

Breast cancer and HIV in Sub-Saharan Africa: A complex relationship

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Appendix 1: Studies included in the review of breast cancer and HIV

- 1) Albini, L., Calabresi, A., Gotti, D., Ferraresi, A., Festa, A., Donato, F., . . . Quiros-Roldan, E. (2013). Burden of non-AIDS-defining and non-virus-related cancers among HIV-infected patients in the combined antiretroviral therapy era. *AIDS Res Hum Retroviruses*, 29(8), 1097-1104. doi:10.1089/AID.2012.0321
- 2) Amir, H., Kaaya, E. E., Kwesigabo, G., & Kiitinya, J. N. (2000). Breast cancer before and during the AIDS epidemic in women and men: a study of Tanzanian Cancer Registry Data 1968 to 1996. *J Natl Med Assoc*, 92(6), 301-305. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/10918766>
- 3) Amir, H., Makwaya, C., Mhalu, F., Mbonde, M. P., & Schwartz-Albiez, R. (2001). Breast cancer during the HIV epidemic in an African population. *Oncol Rep*, 8(3), 659-661. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/11295098>
- 4) Andrade, A. C., Luz, P. M., Veloso, V. G., Cardoso, S. W., Moreira, R. I., Grinsztejn, B., & Friedman, R. K. (2011). Breast cancer in a cohort of human immunodeficiency virus (HIV)-infected women from Rio de Janeiro, Brazil: a cases series report and an incidence rate estimate. *Braz J Infect Dis*, 15(4), 387-393. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/21861013>
- 5) Anyanwu, S. N. (2008). Temporal trends in breast cancer presentation in the third world. *J Exp Clin Cancer Res*, 27, 17. doi:10.1186/1756-9966-27-17
- 6) Ashraff, Z., & Nallamala, S. (2007). Breast cancer in a woman with HIV/AIDS: case report and review of literature. *J HIV Ther*, 12(3), 71-72. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/17962797>
- 7) Brown, M. L., Goldie, S. J., Draisma, G., Harford, J., & Lipscomb, J. (2006). Health Service Interventions for Cancer Control in Developing Countries. In D. T. Jamison, J. G. Breman, A. R. Measham, G. Alleyne, M. Claeson, D. B. Evans, P. Jha, A. Mills, & P. Musgrove (Eds.), *Disease Control Priorities in Developing Countries* (2nd ed.). Washington (DC).
- 8) Calabresi, A., Ferraresi, A., Vavassori, A., Castelli, F., & Quiros-Roldan, E. (2012). Breast cancer among human immunodeficiency virus (HIV)-infected patients: the experience in Brescia, Northern Italy. *Braz J Infect Dis*, 16(4), 396-397. doi:10.1016/j.bjid.2012.06.001
- 9) Chokunonga, E., Borok, M. Z., Chirenje, Z. M., Nyakabau, A. M., & Parkin, D. M. (2013). Trends in the incidence of cancer in the black population of Harare, Zimbabwe 1991-2010. *Int J Cancer*, 133(3), 721-729. doi:10.1002/ijc.28063
- 10) Coghill, A. E., Newcomb, P. A., Madeleine, M. M., Richardson, B. A., Mutyaba, I., Okuku,

