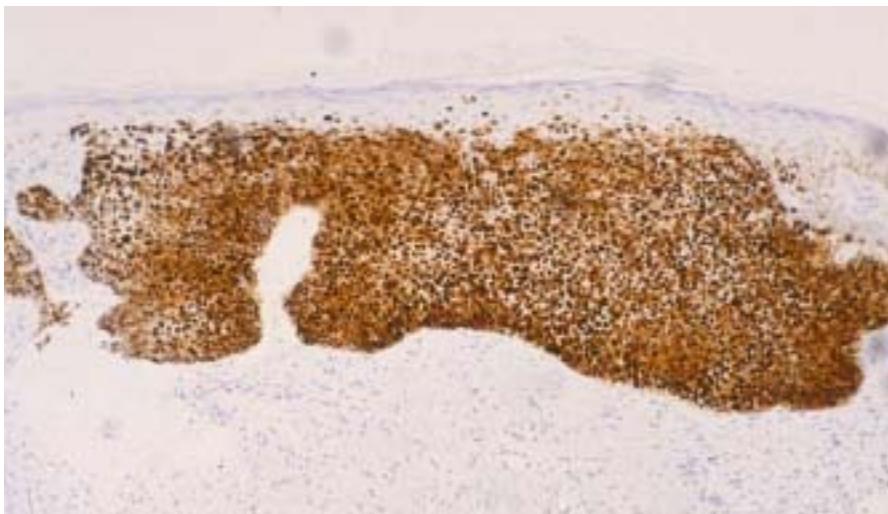
**Fotografía 35. CBC a las 3 semanas de tto con imiquimod  
Células del CBC en apoptosis Tunel + (x400)**



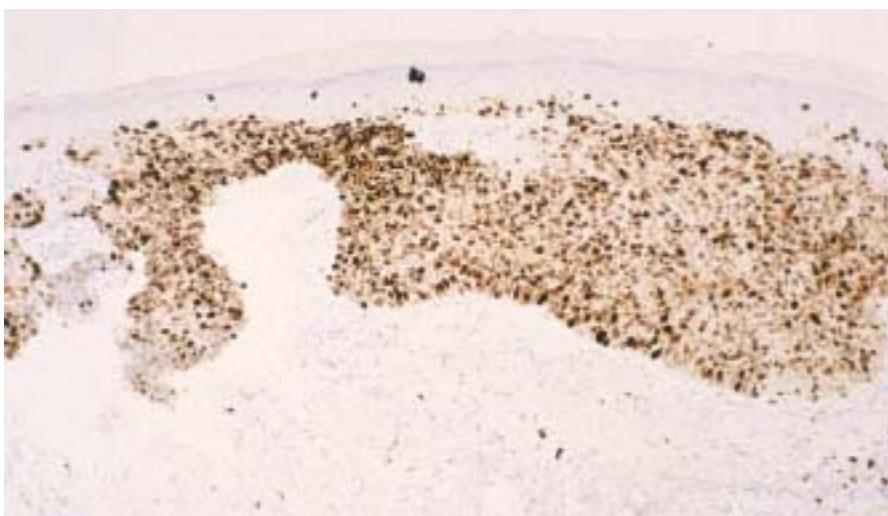
**Fotografía 36. CBC a las 3 semanas de tto con imiquimod  
Células del CBC en apoptosis Tunel + (x400)**



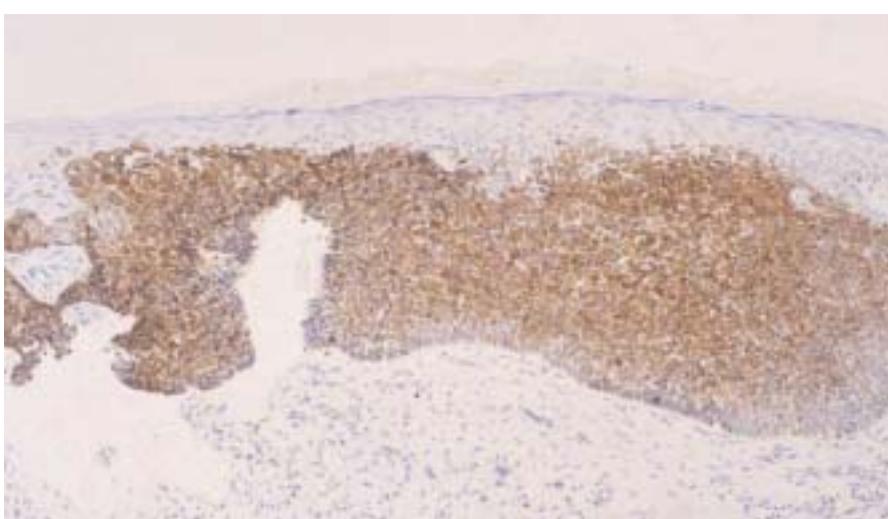
**Fotografía 37. Tinción de p53 mostrando las células del CBC p53+**



**Fotografía 38. Tinción de ki-67 mostrando las células del CBC ki-67+**

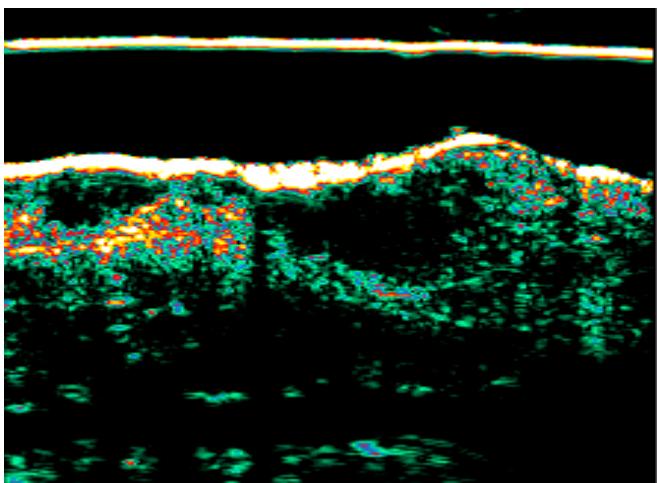


**Fotografía 39. Tinción de bcl-2 mostrando las células del CBC bcl-2+**



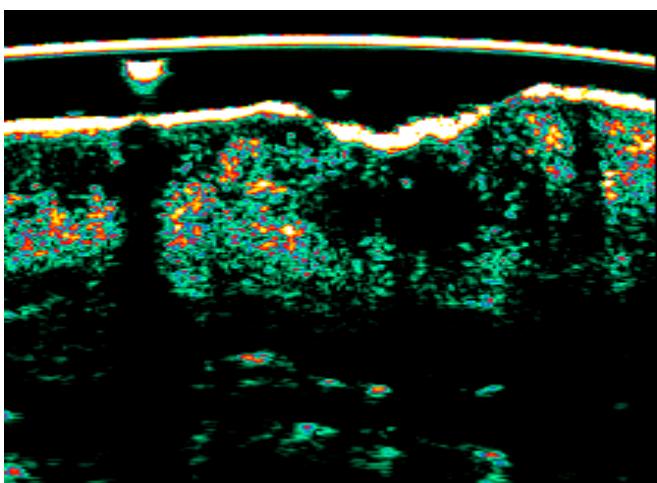
**Fotografía 40. CBC previo al tratamiento con imiquimod**

