

Chapter 226

Aminoquinolines

Susannah E. McClain, Jeffrey R. LaDuca,
& Anthony A. Gaspari

REFERENCES

1. Kalia S, Dutz JP: New concepts in antimalarial use and mode of action in dermatology. *Dermatol Ther* **20**:160-174, 2007
2. Sullivan DJ et al: On the molecular mechanism of chloroquine's antimalarial action. *Proc Natl Acad Sci* **93**:11865, 1996 [PMID: 8876229]
3. Homewood CA et al: Lysosomes, pH and the antimalarial action of chloroquine. *Nature* **235**:50, 1972 [PMID: 4550396]
4. Kaufmann AM, Krise JP: Lysosomal sequestration of amine-containing drugs: Analysis and therapeutic implications. *J Pharm Sci* **96**:729-746, 2007
5. Boya P et al. Mitochondrial membrane permeabilization is a critical step of lysosome-initiated apoptosis induced by hydroxychloroquine. *Oncogene* **22**:3927, 2003 [PMID: 12813466]
6. Ohkuma S, Poole B: Fluorescence probe measurement of the intralysosomal pH in living cells and the perturbation of pH by various agents. *Proc Natl Acad Sci USA* **75**:3327-3331, 1978
7. Nowell J, Quaranta V: Chloroquine affects biosynthesis of Ia molecules by inhibiting dissociation of invariant (γ) chains from alpha-beta dimers in B cells. *J Exp Med* **162**:1371-1316, 1985
8. Goldman FD et al: Hydroxychloroquine inhibits calcium signals in T cells: A new mechanism to explain its immunomodulatory properties. *Blood* **95**:3460, 2000 [PMID: 10828029]
9. Accapezzato D et al: Chloroquine enhances human CD8+ T cell responses against soluble antigens in vivo. *J Exp Med* **19**:817, 2005
10. Churchill PC et al: Quinacrine antagonizes the effects of Na,K-ATPase inhibitors on renal prostaglandin E2 release but not their effects on renin secretion. *Life Sci* **36**:277, 1985 [PMID: 2981387]
11. Norris DA, Weston WL, Sams WM: The effect of immunosuppressive and anti-inflammatory drugs on monocyte function in vitro. *J Lab Clin Med* **90**:569, 1977 [PMID: 894108]
12. Ward PA: The chemosuppression of chemotaxis. *J Exp Med* **7**:302, 1964 [PMID: 14204965]
13. Van den Borne BE et al: Chloroquine and hydroxychloroquine equally affect tumor necrosis factor-alpha, interleukin 6, and interferon-gamma production by peripheral blood mononuclear cells. *J Rheumatol* **24**:55, 1997
14. Sperber K et al: Selective regulation of cytokine secretion by hydroxychloroquine: Inhibition of interleukin 1 alpha (IL-1-alpha) and IL-6 in human monocytes and T cells. *J Rheumatol* **20**:803, 1993 [PMID: 8336306]
15. Fox R: Anti-malarial drugs: Possible mechanisms of action in autoimmune disease and prospects for drug development. *Lupus* **5**:54, 1996
16. Macfarlane DE, Manzel L: Antagonism of immunostimulatory CpG-oligodeoxynucleotides by quinacrine, chloroquine, and structurally related compounds. *J Immunol* **160**:1122, 1998 [PMID: 9570525]
17. Strekowski L et al: Structure activity relationship analysis of substituted 4-quinolinamines, antagonists of immunostimulatory cpG-oligodeoxynucleotides. *Bioorg Med Chem* **9**:1819, 1999 [PMID: 10406648]
18. Hugosson E et al: Chloroquine enhances the number of IL-10 producing cells and the expression of B7-2 and ICAM-1 in in vitro-cultured PBMC. *Scand J Immunol.* **55**:399, 2002 [PMID: 11967122]