- F., . . . Casper, C. (2013). Contribution of HIV infection to mortality among cancer patients in Uganda. *AIDS*, *27*(18), 2933-2942.
doi:10.1097/01.aids.0000433236.55937.cb
- 11) Cooksley, C. D., Hwang, L. Y., Waller, D. K., & Ford, C. E. (1999). HIV-related malignancies: community-based study using linkage of cancer registry and HIV registry data. *Int J STD AIDS*, *10*(12), 795-802. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/10639060>
- 12) Cubasch, H., Joffe, M., Hanisch, R., Schuz, J., Neugut, A. I., Karstaedt, A., . . . Jacobson, J. S. (2013). Breast cancer characteristics and HIV among 1,092 women in Soweto, South Africa. *Breast Cancer Res Treat*, *140*(1), 177-186.
doi:10.1007/s10549-013-2606-y
- 13) Cuvier, C., Espie, M., Extra, J. M., & Marty, M. (1997). Breast cancer and HIV infection: two case reports. *Eur J Cancer*, *33*(3), 507-508. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/9155542>
- 14) Dauby, N., De Wit, S., Delforge, M., Necsoi, V. C., & Clumeck, N. (2011). Characteristics of non-AIDS-defining malignancies in the HAART era: a clinico-epidemiological study. *J Int AIDS Soc*, *14*, 16. doi:10.1186/1758-2652-14-16
- 15) Edge, J., Buccimazza, I., Cubasch, H., & Panieri, E. (2014). The challenges of managing breast cancer in the developing world – a perspective from sub-Saharan Africa. *South African Medical Journal*, *104*(5), 377. doi:10.7196/samj.8249
- 16) El-Rayes, B. F., Berenji, K., Schuman, P., & Philip, P. A. (2002). Breast cancer in women with human immunodeficiency virus infection: implications for diagnosis and therapy. *Breast Cancer Res Treat*, *76*(2), 111-116. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/12452447>
- 17) Endo, M., Inatsu, A., Hashimoto, K., Takamune, N., Shoji, S., & Misumi, S. (2008). Human immunodeficiency virus-induced apoptosis of human breast cancer cells via CXCR4 is mediated by the viral envelope protein but does not require CD4. *Curr HIV Res*, *6*(1), 34-42. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/18288973>
- 18) Garcia-Tejedor, A., Devesa, N. R., Suarez-Pumariiega, P., del Barco, S., & Huerta, M. V. (2007). Breast cancer and HIV--the adverse effects chemotherapy. *Breast J*, *13*(6), 622-623. doi:10.1111/j.1524-4741.2007.00498.x
- 19) Goedert, J. J., Schairer, C., McNeel, T. S., Hessol, N. A., Rabkin, C. S., Engels, E. A., & Study, H. A. C. M. (2006). Risk of breast, ovary, and uterine corpus cancers among 85,268 women with AIDS. *Br J Cancer*, *95*(5), 642-648. doi:10.1038/sj.bjc.6603282
- 20) Gotti, D., Raffetti, E., Albini, L., Sighinolfi, L., Maggiolo, F., Di Filippo, E., . . . Master

- Cohort, G. (2014). Survival in HIV-infected patients after a cancer diagnosis in the cART Era: results of an Italian multicenter study. *PLoS One*, 9(4), e94768.
doi:10.1371/journal.pone.0094768
- 21) Hessel, N. A., Napolitano, L. A., Smith, D., Lie, Y., Levine, A., Young, M., . . . Goedert, J. J. (2010). HIV tropism and decreased risk of breast cancer. *PLoS One*, 5(12), e14349. doi:10.1371/journal.pone.0014349
- 22) Huang, P. L., Sun, Y., Chen, H. C., Kung, H. F., & Lee-Huang, S. (1999). Proteolytic fragments of anti-HIV and anti-tumor proteins MAP30 and GAP31 are biologically active. *Biochem Biophys Res Commun*, 262(3), 615-623.
doi:10.1006/bbrc.1999.1213
- 23) Hurley, J., Franco, S., Gomez-Fernandez, C., Reis, I., Velez, P., Doliny, P., . . . Lee, Y. (2001). Breast cancer and human immunodeficiency virus: a report of 20 cases. *Clin Breast Cancer*, 2(3), 215-220; discussion 221. doi:10.3816/CBC.2001.n.024
- 24) Intra, M., Gentilini, O., Brenelli, F., Chagas, E. M., Veronesi, U., & Sandri, M. T. (2005). Breast cancer among HIV-infected patients: the experience of the European Institute of Oncology. *J Surg Oncol*, 91(2), 141-142. doi:10.1002/jso.20315
- 25) Kiertiburanakul, S., Likhitpongwit, S., Ratanasiri, S., & Sungkanuparph, S. (2007). Malignancies in HIV-infected Thai patients. *HIV Med*, 8(5), 322-323.
doi:10.1111/j.1468-1293.2007.00471.x
- 26) Langenhoven, L., Barnardt, P., Neugut, A., Jacobson, J. (2016). Phenotype and Treatment of Breast Cancer in HIV-Positive and -Negative Women in Cape Town, South Africa. *J Glob Oncol by American Society of Clinical Oncology*. Original Report.
- 27) Latif, N., Rana, F., & Guthrie, T. (2011). Breast cancer and HIV in the era of highly active antiretroviral therapy: two case reports and review of the literature. *Breast J*, 17(1), 87-92. doi:10.1111/j.1524-4741.2010.01023.x
- 28) Mayer, A. P., & Greenberg, M. L. (1996). FNB diagnosis of breast carcinoma associated with HIV infection: a case report and review of HIV associated malignancy. *Pathology*, 28(1), 90-95. Retrieved from
<http://www.ncbi.nlm.nih.gov/pubmed/8714281>
- 29) Mitsuyasu, R. T. (2014). Non-AIDS-defining cancers. *Top Antivir Med*, 22(3), 660-665. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/25101532>
- 30) Oluwole, S. F., Ali, A. O., Shafae, Z., & DePaz, H. A. (2005). Breast cancer in women with HIV/AIDS: report of five cases with a review of the literature. *J Surg Oncol*, 89(1), 23-27. doi:10.1002/jso.20171
- 31) Palan, M., Shousha, S., Krell, J., & Stebbing, J. (2011). Breast Cancer in the Setting of