**Ecografía cutánea con Dermascan C**



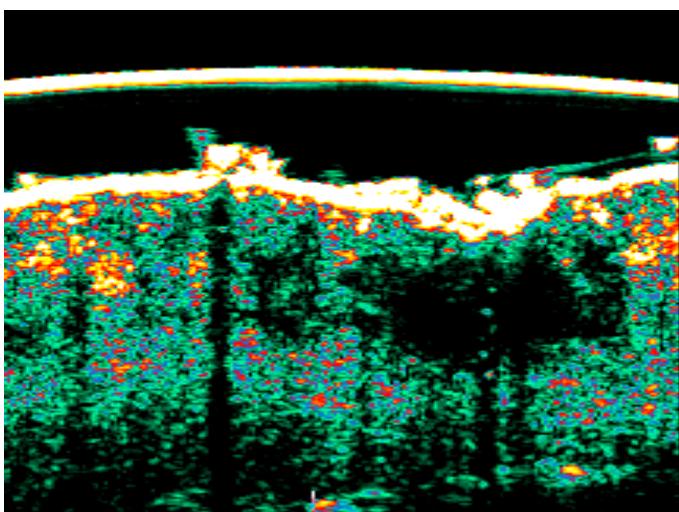
**Fotografía 41. CBC a la semana de tratamiento con imiquimod**

**Ecografía cutánea con Dermascan C**



**Fotografía 42. CBC a las 2 semanas de tratamiento con imiquimod**

**Ecografía cutánea con Dermascan C**



## 12. BIBLIOGRAFÍA

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1. Diepgen TL, Mahler V. The epidemiology of skin cancer. *Br J Dermatol* 2002;146(s61):1-6
2. Ko CB, Walton S, Keczkes K y cols. The emerging epidemic of skin cancer. *Br J Dermatol* 1994;130:269-272
- 3 . Buettner PG, Raasch BA. Incidence rates of skin cancer in Townsville, Australia. *Int J Cancer* 1998;78:587-93
4. Raasch BA, Buettner PG. Multiple nonmelanoma skin cancer in an exposed Australian population. *Int J Dermatol*. 2002;41:652-8
5. Staples M, Marks R, Giles G. Trends in the incidence of non-melanocytic skin cancer (NMSC) treated in Australia 1985-1995: are primary prevention programs starting to have an effect? *Int J Cancer* 1998;78:144-8
6. Harris RB, Griffith K, Moon TE. Trends in the incidence of nonmelanoma skin cancers in southeastern Arizona, 1985-1996. *J Am Acad Dermatol* 2001;45:528-36
7. Miller DL, Weinstock MA. Non melanoma skin cancer in the United States: incidence. *J Am Acad Dermatol* 1994;30:774-778
- 8 . Holme SA, Malinovsky K, Roberts DL. Changing trends in non-melanoma skin cancer in South Wales 1988-98. *Br J Dermatol* 2000;143:1224-9
9. Vitasas BC, Taylor HR, Strickland PT y cols. Association of nonmelanoma skin cancer and actinic keratosis with cumulative solar ultraviolet exposure in Maryland waterman. *Cancer* 1990;65:2811-2817
10. Kricker A, Armstrong BK, English Dr y cols. Does intermittent sun exposure cause basal cell carcinoma? A case-control study in Western Australia. *Int J Cancer* 1995;60:489-94
11. Wieland U, Ritzkowsky A, Stoltidis M y cols. Papillomavirus DNA in basal cell carcinomas of immunocompetent patients: an accidental association?. *J Invest Dermatol*. 2000;115:124-8
12. Armijo M. Carcinomas basocelulares. En: "Tratado de Dermatología". Armijo M y Camacho F eds. Aula Médica. Madrid. 1998. Vol 1, cap 23, pag 455-65
13. Gordon PM, Cox NH, Paterson WD y cols. Basal cell carcinoma: are early appointments justifiable? *Br J Dermatol* 2000;142:446-8
14. Kirkup ME, De Berker DA. Clinical measurement of dimensions of basal cell carcinoma: effect of waiting for elective surgery. *Br J Dermatol* 1999;141:876-9
15. Scrivener Y, Grosshans E, Cribier B. Variations of basal cell carcinomas according to gender, age, location and histopathological subtype. *Br J Dermatol* 2002;147:41-7
16. Marcil I, Stern RS. Risk of developing a subsequent nonmelanoma skin cancer in patients with a history of nonmelanoma skin cancer: a critical review of the literature and meta-analysis. *Arch Dermatol*. 2000;136:1524-30
17. Veien K, Veien NK. Risk of developing subsequent nonmelanoma skin cancers. *Arch Dermatol*. 2001;137:1251
18. Czarnecki C, Czarnecki D. Patients who have multiple skin cancers develop new skin cancers at a constant rate. *Arch Dermatol* 2002;138:125
19. González S, Tannous Z. Real-time in vivo confocal reflectance microscopy of basal cell carcinoma. *J Am Acad Dermatol* 2002;47:869-74
20. Torres A, Schanbacker C, Marra D y cols. Imiquimod 5% cream preceeding surgery for BCC monitoring with confocal microscopy. *Ann Dermatol Venereol* 2002;129(S1):791
21. Herde M, Mohr P, Altenhoff J y cols. Tumor thickness determined by 20-MHz sonography is a valid prognostic indicator in primary malignant melanoma. *Ann Dermatol Venereol* 2002;129(S1):640
22. Pellacani G, Martella A, Seidenari S. Validation of a method for pre-operative melanoma thickness determination employing 20 MHz sonography and digital videomicroscopy. *J Eur Acad Dermatol Venereol* 2002;16(S1):82
23. Jih DM, Lyle S, Elenitsas R y cols. Cytokeratin 15 expression in trichoepitheliomas and a subset of basal cell carcinomas suggests they originate from hair follicle stem cells. *J Cutan Pathol* 1999;26:113-8
- 24 . Walsh DS, Tsou HC, Harrington A y cols. Clonality of basal cell carcinoma. Molecular analysis of an interesting case. *J Invest Dermatol* 1996;106:579-82
25. Humphreys TR, Monteiro MR, Murphy GF. Mast cells and dendritic cells in basal cell carcinoma stroma. *Dermatol Surg* 2000;26:200-3

