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Combination Antiretroviral Therapy and the Risk of Myocardial Infarction

The Data Collection on Adverse Events of Anti-HIV Drugs (DAD) Study Group*

ABSTRACT

BACKGROUND

It remains controversial whether exposure to combination antiretroviral treatment increases the risk of myocardial infarction.

METHODS

In this prospective observational study, we enrolled 23,468 patients from 11 previously established cohorts from December 1999 to April 2001 and collected follow-up data until February 2002. Data were collected on infection with the human immunodeficiency virus and on risk factors for and the incidence of myocardial infarction. Relative rates were calculated with Poisson regression models. Combination antiretroviral therapy was defined as any combination regimen of antiretroviral drugs that included a protease inhibitor or a nonnucleoside reverse transcriptase inhibitor.

RESULTS

Over a period of 36,199 person-years, 126 patients had a myocardial infarction. The incidence of myocardial infarction increased with longer exposure to combination antiretroviral therapy (adjusted relative rate per year of exposure, 1.26 [95 percent confidence interval, 1.12 to 1.41]; P<0.001). Other factors significantly associated with myocardial infarction were older age, current or former smoking, previous cardiovascular disease, and male sex, but not a family history of coronary heart disease. A higher total serum cholesterol level, a higher triglyceride level, and the presence of diabetes were also associated with an increased incidence of myocardial infarction.

CONCLUSIONS

Combination antiretroviral therapy was independently associated with a 26 percent relative increase in the rate of myocardial infarction per year of exposure during the first four to six years of use. However, the absolute risk of myocardial infarction was low and must be balanced against the marked benefits from antiretroviral treatment.

Address reprint requests to Dr. Jens D. Lundgren, DAD Coordinating Center, Copenhagen HIV Program, Section 044, Hvidovre University Hospital, 2650 Copenhagen, Denmark, or at jdl@cphiv.dk (Dr. Lundgren).

*The members of the DAD study group are listed in the Appendix.

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gree,[28] and thus further follow-up of our cohort is necessary to determine whether a substantial absolute increase in morbidity and mortality from therapy-related cardiovascular disease will emerge.[29,30]

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APPENDIX

The members of the DAD study group are as follows: *Writing committee:* Nina Friis-Møller (Copenhagen), Caroline A. Sabin (London), Rainer Weber (Zurich), Antonella d'Arminio Monforte (Milan), Wafaa M. El-Sadr (New York), Peter Reiss (Amsterdam), Rodolphe Thiébaut (Bordeaux), Linda Morfeldt (Stockholm), Stephane De Wit (Brussels), Christian Pradier (Nice), Gonzalo Calvo (Barcelona), Matthew G. Law (Sydney), Ole Kirk (Copenhagen), Andrew N. Phillips (London), and Jens D. Lundgren (Copenhagen); *steering committee:* J.D. Lundgren (chair), R. Weber (SHCS), A. d'Arminio Monforte (ICONA), G. Bartsch (CPCRA), P. Reiss (ATHENA), F. Dabis (Aquitaine), L. Morfeldt (HivBivus), S. De Wit (Brussels St. Pierre Cohort), C. Pradier (Nice Cohort), G. Calvo (BASS), M.G. Law (AHOD), O. Kirk (EuroSIDA), A.N. Phillips, F. Houyez, E. Loeliger, R. Tressler, and I. Weller; *central coordination:* N. Friis-Møller, C.A. Sabin, A. Sjøl (verification of primary end point), and J.D. Lundgren; *data management:* A. Sawitz (coordinator), M. Rickenbach, P. Pezzotti, E. Krum, R. Meester, V. Lavignolle, A. Sundström, B. Poll, E. Fontas, F. Torres, K. Petoumenos, and J. Kjær; *independent advisory panel:* S. Hammer, J. Neaton, and A. Sjøl.