19. Horrobin DF et al: Quinacrine is a prostaglandin antagonist. *Biochem Biophys Res Comm* **76**:1188, 1977 [PMID: 901469]
20. Dise CA et al: Direct interaction of mepacrine with erythrocyte and platelet membrane phospholipid. *J Biol Chem* **257**:4701, 1982 [PMID: 6802839]
21. David-Dufilho, M. et al: Quinacrine increases endothelial nitric oxide release: role of superoxide anion. *Eur J Pharmacol* **436**:159, 2002
22. Hurst NP et al. Differential effects of mepacrine, chloroquine, and hydroxychloroquine on superoxide anion generation, phospholipid methylation and arachidonic acid release by human blood monocytes. *Biochem Pharmacol* **35**:3089, 1986
23. Lafyatis R, York M, Marshak-Rothstein A: Antimalarial agents: Closing the gate on Toll-like receptors? *Arthritis Rheum* **54**:3068-3070, 2006

24. Ronnblom L, Alm GV: An etiopathogenic role for the type I IFN system in SLE. *Trends Immunol* **22**:427-431, 2001
25. Nakano S et al: Role of pathogenic auto-antibody production by Toll-like receptor 9 of B cells in active systemic lupus erythematosus. *Rheumatology (Oxford)* **47**:145-149 2008
26. Latz E et al: TLR9 signals after translocating from the ER to CpG DNA in the lysosome. *Nat Immunol* **5**:190-198, 2004
27. Wallace D: Antimalarial therapies. In: *Dubois' Lupus Erythematosus*, 5th edition, edited by D Wallace, B Hahn. Philadelphia, Lippincot Williams & Wilkins, 1997, pp. 1117-1138.
28. Sams WM, Epstein JH, Winkelmam RK: Solar urticaria-investigation of pathogenetic mechanisms. *Arch Dermatol* **99**:390, 1969 [PMID: 5769324]
29. Wozniacka A et al: Chloroquine treatment influences proinflammatory cytokine levels in systemic lupus erythematosus patients. *Lupus* **15**:268-275, 2006
30. Sjolín-Forsberg G et al: Topical chloroquine applied before irradiation protects against ultraviolet B (UVB)- and UVA-induced erythema but not against immediate pigment darkening. *Photodermatol Photoimmunol Photomed* **9**:220, 1992 [PMID: 1342192]
31. Woodburne AR, Philpott OS, Philpott JA: Quinacrine (atabrine) in treatment of solar dermatoses. *Arch Dermatol Syphil* **16**:118, 1951
32. Nguyen TQ et al: 4-Aminoquinoline antimalarials enhance UV-B induced c-jun transcriptional activation. *Lupus* **7**:148, 1998 [PMID: 9607637]
33. Kurnick NB, Radcliffe IE: Reaction between DNA and quinacrine and other anti-malarials. *J Lab Clin Med* **60**:669, 1962 [PMID: 13927514]
34. Cohen SN, Yielding KL: Stabilization of the structure of native DNA by chloroquine and observations on the nature of the chloroquine-DNA complex. *Arthritis Rheum* **6**:767, 1963
35. O'Brien RL et al: Reactions of quinine, chloroquine, and quinacrine with DNA and their effects on DNA and RNA polymerase reactions. *Proc Natl Acad Sci* **55**:1511, 1966 [PMID: 5336287]
36. Dubois EL: Effect of quinacrine (Atabrine) upon lupus erythematosus phenomenon. *Arch Dermatol* **71**:570, 1955 [PMID: 14360779]
37. Wallace DJ et al: Cholesterol lowering effect of hydroxychloroquine in patients with rheumatic disease: Reversal of deleterious effects of steroids on lipids. *Am J Med* **89**:322, 1990 [PMID: 2393036]
38. Smith GK et al: Effect of chloroquine on insulin and glucose homeostasis in normal subjects and patients with non-insulin-dependent diabetes mellitus. *BMJ* **294**:465, 1987 [PMID: 3103729]