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26. Herrera E, Santos Juanes J, Galache C. En: "Tumores Cutáneos". Herrera E ed. Aula Médica. Madrid. 1999. Cap 6, pag 81-96
27. Weedon D. Basal cell carcinoma. En: "Skin Pathology". Weedon D. Churchill Livingstone. London. 1999. Cap 31, pag 647-51
28. Rippey JJ. Why classify basal cell carcinomas? *Histopathology*. 1998;32:393-8
29. Habets JMW, Tank B, Vuzevski VD y cols. Characterizathe mononuclear cell infiltrate in basal cell carcinoma: a predominantly T cell-mediated immune response with minor participation of Leu-7+ (natural killer) cells and Leu-14+ (B) cells. *J Invest Dermatol* 1988;90:289-292
30. Wong DA, Bishop GA, Lowes MA, Cooke B, Barnetson RS, Halliday GM. Cytokine profiles in spontaneously regressing basal cell carcinomas. *Br J Dermatol*. 2000;143:91-8
31. Hunt MJ, Halliday GM, Weedon D y cols. Regression in basal cell carcinoma: an immunohistochemical analysis. *Br J Dermatol* 1994;130:1-8
32. Deng JS, Brod BA, Saito R, Tharp MD. Immune-associated cells in basal cell carcinomas of skin. *J Cutan Pathol* 1996;223:140-146
33. Curson C, Weedon D. Spontaneous regression in basal cell carcinomas. *J Cutan Pathol* 1979;6:432-437
34. Ponder BA. Cancer genetics. *Nature*. 2001;411:336-41
35. Evan GI, Vousden KH. Proliferation, cell cycle and apoptosis in cancer. *Nature*. 2001;411:342-8
36. Hoeijmakers JH. Genome maintenance mechanisms for preventing cancer. *Nature* 2001;411:366-74
37. Liotta LA, Kohn EC. The microenvironment of the tumour-host interface. *Nature*. 2001;411:375-9
38. Mathon NF, Lloyd AC. Cell senescence and cancer. *Nat Rev Cancer* 2001;1:203-13
39. Warner HR. Recent progress in understanding the relationships among aging, replicative senescence, cell turnover and cancer. *In Vivo* 2002;16:393-6
40. Lacour JP. Carcinogenesis of basal cell carcinomas: genetics and molecular mechanisms. *Br J Dermatol* 2002;146 (S61):17-9
41. Tsao H. Genetics of nonmelanoma skin cancer. *Arch Dermatol*. 2001;137:1486-92
42. Leffell DJ. The scientific basis of skin cancer. *J Am Acad Dermatol*. 2000 ;42(1 Pt 2):18-22
43. Grossman D, Leffell D. The molecular basis of nonmelanoma skin cancer: new understanding. *Arch Dermatol* 1997;133:1263-70
44. Chiodino C, Cesinaro AM, Ottani D y cols. Expression of the novel inhibitor of apoptosis survivin in normal and neoplastic skin. *J Invest Dermatol* 1999; 113:415-418
45. Dellavalle RP, Walsh P, Marchbank A y cols. CUSP/p63 expression in basal cell carcinoma. *Exp Dermatol* 2002;11:203-8
46. Lo Muzio L, Pannone G, Staibano S y cols. WNT-1 expression in basal cell carcinoma of head and neck. An immunohistochemical and confocal study with regard to the intracellular distribution of beta-catenin. *Anticancer Res*. 2002;22:565-76
47. Yamazaki F, Aragane Y, Kawada A y cols. Immunohistochemical detection for nuclear beta-catenin in sporadic basal cell carcinoma. *Br J Dermatol* 2001;145:771-7
48. Fujii K, Miyashita T, Takanashi J y cols. Gamma-irradiation deregulates cell cycle control and apoptosis in nevoid basal cell carcinoma syndrome-derived cells. *Jpn J Cancer Res* 1999; 90:1351-7
49. van der Schroeff JG, Evers LM, Boot AJ y cols. Ras oncogene mutations in basal cell carcinomas and squamous cell carcinomas of human skin. *J Invest Dermatol*. 1990;94:423-5
50. Kim J, Modlin RL, Moy RL y cols. IL-10 production in cutaneous basal and squamous cell carcinomas: a mechanism for evading the local T cell immune response. *J Immunol* 1995;155:2240-7
51. Pizarro A, Benito N, Navarro P y cols. E-cadherin expression in basal cell carcinoma. *Br J Cancer*. 1994;69:157-62
52. Dingemans KP, Ramkema MD, Koopman G y cols. The expression of CD44 glycoprotein adhesion molecules in basal cell carcinomas is related to growth pattern and invasiveness. *Br J Dermatol* 1999;140:17-25
53. Karelina TV, Goldberg GI, Eisen AZ. Matrix metalloproteínases in blood vessel development in human fetal skin and in cutaneous tumors. *J Invest Dermatol* 1995;105:411-7
54. Karelina TV, Goldberg GI, Eisen AZ. Matrilysin (PUMP) correlates with dermal invasion during appendageal development and cutaneous neoplasia. *J Invest Dermatol* 1994;103:482-7

- 
55. Hajeer AH, Lear JT, Ollier WE y cols. Preliminary evidence of an association of tumour necrosis factor microsatellites with increased risk of multiple basal cell carcinomas. *Br J Dermatol* 2000;142:441-5
56. Gillett CE, Barnes DM. Demystified ... cell cycle. *Mol Pathol* 1998 ;51:310-6
57. Steinman RA. Cell cycle regulators and hematopoiesis. *Oncogene*. 2002;21:3403-13
58. Blume-Jensen P, Hunter T. Oncogenic kinase signalling. *Nature*. 2001;411:355-65
59. Buys CH. Telomeres, telomerase, and cancer. *N Engl J Med* 2000;342:1282-3
60. Smith KJ, Barret TL, Smith WF y cols. A review of tumor suppressor genes in cutaneous neoplasms with emphasis on cell cycle regulators. *Am J Dermatopathol* 1998;20:302-13
61. Taipale J, Beachy PA. The Hedgehog and Wnt signalling pathways in cancer. *Nature*. 2001;411:349-54
62. Villavicencio EH, Walterhouse DO, Iannaccone PM. The sonic hedgehog-patched-gli pathway in human development and disease. *Am J Hum Genet* 2000;67:1047-54
63. Bonifas JM, Pennypacker S, Chuang PT y cols. Activation of expression of hedgehog target genes in basal cell carcinomas. *J Invest Dermatol* 2001;116:739-42
64. Tojo M, Mori T, Kiyosawa H y cols. Expression of sonic hedgehog signal transducers, patched and smoothened, in human basal cell carcinoma. *Pathol Int* 1999;49:687-94
65. Nagano T, Bito T, Kallassy M y cols. Overexpression of the human homologue of Drosophila patched (PTCH) in skin tumours: specificity for basal cell carcinoma. *Br J Dermatol* 1999;140:287-90
66. Ratner D, Peacocke M, Zhang H y cols. UV-specific p53 and PTCH mutations in sporadic basal cell carcinoma of sun-exposed skin. *J Am Acad Dermatol* 2001;44:293-7
67. Ghali L, Wong ST, Green J y cols. Gli1 protein is expressed in basal cell carcinomas, outer root sheath keratinocytes and a subpopulation of mesenchymal cells in normal human skin. *J Invest Dermatol* 1999;113:595-9
68. Cho S, Hahn JH, Hong YS. Analysis of p53 and BAX mutations, loss of heterozygosity, p53 and BCL-2 expression and apoptosis in basal cell carcinoma in Korean patients. *Br J Dermatol* 2001;144:841-8
69. Ashton KJ, Weinstein SR, Maguire DJ y cols. Molecular cytogenetic analysis of basal cell carcinoma DNA using comparative genomic hybridization. *J Invest Dermatol* 2001;117:683-6
70. Abdelsayed RA, Guijarro-Rojas M, Ibrahim NA y cols. Immunohistochemical evaluation of basal cell carcinoma and trichepithelioma using Bcl-2, Ki767, PCNA, and p53. *J Cutan Pathol* 2000; 27:169-175
71. Al Sader MH, Doyle E, Kay E y cols. Proliferation indexes – a comparison between cutaneous basal and squamous cell carcinomas. *J Clin Pathol* 1996; 49: 549-551
72. Barrett TL, Smith KJ, Hodge JJ y cols. Immunohistochemical nuclear staining for p53, PCNA, and Ki-67 in different histologic variants of basal cell carcinoma. *J Am Acad Dermatol*. 1997;37:430-7
73. Healy E, Angus B, Lawrence CM y cols. Prognostic value of Ki-67 antigen expression in basal cell carcinomas. *Br J Dermatol* 1995;133:737-41
74. Raskin C. Apoptosis and cutaneous biology. *J Am Acad Dermatol* 1997;36:885-96
75. Rowan S, Fisher DE. Mechanism of apoptotic cell death. *Leukemia* 1997;11:457-65
76. Steller H. Mechanisms and genes of cellular suicide. *Science* 1995;267:1445-49.
77. Thompson CB. Apoptosis in the pathogenesis and treatment of disease. *Science* 1995;267:1456-1462
78. Norris D. Differential control of cell death in the skin. *Arch Dermatol* 1995;131:945-948
79. Kerr JFR, Winterford CM, Harmon BV. Apoptosis. Its significance in cancer and cancer therapy. *Cancer* 1994;73:2013-2026
80. Bold RJ, Termuhlen PM, McConkey DJ. Apoptosis, cancer and cancer therapy. *Surg Oncol* 1997;6:133-142
81. Cousin F, Baldassini S, Bourchany D y cols. Expression of the pro-apoptotic caspase 3/CPP32 in cutaneous basal and squamous cell carcinomas. *J Cutan Pathol* 2000;27: 235-241
82. Wehrli P, Viard I, Bullani R y cols. Death receptors in cutaneous biology and disease. *J Invest Dermatol* 2000;115:141-8
83. Russell JH, Ley TJ. Lymphocyte-mediated cytotoxicity. *Annu Rev Immunol* 2002;20:323-70
84. Smyth MJ, Kelly JM, Sutton VR y cols. Unlocking the secrets of cytotoxic granule proteins. *J Leukoc Biol* 2001;70:18-29