The members of the 11 cohorts are as follows: **ATHENA:** *Central coordination:* F. de Wolf, E. van der Ven, S. Zaheri, I. Van Valkengoed, and R. Meester; *participating physicians:* W. Bronsveld, H. Weigel, K. Brinkman, P. Frissen, J. ten Veen, M. Hillebrand, P. van Dam, S. Schieveld, J. Mulder, E. van Gorp, P. Meenhorst, A. van Eeden, S. Danner, F. Claessen, R. Perenboom, J.K. Eeftinck Schattenkerk, M. Godfried, J. Lange, S. Lowe, J. van der Meer, F. Nellen, K. Pogany, T. van der Poll, J. Prins, P. Reiss, T. Ruys, M. van der Valk, F. Wit, C. Richter, R. van Leusen, R. Vriesendorp, F. Jeurissen, R. Kauffmann, E. Koger, B. Bravenboer, C. ten Napel, H.G. Sprenger, G. Law, R.W. ten Kate, M. Leemhuis, F. Kroon, E. Schippers, G. Schrey, S. van der Geest, A. Verbon, P. Koopmans, M. Keuter, D. Telgt, A. van der Ven, M. van der Ende, I. Gyssens, S. de Marie, J. Juttmann, C. van der Heul, M. Schneider, J. Borleffs, I. Hoepelman, C. Jaspers, A. Matute, C. Schurink, and W. Blok. **Aquitaine (France):** *Scientific committee:* R. Salamon (chair), J. Beylot, M. Dupon, M. Le Bras, J.L. Pellegrin, and J.M. Ragnaud; *central coordination:* F. Dabis, G. Chêne, H. Jacqmin-Gadda, R. Rhiébaut, S. Lawson-Ayayi, V. Lavignolle, E. Balestre, M.J. Blaizeau, M. Decoin, A.M. Formaggio, S. Delveaux, S. Labarerre, B. Uwamaliya, E. Vimard, L. Merchadou, G. Palmer, D. Touchard, D. Dutoit, F. Pereira, and B. Boulant; *participating physicians:* J. Beylot, P. Morlat, N. Bernard, M. Bonarek, F. Bonnet, B. Coadou, P. Gelie, D. Jaubert, C. Nouts, D. Lacoste, M. Dupon, H. Dutronc, G. Cipriano, S. Lafarie, I. Chossat, J.Y. Lacut, B. Leng, J.L. Pellegrin, P. Mercié, J.F. Viallard, I. Faure, P. Rispal, C. Cipriano, S. Tchamgoué, M. Le Bras, F. Djossou, D. Malvy, J.P. Pivetaud, J.M. Ragnaud, D. Chambon, C. De La Taille, T. Galperine, S. Lafarie, D. Neau, A. Ochoa, C. Beylot, M.S. Doutre, J.H. Bezian, J.F. Moreau, J.L. Taupin, C. Conri, J. Constans, P. Couzigou, L. Castera, H. Fleury, M.E. Lafon, B. Masquelier, I. Pellegrin, P. Trimoulet, F. Moreau, C. Mestre, C. Series, A. Taytard. **AHOD (Australia):** *Central coordination:* M. Law, K. Petoumenos; *participating physicians:* J. Anderson, J. Bal, A. Mijch, K. Watson, N. Roth, H. Wood, D. Austin, A. Gowers, D. Baker, R. McFarlane, A. Carr, D. Cooper, J. Chuah, W. Fankhauser, S. Mallal, and J. Skett. **BASS (Spain):** *Central coordination:* G. Calvo, F. Torres, and S. Mateu; *participating physicians:* P. Domingo, M.A. Sambeat, J. Gatell, E. Del Cacho, J. Cadafalch, M. Fuster, C. Codina, G. Sirera, and A. Vaqué. **The Brussels St. Pierre Cohort (Belgium):** N. Clumeck, S. De Wit, M. Gerard, M. Hildebrand, K. Kabeya, D. Konopnicki, M.C. Payen, B. Poll, and Y. Van Laethem. **CPCRA (United States):** *Central coordination:* J. Neaton, G. Bartsch, W.M. El-Sadr, E. Krum, G. Thompson, and D. Wentworth; *participating physicians:* R. Luskin-Hawk, E. Telzak, W.M. El-Sadr, D.I. Abrams, D. Cohn, N. Markowitz, R. Arduino, D. Mushatt, G. Friedland, G. Perez, E. Tedaldi, E. Fisher, F. Gordin, L.R. Crane, J. Sampson, and J. Baxter. **EuroSIDA (multinational):** *Central coordination:* O. Kirk, A. Mocroft, A.N. Phillips, and J.D. Lundgren; *participating physicians:* Austria — N. Vetter; Belgium — N. Clumeck, P. Hermans, and R. Colebunders; Czech Republic — L. Machala; Denmark — J. Nielsen, T. Benfield, J. Gerstoft, T. Katzenstein, B. Røge, P. Skinhøj, and C. Pedersen; France — C. Katlama, J.-P. Viard, T. Saint-Marc, P. Vanhems, and C. Pradier; Germany — M. Dietrich, C. Manegold, J. van Lunzen, V. Miller, S. Staszewski, M. Bieckel, F.D. Goebel, B. Salzberger, and J. Rockstroh; Greece — J. Kosmidis, P. Gargalianos, H. Sambatakou, J. Perdios, G. Panos, I. Karydis, and A. Filandras; Hungary — D. Banhegyi; Ireland — F. Mulcahy; Israel — I. Yust, D. Turner, S. Pollack, Z. Ben-Ishai, Z. Bentwich, and S. Maayan; Italy — S. Vella, A. Chiesi, C. Arici, R. Pristerá, F. Mazzotta, A. Gabbuti, R. Esposito, A. Bedini, A. Chirianni, E. Montesarchio, V. Vullo, P. Santopadre, P. Narciso, A. Antinori, P. Franci, M. Zaccarelli, A. Lazzarin, R. Finazzi, and A. D'Arminio Monforte; Luxembourg — R. Hemmer and T. Staub; the Netherlands — P. Reiss; Norway — J. Bruun, A. Maeland, and V. Ormaasen; Poland — B. Knysz, J. Gasiorowski, A. Horban, D. Prokopowicz, A. Boron-Kaczmarska, M. Pynka, M. Beniowski, and H. Trocha; Portugal — F. Antunes, K. Mansinho, and R. Proenca; Spain — J. González-Lahoz, B. Diaz, T. García-Benayas, L. Martin-Carbonero, V. Soriano, B. Clotet, A. Jou, J. Conejero, C. Tural, J.M. Gatell, and J.M. Miró; Sweden — A. Blaxhult, B. Heidemann, and P. Pehrson; Switzerland — B. Ledergerber, R. Weber, P. Francioli, A. Telenti, B. Hirschel, V. Soravia-Dunand, and H. Furrer; United Kingdom — M. Fisher, R. Brettle, S. Barton, A.M. Johnson, D. Mercey, C. Loveday, M.A. Johnson, A. Pinching, J. Parkin, J. Weber, and G. Scullard. **HivBivus (Sweden):** *Central coordination:* L. Morfeldt, G. Thulin, and A. Sundström; *participating physicians:* B. Åkerlund, K. Koppel, A. Karlsson, L. Flamholc, and C. Håkangård. **ICONA (Italy):** *Central coordination:* A. d'Arminio Monforte, P. Pezzotti; *participating physicians:* M. Moroni, A. d'Arminio Monforte, A. Cargnel, S. Merli, G.M. Vigevani, C. Pastecchia, A. Lazzarin, R. Novati, L. Caggese, C. Moioli, M.S. Mura, M. Mannazzu, F. Suter, C. Arici, P.E. Manconi, P. Piano, F. Mazzotta, S. Lo Caputo, A. Poggio, G. Bottari, G. Pagano, A. Alessandrini, A. Scasso, A.