39. Quatraro A et al: Hydroxychloroquine in decompensated, treatment refractory non-insulin-dependent diabetes mellitus: A new job for an old drug. *Ann Intern Med* **112**:678, 1990 [PMID: 2110430]
40. Jancinova V, Nosal R, Pterikova M: On the inhibitory effect of chloroquine on blood platelet aggregation. *Thromb Res* **74**:495, 1994 [PMID: 8085250]
41. Ferrante A et al: Depression of human polymorphonuclear leukocyte function by antimalarial drugs. *Immunology* **58**:125, 1986 [PMID: 2423436]
42. Lagneaux L et al: Early induction of apoptosis in B-chronic lymphocytic leukaemia cells by hydroxychloroquine: Activation of caspase-3 and no protection by survival factors. *Br J Haematol* **112**:344, 2001 [PMID: 11167827]
43. Chiang G et al: Inhibition of HIV-1 replication by hydroxychloroquine: Mechanism of action and comparison with zidovudine. *Clin Therapeutics* **18**:1080, 1996 [PMID: 9001825]
44. Jiang MC, Lin JK, Chen SS: Inhibition of HIV-1 Tat-mediated transactivation by quinacrine and chloroquine. *Biochem Biophys Res Comm* **226**:1, 1996 [PMID: 8806583]
45. Romanelli F et al: Chloroquine and hydroxychloroquine as inhibitors of human immunodeficiency virus (HIV-1) activity. *Curr Pharmac Des* **10**:2643, 2004 [PMID: 15320751]
46. Savarino A et al: New insights into the antiviral effects of chloroquine. *Lancet Infect Dis* **6**:67-69, 2006
47. Tett SE: Clinical pharmacokinetics of slow acting antirheumatic drugs. *Clin Pharmacokinet* **25**:392, 1993 [PMID: 7904547]
48. United States Pharmacopeial Convention: Chloroquine, in *Drug Information for the Health Care Professional*, 20th edition, 2000, p. 876
49. United States Pharmacopeial Convention: Hydroxychloroquine. In: *Drug Information for the Health Care Professional*, 20th edition, 2000, p. 1735
50. United States Pharmacopeial Convention: Quinacrine. In: *Drug Information for the Health Care Professional*, 18th edition, 1998, p 2469.
51. Ducharme J, Farinotti R: Clinical pharmacokinetics and metabolism of chloroquine. Focus on recent advancements. *Clinical Pharmacokinet* **31**:257, 1996 [PMID: 8896943]

52. Furst DE: Pharmacokinetics of hydroxychloroquine and chloroquine during treatment of rheumatic diseases. *Lupus* 5:S11, 1996
53. Tett SE et al: A dose ranging study of the pharmacokinetics of hydroxychloroquine following intravenous administration to healthy volunteers. *Br J Clin Pharmacol* 26:303, 1988 [PMID: 3179169]
54. Koranda FC: Antimalarials. *J Am Acad Dermatol* 4:650, 1981 [PMID: 6165744]
55. Rahman P et al: Smoking interferes with efficacy of antimalarial therapy in cutaneous lupus. *J Rheumatol* 25:1716, 1998 [PMID: 9733451]
56. Schein JR: Cigarette smoking and clinically significant drug interactions. *Ann Pharmacol* 29:1139, 1995 [PMID: 8573960]
57. Costedoat-Chalumeau N et al: Low blood concentration of hydroxychloroquine is a marker for and predictor of disease exacerbations in patients with systemic lupus erythematosus. *Arthritis Rheum* 54:3284-3290, 2006
58. Griffin JP: Drug interactions with antimalarial agents. *Adverse Drug React Toxicol Rev* 18:25, 1999 [PMID: 10401521]