- 
85. Andrade F, Roy S, Nicholson D y cols. Granzyme B directly and efficiently cleaves several downstream caspase substrates: implications for CTL-induced apoptosis. *Immunity* 1998;8:451-60
86. Takahashi H, Ishida-Yamamoto A, Iizuka H. Ultraviolet B irradiation induces apoptosis of keratinocytes by direct activation of Fas antigen. *J Invest Dermatol Symp Proc* 2001;6:64-8
87. Godar DE. UVA1 radiation triggers two different final apoptotic pathways. *J Invest Dermatol* 1999;112:3-12
88. Al Sader MH, Doyle E, Kay E y cols. Proliferation indexes – a comparison between cutaneous basal and squamous cell carcinomas. *J Clin Pathol* 1996; 49: 549-551
89. Mooney EEJ, Ruis Peris JM, O'Neill A. Apoptotic and mitotic indices in malignant melanoma and basal cell carcinoma. *J Clin Pathol* 1995;48:242-244
90. Kerr JFR, Searle J. A suggested explanation for the paradoxical slow growth rate of basal-cell carcinomas that contain numerous mitotic figures. *J Pathol* 1972;107:41-44
91. Staibano S, Lo Muzio L, Mezza E y cols. Prognostic value of apoptotic index in cutaneous basal cell carcinomas of head and neck. *Oral Oncol* 1999;35:541-7
92. Gavrieli Y, Sherman Y, Ben-Sasson SA. Identification of programmed cell death in situ via specific labeling of nuclear DNA fragmentation. *J Cell Biol* 1992;119:493-501
93. Baima B, Sticherling M. How specific is the TUNEL reaction? An account of a histochemical study on human skin. *Am J Dermatopathol.* 2002;24:130-4
94. Wikontal NM, Berg RJW y cols. Bcl-2 vs p53 protein expression and apoptotic rate in human nonmelanoma skin cancers. *Arch Dermatol* 1997;133:599-602
95. Casanova JM, Astals M, Casanovas A y cols. Apoptosis en carcinomas basocelulares. XXVIII Congreso Nacional de Dermatología y Venerología, Valencia, 31 Mayo 2000
96. Steele RJ, Thompson AM, Hall PA y cols. The p53 tumour suppressor gene. *Br J Surg* 1998;85:1460-7
97. Brash D.E, Zeigler A, Jonason A.S y cols. Sunlight and sunburn in human Skin Cancer: p53, apoptosis and tumor promotion. *J Invest Dermatol Symposium Proceedings* 1996;1:136-142
98. Basset-Seguin N, Moles JP, Mils V. TP53 tumor suppressor gene and skin carcinogenesis. *J Invest Dermatol* 1994;103 (suppl):102S-106S
99. Ziegler A, Jonason AS, Leffel DJ y cols. Sunburn and p53 in the onset of skin cancer. *Nature* 1994;372:773-776
100. Ponten F, Berne B, Ren Z y cols. Ultraviolet light induces expression of p53 and p21 in human skin. Effect of sunscreen and constitutive p21 expression in skin appendages. *J Invest Dermatol* 1995;105:402-406
101. Urano Y, Asano T, Yoshimoto K. Frequent p53 accumulation in the chronically sun-exposed epidermis and clonal expansion of p53 mutant cells in the epidermis adjacent to basal cell carcinoma. *J Invest Dermatol* 1995;104:928-932
102. Van der Riet P, Karp D, Farmer E y cols. Progression of basal cell carcinoma through loss of chromosome 9 and inactivation of a single p53 allele. *Cancer Res* 1994;54:25-27
103. Scott McNutt N, Saenz-Santamaria C, Volkenandt M y cols. Abnormalities of p53 expression in cutaneous disorders. *Arch Dermatol* 1994;130:225-232
104. Moles JP, Moyret C, Guillot B y cols. P53 gene mutations in human epithelial skin cancers. *Oncogene* 1993;8:583-588
105. Rady P, Scinicariello F, Wagner RF y cols. P53 mutations in basal cell carcinomas. *Cancer Res* 1992;52:3804-6
106. Campbell C, Quinn AG, Angus B y cols. The relation between p53 mutation and p53 immunostaining in non-melanoma skin cancer. *Br J Dermatol* 1993;129:235-241
107. Ziegler A, Leffell DJ, Kunala S y cols. Mutation hotspots due to sunlight in the p53 gene of nonmelanoma skin cancer. *Proc Natl Acad Sci USA* 1993;90:4216-4220
108. McGregor JM yu CC, Dublin EA y cols. Aberrant expression of p53 tumor-suppressor protein in non-melanoma skin cancer. *Br J Dermatol* 1992;127:463-469
109. Helander SD, Peters MS, Pittelkow MR. Expression of p53 protein in benign and malignant epidermal pathologic conditions. *J Am Acad Dermatol* 1993;29:741-748
110. De Rosa G, Staibano S, Barra E y cols. P53 protein in aggressive and nonaggressive basal cell carcinoma. *J Cutan Pathol* 1993;20:429-434
111. Barnadas M, Colomo L, Curell R y cols. Expression of the p53 protein in sun-damaged skin. *Acta Derm Venerol (Stockh)* 1996;76:203-204
112. Pan H, Van Yin C, Dyke T. Apoptosis and cancer mechanisms. *Cancer Surv* 1997;29:305-327

- 
113. Ananthaswamy HN, Pierceall WE. Molecular mechanism of ultraviolet radiation carcinogenesis. *Photochem photobiol* 1990;53:1119-36
114. Carson DA, Lois A. Cancer progression and p53. *Lancet* 1995;346:1009-11
115. Boonchai W, Walsh M, Cummings M y cols. Expression of p53 in arsenic-related and sporadic basal cell carcinoma. *Arch Dermatol* 2000;136:195-8
116. Gasparro FP. p53 in dermatology. *Arch Dermatol* 1998;134:1029-32
117. Barrett TL, Smith KJ, Hodge JJ, Butler R, Hall FW, Skelton HG. Immunohistochemical nuclear staining for p53, PCNA, and Ki-67 in different histologic variants of basal cell carcinoma. *J Am Acad Dermatol* 1997;37:430-7
118. Auepermkiate S, Boonyaphiphat P, Thongsuksai P. P53 expression related to the aggressive infiltrative histopathological feature of basal cell carcinoma. *Histopathology* 2002;40:568-73
119. Abdelsayed RA, Guijarro-Rojas M, Ibrahim NA y cols. Immunohistochemical evaluation of basal cell carcinoma and trichepithelioma using Bcl-2, Ki767, PCNA, and p53. *J Cutan Pathol* 2000; 27:169-175
120. Ouhtit A, Nakazawa H, Armstrong BK y cols. UV-radiation-specific p53 mutation frequency in normal skin as a predictor of risk of basal cell carcinoma. *J Natl Cancer Inst* 1998;90:523-31
121. Crowson AN, Magro CM, Kadin ME, Stranc M. Differential expression of the bcl-2 oncogene in human basal cell carcinoma. *Hum Pathol* 1996;27:355-359
122. Fanidi A, Harrington EA, Evan GI. Cooperative interaction between c-myc and bcl-2 proto-oncogenes. *Nature* 1992;359:554-6
123. Verhaegh MEJM, Sanders CJG, Arends JW y cols. Expression of the apoptosis-supressing protein Bcl-2 in non-melanoma skin cancer. *Br J Dermatol* 1995;132:740-744
124. Delehedde M, Cho SH, Sarkiss M y cols. Altered expression of bcl-2 family member proteins in nonmelanoma skin cancer. *Cancer* 1999;85:1514-22
125. Morales-Ducret CRJ, van de Rijn M, Le Burn DP y cols. Bcl-2 expression in primary malignancies of the skin. *Arch Dermatol* 1995;131:909-912
126. Cerroni L, Kerl H. Aberrant bcl-2 protein expression provides a possible mechanism of neoplastic cell growth in cutaneous basal-cell carcinoma. *J Cutan Pathol* 1994;21:398-403
127. Wikontal NM, Berg RJW y cols. Bcl-2 vs p53 protein expression and apoptotic rate in human nonmelanoma skin cancers. *Arch Dermatol* 1997;133:599-602
128. Swanson PE, Fitzpatrick MM, Ritter JH y cols. Immunohistologic differential diagnosis of basal cell carcinoma, squamous cell carcinoma, and trichepithelioma in small cutaneous biopsy specimens. *J Cutan Pathol* 1998;25:153-9
129. Basarab T, Orchard G, Russell-Jones R. The use of immunostaining for bcl-2 and CD34 and the lectin peanut agglutinin in differentiating between basal cell carcinomas and trichepitheliomas. *Am J Dermatopathol* 1998;20:448-52
130. Mills AE. Solar keratosis can be distinguished from superficial basal cell carcinoma by expression of bcl-2. *Am J Dermatopathol* 1997;19:443-5
131. Abdelsayed RA, Guijarro-Rojas M, Ibrahim NA y cols. Immunohistochemical evaluation of basal cell carcinoma and trichepithelioma using Bcl-2, Ki767, PCNA, and p53. *J Cutan Pathol* 2000; 27:169-175
132. Ramdial PK, Madaree A, Reddy R y cols. Bcl-2 protein expression in aggressive and non-aggressive basal cell carcinomas. *J Cutan Pathol* 2000;27:283-291.
133. Rossen K, Karabulut Thorup A, Hou-Jensen K y cols. BAX protein is not expressed by basal cell carcinomas. *Br J Dermatol* 1998;139:472-4
134. Tilli CM, Stavast-Koey AJ, Ramaekers FC y cols. Bax expression and growth behavior of basal cell carcinomas. *J Cutan Pathol*. 2002;29:79-87
135. Tomkova H, Fujimoto W, Arata J. Expression of the bcl-2 homologue bax in normal human skin, psoriasis vulgaris and non-melanoma skin cancers. *Eur J Dermatol* 1998;8:256-60
136. Nagata S, Golstein P. The Fas Death factor. *Science* 1995;267:1449-1456
137. Hill LL, Ouhtit A, Loughlin SM y cols. Fas ligand: a sensor for DNA damage critical in skin cancer etiology. *Science* 1999;285:898-900
138. Ismail MA, Elmaadawy IE, El Maksoud MHA y cols. The expression of Fas in some skin malignancies. *J Eur Acad Dermatol Venereol* 2002;16(S1): 199
139. Gutierrez-Steil C, Wrone-Smith T, Sun X y cols. Sunlight-induced basal cell carcinoma tumor cells and ultraviolet-B-irradiated psoriatic plaques express Fas ligand (CD95L). *J Clin Invest* 1998;101:33-39