59. Ang GC, Werth V: Combination antimalarials in the treatment of cutaneous dermatomyositis: A retrospective study. *Arch Dermatol* 141:855, 2005 [PMID: 16027300]
60. Davidson AM, Birt AR: Quinine bisulfate as a desensitizing agent in the treatment of lupus erythematosus. *Arch Dermatol* 37:247, 1938
61. Page F: Treatment of lupus erythematosus with mepacrine. *Lancet* 2:755, 1951 [PMID: 14874500]
62. Kraak JH et al: The value of hydroxychloroquine (Plaquenil) for treatment of chronic discoid lupus erythematosus: A double blind trial. *Dermatologica* 130:293, 1965 [PMID: 14333636]
63. Wallace DJ: The use of quinacrine (Atabrine) in rheumatic diseases: A reexamination. *Semin Arthritis Rheum* 18:282, 1989 [PMID: 2658071]
64. A randomized study of the effect of withdrawing hydroxychloroquine sulfate in systemic lupus erythematosus. The Canadian Hydroxychloroquine Study Group. *N Engl J Med* 324:150-154, 1991
65. Martens PB, Moder KG, Ahmed I: Lupus panniculitis: Clinical perspectives from a case series. *J Rheumatol* 26:68-72, 1999
66. Cavazzana I et al: Treatment of lupus skin involvement with quinacrine and hydroxychloroquine. *Lupus* 18:735-739, 2009
67. Norris P et al: The role of interleukins 1, 6, and 8 as lymphocyte attractants in the photodermatoses polymorphic light eruption and chronic actinic dermatitis. *Clin Exp Dermatol* 24:321, 1999 [PMID: 10457140]
68. Cahn MM et al: Polymorphous light eruption—The effect of chloroquine phosphate in modifying reactions to ultraviolet light. *J Invest Dermatol* 26:201, 1956 [PMID: 13319807]
69. Christiansen JV, Brodthagen H: The treatment of polymorphic light eruptions with chloroquine. *Br J Dermatol* 68:204, 1956 [PMID: 13329295]
70. Jensen CT: Oral carotenoid treatment in polymorphous light eruption. A cross-over comparison with oxychloroquine and placebo. *Photodermatology* 2:166, 1985
71. Murphy GM, Hawk JL, Magnus IA: Hydroxychloroquine in polymorphic light eruption: A controlled trial with drug and visual sensitivity monitoring. *Br J Dermatol* 116:379-386, 1987
72. Corbett MF et al: Controlled therapeutic trials in polymorphic light eruption. *Br J Dermatol* 107:571-581, 1982
73. London ID: Porphyria cutanea tarda: Report of a case successfully treated with chloroquine. *Arch Dermatol* 75:801, 1957 [PMID: 13423883]
74. Baler GR: Porphyria precipitated by hydroxychloroquine treatment of systemic lupus erythematosus. *Cutis* 17:96-98, 1976
75. Chinarro S et al: Studies on "in vitro" formation of complexes between porphyrins and chloroquine. *Biochem Int* 6:565, 1983 [PMID: 6679724]
76. Cripps DJ, Curtis AC: Toxic effect of chloroquine on porphyria hepatica. *Arch Dermatol* 86:575, 1962
77. Petersen CS, Thomsen K: High dose hydroxychloroquine treatment of porphyria cutanea tarda. *J Am Acad Dermatol* 26:614, 1992 [PMID: 1597548]
78. Valls V, Ena J, Enriques-de-Salamanca R: Low dose oral chloroquine in patients with porphyria cutanea tarda and low-moderate iron overload. *J Dermatol Sci* 169, 1994
79. Malkinson FD, Levitt L: Hydroxychloroquine treatment of porphyria cutanea tarda. *Arch Dermatol* 108:779, 1973
80. Swanbeck G, Wennersten G: Treatment of porphyria cutanea tarda with chloroquine and phlebotomy. *Br J Dermatol* 4:77, 1977