- 
140. Lee SH, Jang JJ, Lee JY y cols. Fas ligand is expressed in normal skin and in some cutaneous malignancies. *Br J Dermatol* 1998;139:186-91
141. Telfer NR, Colver GB, Bowers PW. Guidelines for the management of basal cell carcinoma. British Association of Dermatologists. *Br J Dermatol.* 1999;141:415-23
142. Randle HW. Basal cell carcinoma. Identification and treatment of the high-risk patient. *Dermatol Surg.* 1996;22:255-61
143. Rosenberg, SA. Progress in human tumour immunology and immunotherapy. *Nature.* 2001; 411:380-384
144. Urosevic M, Dummer R. Immunotherapy for nonmelanoma skin cancer: does it have a future? *Cancer* 2002;94:477-85
145. Byrne SN, Halliday GM. Dendritic cells: Making progress with tumour regression? *Immunol Cell Biol* 2002;80:520-30
146. Kashani-Sabet M. Toward the biologic treatment of nonmelanoma skin cancer. *J Am Acad Dermatol* 1999;41:1018-19
147. Buechner SA, Lautenschlager S, Schiller P y cols. Treatment of basal cell carcinoma with intralesional interferon alfa-2b. *Dermatology* 1995;191:173-174
148. Chimenti S, Peris K, Di Cristofaro S y cols. Use of recombinant interferon alfa-2b in the treatment of basal cell carcinoma. *Dermatology* 1995;190:214-217
149. Buechner SA. Intralesional interferon alfa-2b in the treatment of basal cell carcinoma. Immunohistochemical study on cellular immune reaction leading to tumor regression. *J Am Acad Dermatol* 1991;24:731-734
150. Edwards L, Tucker SB, Perednia D y cols. The effect of an intralesional sustained-release formulation of interferon alfa-2b on basal cell carcinomas. *Arch Dermatol* 1990;126:1029-1032
151. Cornell RC, Greenway HT, Tucker SB y cols. Intralesional interferon therapy for basal cell carcinoma. *J Am Acad Dermatol* 1990;23:694-700
152. Thestrup-Pedersen K, Jacobsen IE, Frentz G. Intralesional interferon-alpha 2b treatment of basal cell carcinoma . *Acta Dermato-Venerol* 1990; 70:512-514
153. Edwards L, Whiting D, Rogers D y cols. The effect of intralesional interferon gamma on basal cell carcinomas. *J Am Acad Dermatol* 1990;22:496-500
154. Wickramasinghe L, Hindson TC, Wacks H y cols. Treatment of neoplastic skin lesions with intralesional interferon. *J Am Acad Dermatol* 1989; 20: 71-74
155. Grob JJ, Collet AM, Munoz MH y cols. Treatment of large basal-cell carcinomas with intralesional interferon-alpha-2a. *Lancet* 1988;1:878-879
156. Greenway HT, Cornell RC, Tanner DJ y cols. Treatment of basal cell carcinoma with intralesional interferon. *J Am Acad Dermatol* 1986;15:437-43
157. Rodriguez-Villanueva J, McDonnell TJ. Induction of apoptotic cell death in non-melanoma skin cancer by interferon-alpha. *Int J Cancer* 1995;61:110-4
158. Buechner SA, Wernli M, Harr T y cols. Regression of basal cell carcinoma by intralesional interferon-alpha treatment is mediated by CD95(Apo-1/Fas)-CD95 ligand-induced suicide. *J Clin Invest* 1997; 100: 2691-2696
159. Kaplan B, Moy RL. Effect of perilesional injections of PEG-interleukin-2 on basal cell carcinoma. *Dermatol Surg* 2000;26:1037-40
160. Aldara™ (imiquimod cream 5%) product monograph. Accesible en: <http://www.3m.com/us/healthcare/pharma/aldara/aldaramono.pdf>
161. Dahl M. Imiquimod: an immune response modifier. *J Am Acad Dermatol* 2000;43:S1-5
162. Pearson GW, Langley RG. Topical imiquimod. *J Dermatolog Treat.* 2001;12:37-40
163. Edwards L. Imiquimod in clinical practice. *J Am Acad Dermatol* 2000;43:S12-7
164. Spruance SL, Tyring SK, Smith MH y cols. Application of a topical immune response modifier, resiquimod gel, to modify the recurrence rate of recurrent genital herpes: a pilot study. *J Infect Dis* 2001;184:196-200
165. Dahl MV. Imiquimod: A cytokine inducer. *J Am Acad Dermatol.* 2002;47:S205-8
166. Sauder D. Immunomodulatory and pharmacologic properties of imiquimod. *J Am Acad Dermatol* 2000;43:S6-11
167. Stanley MA. Mechanism of action of imiquimod. *Papillomavirus Report* 1999;10:23-9
168. Testerman TI, Gerster JF, Imbertson LM y cols. Cytoquine induction by the immunomodulators imiquimod and S-27609. *J Leukoc Biol* 1995;58:365-72
169. Wagner TL, Ahonen CL, Couture AM y cols. Modulation of TH1 and TH2 cytokine production with the immune response modifiers, R-848 and imiquimod. *Cell Immunol.* 1999;191:10-9

- 
170. Imbertson LM, Beauline JM, Couture AM y cols. Cytoquine induction in hairless mouse and rat skin after topical application of the immune response modifiers imiquimod and S-28463. *J Invest Dermatol* 1998;110:734-9.
171. Hemmi H, Kaisho T, Takeuchi O y cols. Small anti-viral compounds activate immune cells via the TLR7 MyD88-dependent signaling pathway. *Nat Immunol* 2002;3:196-200
172. Jurk M, Heil F, Vollmer J y cols. Human TLR7 or TLR8 independently confer responsiveness to the antiviral compound R-848. *Nat Immunol* 2002;3:499
173. Gibson SJ, Lindh JM, Riter TR y cols. Plasmacytoid dendritic cells produce cytokines and mature in response to the TLR7 agonists, imiquimod and resiquimod. *Cell Immunol* 2002;218:74-8
174. Suzuki H, Wang B, Shivji Gm y cols. Imiquimod, a topical immune response modifier, induces migration of Langerhans cells. *J Invest Dermatol* 2000;114:135-141.
175. Burns RP Jr, Ferbel B, Tomai M y cols. The imidazoquinolines, imiquimod and R-848, induce functional, but not phenotypic, maturation of human epidermal Langerhans' cells. *Clin Immunol* 2000;94:13-23
176. Ambach A, Bonnekoh B, Nguyen M y cols. Reloading effect of imiquimod on the perforin-system of resting cytotoxic T lymphocytes ex vivo. *J Eur Acad Dermatol Venereol* 2002;16(S1):259
177. Tomai MA, Imbertson LM, Stanczak TL y cols. The immune response modifiers imiquimod and R-848 are potent activators of B lymphocytes. *Cell Immunol* 2000;203:55-65
178. Majewski S, Marczak M, Mlynarczyk B y cols. Antiangiogenic effect of imiquimod is mediated by interleukin-18. Comunicación oral. 18th congress on sexually transmitted infections. IUSTI-Europe 2002. Vienna, September 12-14, 2002.
179. Caro I, Owens M, Borgstadt. A summary of the effects of imiquimod on ultraviolet irradiated and healthy white skin. *Ann Dermatol Venereol* 2002;129(S1):476
180. Kaidbey K, Owens M, Smith M. Safety studies of topical imiquimod 5% cream on normal skin exposed to ultraviolet radiation. *J Eur Acad Dermatol Venereol* 2002;16(S1):154-5
181. Caro I . Topical imiquimod is non-toxic. *Ann Dermatol Venereol* 2002;129(S1):695
182. Thatcher T, Tomai M, Miller R y cols. Topical Imiquimod prevents UVB-induced cutaneous immunosuppression. *Ann Dermatol Venereol* 2002;129(S1):737
183. Schacker TW, Conant M, Thoming C y cols. Imiquimod 5-Percent Cream Does Not Alter the Natural History of Recurrent Herpes Genitalis: a Phase II, Randomized, Double-Blind, Placebo-Controlled Study. *Antimicrob Agents Chemother* 2002;46:3243-8
184. Slade HB, Schacker T, Conant M y cols. Imiquimod and genital herpes. *Arch Dermatol* 2002;138:534
185. Gilbert J, Drehs MM, Weinberg JM. Topical imiquimod for acyclovir-unresponsive herpes simplex virus 2 infection. *Arch Dermatol* 2001;137:1015-7
186. Hesterberg U, Bohlen L, Hunziker T. Imiquimod 5% cream is ineffective in recalcitrant alopecia areata of the scalp. *Dermatology* 2001;203:97
187. D'Ovidio R, Claudatus J, Di Prima T. Ineffectiveness of imiquimod therapy for Alopecia Totalis/Universalis. *J Eur Acad Dermatol Venereol* 2002;16:416-7
188. Dahl MV. Imiquimod: A cytokine inducer. *J Am Acad Dermatol*. 2002;47:S205-8
189. Edwards L, Ferenczy A, Eron L y cols. Self-administered topical 5% imiquimod cream for external anogenital warts. HPV Study Group. Human PapillomaVirus. *Arch Dermatol*. 1998;134:25-30
190. Carrasco D, Vander Straten M, Tyring SK. Treatment of anogenital warts with imiquimod 5% cream followed by surgical excision of residual lesions. *J Am Acad Dermatol* 2002;47:S212-6
191. Gayed SL. Topical imiquimod cream 5% for resistant perianal warts in a renal transplant patient. *Int J STD AIDS* 2002;13:501-3
192. Saiag P, Bourgault-Villada I, Pavlovic M y cols. Efficacy of imiquimod on external anogenital warts in HIV-infected patients previously treated by highly active antiretroviral therapy. *AIDS* 2002;16:1438-40
193. Gruber PC, Wilkinson J. Successful treatment of perianal warts in a child with 5% imiquimod cream. *J Dermatolog Treat* 2001;12:215-7
194. Kaspari M, Gutzmer R, Kaspari T y cols. Application of imiquimod by suppositories (anal tampons) efficiently prevents recurrences after ablation of anal canal condyloma. *Br J Dermatol* 2002;147:757-9