81. British Tuberculosis Association. Chloroquine in the treatment of sarcoidosis. A report from the research committee of the British Tuberculosis Association. *Tubercule* 48: 257-272, 1967

82. Badgwell C, Rosen T: Cutaneous sarcoidosis therapy updated. *J Am Acad Dermatol* **56**:69-83, 2007
83. Siltzbach LE, Teirstein AS: Chloroquine therapy in 43 patients with intrathoracic and cutaneous sarcoidosis. *Acta Med Scand Suppl* **425**:302-308, 1964
84. Morse SI: The treatment of sarcoidosis with chloroquine. *Am J Med* **30**:779-784, 1961
85. Zic JA: Treatment of cutaneous sarcoidosis with chloroquine. Review of the literature. *Arch Dermatol* **127**:1034-1040, 1991
86. Jones E, Callen JP: Hydroxychloroquine is effective therapy for control of cutaneous sarcoid granulomas. *J Am Acad Dermatol* **23**:487-489, 1990
87. Fox RI, Kang HI: Mechanism of action of antimalarial drugs: Inhibition of antigen processing and presentation. *Lupus* **2**(Suppl. 1):S9-S12, 1993
88. Wallace DJ: The use of chloroquine and hydroxychloroquine for non-infectious conditions other than rheumatoid arthritis or lupus. A critical review. *Lupus* **5**:559, 1996
89. Jones E, Callen J: Hydroxychloroquine is effective therapy for control of cutaneous sarcoid granulomas. *J Am Acad Dermatol* **23**:487, 1990 [PMID: 2212149]
90. Zic JA et al: Treatment of cutaneous sarcoidosis with chloroquine: Review of the literature. *Arch Dermatol* **127**:1034, 1991 [PMID: 2064404]
91. Carlin MC, Ratz JL: A case of generalized granuloma annulare responding to hydroxychloroquine. *Cleve Clin J Med* **54**:229, 1987 [PMID: 3608135]
92. Simon M, Jr., von den Driesch P: Antimalarials for control of disseminated granuloma annulare in children. *J Am Acad Dermatol* **31**:1064-1065, 1994
93. Masmoudi A et al: [Beneficial effects of antimalarials in the treatment of generalized granuloma annular in children]. *Tunis Med* **84**:125-127, 2006
94. Eisen D: Hydroxychloroquine sulfate (Plaquenil) improves oral lichen planus: An open trial. *J Am Acad Dermatol* **28**:609-612, 1993
95. Wolf R, Wolf D, Ruocco V: Antimalarials: Unimproved uses or indications. *Clin Dermatol* **18**:17-35, 2000
96. Baer TW: Epidermolysis bullosa hereditaria treated with antimalarials. *Arch Dermatol* **84**:503-504, 1961
97. Doring HF, Müllejans-Kreppel U: [Chloroquine-therapy of atopic dermatitis]. *Z Hautkr* **62**:1205-1213, 1987
98. Lakhanpal S et al: Eosinophilic fasciitis: Clinical spectrum and therapeutic response in 52 cases. *Semin Arthritis Rheum* **17**:221-231, 1988
99. Nagy E, Ladanyi E: [Treatment of circumscribed scleroderma in childhood]. *Z Hautkr*; **62**:547-549, 1987
100. Lopez LR et al: The hypocomplementemic urticarial-vasculitis syndrome: Therapeutic response to hydroxychloroquine. *J Allergy Clin Immunol* **73**:600-603, 1984
101. Marmor MF, Kellner U, Lai TY, Lyons JJ, Mieler WF: American Academy of Ophthalmology. *Ophthalmology* **118**(2): 415-422, 2011
102. Sfikakis PP, Mavrikakis M: Ophthalmologic monitoring for antimalarial toxicity. *J Rheumatol* **31**:1011-1012, 2004; author reply 2
103. Mavrikakis I et al: The incidence of irreversible retinal toxicity in patients treated with hydroxychloroquine. *Ophthalmology* **110**:1321, 2003 [PMID: 12867385]