- 
195. Petrow W, Gerdzen R, Uerlich M y cols. Successful topical immunotherapy of bowenoid papulosis with imiquimod. *Br J Dermatol* 2001;145:1022-3
196. Grussendorf-Conen EI, Jacobs S, Rubben A y cols. Topical 5% imiquimod long-term treatment of cutaneous warts resistant to standard therapy modalities. *Dermatology* 2002;205:139-45
197. Grussendorf-Conen EI, Jacobs S. Efficacy of imiquimod 5% cream in the treatment of recalcitrant warts in children. *Pediatr Dermatol* 2002;19:263-6
198. Hengge UR, Esser S, Schultewolter T y cols. Self-administered topical 5% imiquimod for the treatment of common warts and molluscum contagiosum. *Br J Dermatol* 2000;143:1026-31
199. Khan Durani B, Jappe U. Successful treatment of facial plane warts with imiquimod. *Br J Dermatol* 2002;147:1018
200. Stockfleth E, Rowert J, Arndt R y cols. Detection of human papillomavirus and response to topical 5% imiquimod in a case of stucco keratosis. *Br J Dermatol* 2000;143:846-50
201. Skinner RB Jr. Treatment of molluscum contagiosum with imiquimod 5% cream. *J Am Acad Dermatol* 2002;47:S221-4
202. Skinner RB, Ray S, Talanin NY. Treatment of molluscum contagiosum with topical 5% imiquimod cream. *Pediatr Dermatol* 2000;17:420
203. Buckley R, Smith K. Topical imiquimod therapy for chronic giant molluscum contagiosum in a patient with advanced human immunodeficiency virus 1 disease. *Arch Dermatol* 1999;135:1167-9
204. Arevalo I, Ward B, Miller R y cols. Successful treatment of drug-resistant cutaneous leishmaniasis in humans by use of imiquimod, an immunomodulator. *Clin Infect Dis* 2001;33:1847-51
205. Salasche SJ, Levine N, Morrison L. Cycle therapy of actinic keratoses of the face and scalp with 5% topical imiquimod cream: An open-label trial. *J Am Acad Dermatol* 2002;47:571-7
206. Stockfleth E, Meyer T, Benninghoff B y cols. A randomized, double-blind, vehicle-controlled study to assess 5% imiquimod cream for the treatment of multiple actinic keratoses. *Arch Dermatol.* 2002;138:1498-502
207. Mackenzie-Wood A, Kossard S, de Launey J y cols. Imiquimod 5% cream in the treatment of Bowen's disease. *J Am Acad Dermatol* 2001;44:462-70
208. Smith KJ, Germain M yeager J, Skelton H. Topical 5% imiquimod for the therapy of actinic cheilitis. *J Am Acad Dermatol* 2002;47:497-501
209. Smith KJ, Germain M, Skelton H. Squamous cell carcinoma in situ (Bowen's disease) in renal transplant patients treated with 5% imiquimod and 5% 5-fluorouracil therapy. *Dermatol Surg* 2001;27:561-4
210. Orengo I, Rosen T, Guill CK. Treatment of squamous cell carcinoma in situ of the penis with 5% imiquimod cream: A case report. *J Am Acad Dermatol* 2002;47:S225-8
211. Jayne CJ, Kaufman RH. Treatment of vulvar intraepithelial neoplasia 2/3 with imiquimod. *J Reprod Med* 2002;47:395-8
212. Diakomanolis E, Haidopoulos D, Stefanidis K. Treatment of high-grade vaginal intraepithelial neoplasia with imiquimod cream. *N Engl J Med* 2002;347:374
213. Pehoushek J, Smith KJ. Imiquimod and 5% fluorouracil therapy for anal and perianal squamous cell carcinoma in situ in an HIV-1-positive man. *Arch Dermatol* 2001;137:14-6
214. Oster-Schmidt C, Eul A. Successful treatment of a squamous cell carcinoma on the back of the hand with imiquimod 5% cream. *Ann Dermatol Venereol* 2002;129(S1):787
215. Ahmed I, Berth-Jones J. Imiquimod: a novel treatment for lentigo maligna. *Br J Dermatol* 2000;143:843-5
216. Ugurel S, Wagner A, Pfohler C y cols. Topical imiquimod eradicates skin metastases of malignant melanoma but fails to prevent rapid lymphogenous metastatic spread. *Br J Dermatol* 2002;147:621-3
217. Born AK, Schreiber K, Lukowsky A y cols. Imiquimod for the treatment of cutaneous T cell lymphoma. *J Invest Dermatol* 2002;119:758
218. Suchin KR, Junkins-Hopkins JM, Rook AH. Treatment of Stage IA Cutaneous T-Cell Lymphoma With Topical Application of the Immune Response Modifier Imiquimod. *Arch Dermatol* 2002;138:1137-9
219. Didona B, Benucci R, Canzona F y cols. Successful treatment of primitive cutaneous CD30+ T cell lymphoma with topical imiquimod. *J Invest Dermatol* 2002;119:764