104. Chloroquine/Hydroxychloroquine Toxicity. Available at: <http://www.emedicine.com/oph/topic245.htm> 2006.
105. Wallace DJ: Antimalarial drugs. *Rheum Dis Clin North Am* **20**:243, 1994 [PMID: 8153401]
106. Rious B et al: Treatment of severe chloroquine poisoning. *N Engl J Med* **318**:1, 1988
107. Jordan P et al: Hydroxychloroquine overdose: Toxicokinetics and management. *J Toxicol Clin Toxicol* **37**:861, 1999 [PMID: 10630270]
108. Reddy VG, Sinna S: Chloroquine poisoning: Report of two cases. *Acta Anesthes Scand* **44**:1017, 2000 [PMID: 10981583]
109. Marquardt K, Albertson TE: Treatment of hydroxychloroquine overdose. *Am J Emerg Med* **19**:420, 2001 [PMID: 11555803]
110. Isbister G, Dawson A: Hydroxychloroquine overdose: A prospective case series. *Am J Emerg Med* **20**:377, 2002 [PMID: 12098196]
111. Yanturali S et al. Massive hydroxychloroquine overdose. *Acta Anesthes Scand* **48**:379, 2004 [PMID: 14982575]
112. Smith ER and Klein-Schwartz W: Are 1-2 dangerous? Chloroquine and hydroxychloroquine exposure in toddlers. *J Emerg Med* **28**:437, 2005 [PMID: 15837026]
113. Schmid I et al: Marrow transplantation for severe aplastic anemia associated with exposure to quinacrine. *Blut* **61**:52, 1990 [PMID: 2207341]

114. Bauer F: Quinacrine hydrochloride drug eruption (topical lichenoid dermatitis). *J Am Acad Dermatol* 4:239, 1981 [PMID: 6452466]
115. Wolf R, Ruocco V: Triggered psoriasis. *Adv Exp Med Biol* 445:221, 1999
116. Slagel GA, James WD: Plaquenil-induced erythroderma. *J Am Acad Dermatol* 12: 857, 1985 [PMID: 3159760]
117. Wintroub BU, Stern R: Cutaneous drug reactions. Pathogenesis and clinical classification. *J Am Acad Dermatol* 13:167, 1985 [PMID: 2931455]
118. Granstein RD, Sober AJ: Drug-and heavy metal-induced hyperpigmentation. *J Am Acad Dermatol* 5:1, 1981 [PMID: 6268671]
119. Daniel CR, Scher RK: Nail changes caused by systemic drugs or ingestants. *Derm Clinics* 3:491, 1985 [PMID: 3830510]
120. Leckie MJ, Rees RG: Stevens-Johnson syndrome in association with hydroxychloroquine treatment for rheumatoid arthritis. *Rheumatology* 41:473, 2002 [PMID: 11961185]
121. Easterbrook M: An ophthalmological view on the efficacy and safety of chloroquine versus hydroxychloroquine. *J Rheumatol* 26:1866, 1999 [PMID: 10493662]
122. Hobbs RF, Calnan CD: Visual disturbances with anti-malarial drugs with particular reference to chloroquine keratopathy. *Arch Dermatol* 80:557, 1959 [PMID: 14402142]
123. Finbloom DS et al: Comparison of hydroxychloroquine and chloroquine use and the development of retinal toxicity. *J Rheumatol* 12:692, 1985 [PMID: 4057189]
124. Mackenzie AH: Dose refinements in long-term therapy of rheumatoid arthritis with antimalarials. *Am J Med* 18:40, 1982
125. Browning DJ: Bull's-eye maculopathy associated with quinacrine therapy for malaria. *Am J Ophthalmol* 137:577, 2004 [PMID: 15013892]
126. Stein M, Bell MJ, Ang LC: Hydroxychloroquine neuromyotoxicity. *J Rheumatol* 27:2927, 2000 [PMID: 11128688]
127. Johansen PB, Gran JT: Ototoxicity due to hydroxychloroquine: Report of two cases. *Clin Exp Rheum* 16:472, 1998 [PMID: 9706431]
128. Seckin U et al: Hydroxychloroquine ototoxicity in a patient with rheumatoid arthritis. *Rheum Internl* 19:203, 2000 [PMID: 10984140]
129. Assier-Bonnet H et al: Acute generalized exanthematous pustulosis induced by hydroxychloroquine. *Dermatology* 193:70, 1996 [PMID: 8864630]
130. Creel N, Werth V: Rhabdomyolysis associated with quinacrine therapy in a patient with chronic cutaneous lupus erythematosus. *J Drugs in Dermatol* 4:225, 2005 [PMID: 15776783]
131. Somer M et al: Influence of hydroxychloroquine on the bioavailability of oral metoprolol. *Br J Clin Pharm* 49:549, 2000 [PMID: 10848718]
132. Rahman P et al: Smoking interferes with efficacy of antimalarial therapy in cutaneous lupus. *J Rheumatol* 25:1716, 1998 [PMID: 9733451]
133. Fox JN, Klapman MH, Rowe L: Lupus profundus in children: Treatment with hydroxychloroquine. *J Am Acad Dermatol* 16:839, 1987 [PMID: 3571546]
134. Del C, Battle AM et al: Two cases of infantile porphyria cutanea tarda: Successful treatment with S-adenosyl-L-methionine and low dose oral chloroquine. *Br J Dermatol* 116:407, 1987
135. Cann HM, Verhulst HL: Fatal acute chloroquine poisoning in children. *Pediatrics* 27:95, 1961 [PMID: 13690445]
136. Markowitz HA, McGinley JM: Chloroquine poisoning in a child. *JAMA* 189:950, 1964 [PMID: 14174337]
137. Ziering CL, Rabinowitz LG, Esterly NB: Antimalarials for children. Indications, toxicities, and guidelines. *J Am Acad Dermatol* 28:764, 1993 [PMID: 8496422]
138. Lewis R et al: Malaria associated with pregnancy. *Obstet Gynecol* 42:696, 1973 [PMID: 4584194]
139. Levy M et al: Pregnancy outcome following first trimester exposure to chloroquine. *Am J Perinatol* 8:174, 1991 [PMID: 2029276]
140. Buchanan NMM et al: The safety of hydroxychloroquine in lupus pregnancy: review of a series of 36 cases. *Ann Rheum Dis* 55:486, 1996 [PMID: 8774170]
141. Khamashta MA et al: The use of hydroxychloroquine in lupus pregnancy: The British experience. *Lupus* 5:S65, 1996
142. Parke AL, Rothfield NF: Antimalarial drugs in pregnancy—The North American experience. *Lupus* 5:S67, 1996
143. Parke AL. Antimalarial drugs in pregnancy. *Scand J Rheum* 107:125, 1998. [PMID: 9759150]
144. Motta M et al: Antimalarial agents in pregnancy. *Lancet* 359:524, 2002 [PMID: 11853823]
145. Motta M et al: Follow-up of infants exposed to hydroxychloroquine given to mothers during pregnancy and lactation. *J Perinatol* 25:86, 2005 [PMID: 15496869]

146. Costedoat-Chalumeau N et al: Safety of hydroxychloroquine in pregnant patients with connective tissue disease. *Arthritis Rheum* 11:3207, 2003
147. Costedoat-Chalumeau N et al: Safety of hydroxychloroquine in pregnant patients with connective tissue disease. Review of the literature. *Autoimmunity Rev* 4:111, 2005 [PMID: 15722258]
148. Parke AL: Antimalarial drugs, pregnancy and lactation. *Lupus* 2:S21, 1993
149. Canadian Rheumatology Association: Canadian Consensus Conference on hydroxychloroquine. *J Rheumatol* 27:2919, 2000