- 
220. Zampogna JC, Flowers FP, Roth WI, Hassenein AM. Treatment of primary limited cutaneous extramammary Paget's disease with topical imiquimod monotherapy: Two case reports. *J Am Acad Dermatol* 2002;47:S229-35
221. Martinez MI, Sanchez-Carpintero I, North PE y cols. Infantile hemangioma: clinical resolution with 5% imiquimod cream. *Arch Dermatol* 2002;138:881-4
222. Berman B, Kaufman J. Pilot study of the effect of postoperative imiquimod 5% cream on the recurrence rate of excised keloids. *J Am Acad Dermatol* 2002;47:S209-11
223. Kuwahara R, Skinner R. Granuloma annulare resolved with topical application of imiquimod. *Pediatr Dermatol* 2002;19:368-371
224. Gerdzen R, Wenzel J, Tappe K y cols. Granuloma faciale: successful treatment with imiquimod. *J Eur Acad Dermatol Venereol* 2002;16(S1):253
225. Gerdzen R, Wenzel J, Uerlich M y cols. Successful treatment of chronic discoid lupus erythematosus of the scalp with imiquimod. *Dermatology* 2002;205:416-8
226. Marks R, Gebauer K, Shumack S et al. Imiquimod 5% cream in the treatment of superficial basal cell carcinoma: results of a multicenter 6-week dose-response trial. *J Am Acad Dermatol* 2001;44:807-13
227. Geisse JK, Rich P, Pandya A y cols. Imiquimod 5% cream for the treatment of superficial basal cell carcinoma: a double-blind, randomized, vehicle-controlled study. *J Am Acad Dermatol*. 2002;47:390-8
228. Chen TM, Rosen T, Orengo I. Treatment of a large superficial basal cell carcinoma with 5% imiquimod: a case report and review of the literature. *Dermatol Surg* 2002;28:344-6
229. Naz E, Vidaurrezaga C, Herranz P y cols. Successful treatment of skin tumours with imiquimod cream 5%. *Ann Dermatol Venereol* 2002;129(S1):786
230. Shumack S, Robinson J, Kossard S y cols. Efficacy of topical 5% imiquimod cream for the treatment of nodular Basal cell carcinoma: comparison of dosing regimens. *Arch Dermatol* 2002;138:1165-71
231. Marks R, Pandya A, Amies M . Optimal dosing duration and dosing regimen for treatment of nodular BCC with imiquimod 5% cream. *Ann Dermatol Venereol* 2002;129(S1):482
232. Beutner KR, Geisse JK, Helman D y cols. Therapeutic response of basal cell carcinoma to the immune response modifier imiquimod 5% cream. *J Am Acad Dermatol* 1999;41:1002-7
233. Cowen E, Mercurio MG, Gaspari AA. An open case series of patients with basal cell carcinoma treated with topical 5% imiquimod cream. *J Am Acad Dermatol* 2002;47:S240-8
234. Hannuksela-Svahn A, Nordal E, Christensen OB. Treatment of multiple basal cell carcinomas in the scalp with imiquimod 5% cream. *Acta Derm Venereol* 2000;80:381-2
235. De Argila D , Rodriguez-Nevado I , Chaves A. Imiquimod 5% cream in the treatment of superficial and nodular basal cell carcinoma. *J Eur Acad Dermatol Venereol* 2002;16(S1):192
236. Torres A, Schanbacker C, Marra D y cols. Imiquimod 5% cream preceeding surgery for BCC monitoring with confocal microscopy. *Ann Dermatol Venereol* 2002;129(S1):791
237. Bianchi L, Francesconi F, Carboni I y cols. Imiquimod 5% cream in the treatment of basal cell carcinoma. *Ann Dermatol Venereol* 2002;129(S1):775
238. Sterry W, Herrera E, Takwale A y cols. Imiquimod 5% cream for the treatment of superficial and nodular basal cell carcinoma: randomized studies comparing low-frequency dosing with and without occlusion. *Br J Dermatol* 2002;147:1227-36
239. Vidal D, Matías-Guiu X, Alomar A. Eficacia de imiquimod en 55 casos de carcinoma basocelular. *Actas Dermosifiliogr* 2002;93(S2):121-2
240. Kagy MK, Amonette R. The use of imiquimod 5% cream for the treatment of superficial basal cell carcinomas in a basal cell nevus syndrome patient. *Dermatol Surg* 2000;26:577-8
241. Stockfleth E, Ulrich C, Hauschild A y cols. Successful treatment of basal cell carcinomas in a nevoid basal cell carcinoma syndrome with topical 5% imiquimod. *Eur J Dermatol* 2002;12:569-72
242. Weisberg NK, Varghese M. Therapeutic response of a brother and sister with xeroderma pigmentosum to imiquimod 5% cream. *Dermatol Surg*. 2002;28:518-23
243. Vidal D, Matías-Guiu X, Alomar A. Efficacy of topical application of imiquimod 5% cream in transplant patients. *Ann Dermatol Vener* 2002;129:1S773
244. Beutner KR, Geisse JK, Helman D y cols. Therapeutic response of basal cell carcinoma to the immune response modifier imiquimod 5% cream. *J Am Acad Dermatol* 1999;41:1002-7
245. Marks R, Gebauer K, Shumack S et al. Imiquimod 5% cream in the treatment of superficial basal cell carcinoma: results of a multicenter 6-week dose-response trial. *J Am Acad Dermatol* 2001;44:807-13

- 
246. Geisse JK, Rich P, Pandya A y cols. Imiquimod 5% cream for the treatment of superficial basal cell carcinoma: a double-blind, randomized, vehicle-controlled study. *J Am Acad Dermatol*. 2002;47:390-8
247. Shumack S, Robinson J, Kossard S y cols. Efficacy of topical 5% imiquimod cream for the treatment of nodular Basal cell carcinoma: comparison of dosing regimens. *Arch Dermatol* 2002;138:1165-71
248. Barnetson R, Halliday G, Satchell A y cols. Cell infiltrates in BCC tumors after treatment with imiquimod 5% cream. *J Eur Acad Dermatol Venereol* 2002;16(S1):151
249. Urosevic M, Maier T, Willers J y cols. Expression profiling of the basal cell carcinomas after imiquimod treatment. *J Invest Dermatol* 2002;119:732
250. Urosevic M, Bichel J, Burg G y cols. A pilot study to evaluate the alteration in BCC tumor defenses after treatment with imiquimod 5% cream. *J Eur Acad Dermatol Venereol* 2002;16(S1):150
251. Berman B , Sullivan T, De Araujo T y cols. Evaluation of superficial basal cell carcinomas for imiquimod treatment-induced apoptosis. *Ann Dermatol Venereol* 2002;129(S1):774-5
252. Berman B, Sullivan T, deAraujo T y cols. Expression of fas-receptor on basal cell carcinomas after treatment with imiquimod 5% cream or vehicle. *J Eur Acad Dermatol Venereol* 2002;16(S1):247