- HIV. *Patholog Res Int*, 2011, 925712. doi:10.4061/2011/925712
- 32) Pantanowitz, L., & Connolly, J. L. (2002). Pathology of the breast associated with HIV/AIDS. *Breast J*, 8(4), 234-243. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/12100117>
- 33) Pantanowitz, L., Sen, S., Crisi, G. M., Makari-Judson, G., Garb, J., & Skiest, D. (2011). Spectrum of breast disease encountered in HIV-positive patients at a community teaching hospital. *Breast*, 20(4), 303-308. doi:10.1016/j.breast.2010.08.003
- 34) Parameswaran, L., Taur, Y., Shah, M. K., Traina, T. A., & Seo, S. K. (2014). Tolerability of chemotherapy in HIV-infected women with breast cancer: are there prognostic implications? *AIDS Patient Care STDS*, 28(7), 358-364. doi:10.1089/apc.2013.0370
- 35) Petoumenos, K., Hui, E., Kumarasamy, N., Kerr, S. J., Choi, J. Y., Chen, Y. M., . . . Database, T. A. H. O. (2010). Cancers in the TREAT Asia HIV Observational Database (TAHOD): a retrospective analysis of risk factors. *J Int AIDS Soc*, 13, 51. doi:10.1186/1758-2652-13-51
- 36) Rakowicz-Szulczynska, E. M., Jackson, B., Szulczynska, A. M., & Smith, M. (1998). Human immunodeficiency virus type 1-like DNA sequences and immunoreactive viral particles with unique association with breast cancer. *Clin Diagn Lab Immunol*, 5(5), 645-653. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/9729531>
- 37) Razmkhah, M., Talei, A. R., Doroudchi, M., Khalili-Azad, T., & Ghaderi, A. (2005). Stromal cell-derived factor-1 (SDF-1) alleles and susceptibility to breast carcinoma. *Cancer Lett*, 225(2), 261-266. doi:10.1016/j.canlet.2004.10.039
- 38) Remick, S. C., Harper, G. R., Abdullah, M. A., McSharry, J. J., Ross, J. S., & Ruckdeschel, J. C. (1991). Metastatic breast cancer in a young patient seropositive for human immunodeficiency virus. *J Natl Cancer Inst*, 83(6), 447-448. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/1999852>
- 39) Robbins, H. A., Shiels, M. S., Pfeiffer, R. M., & Engels, E. A. (2014). Epidemiologic contributions to recent cancer trends among HIV-infected people in the United States. *AIDS*, 28(6), 881-890. doi:10.1097/QAD.0000000000000163
- 40) Ruiz, M., & Davis, H. (2011). Breast Cancer in HIV-Infected Patients: A Retrospective Single-Institution Study. *J Int Assoc Physicians AIDS Care (Chic)*, 10(1), 30-34. doi:10.1177/1545109710385002
- 41) Ruiz, M., Johnson, D., Reske, T., Cefalu, C., & Estrada, J. (2013). Non-AIDS-defining cancers in New Orleans. *J Int Assoc Provid AIDS Care*, 12(3), 173-177. doi:10.1177/2325957412471994
- 42) Salmons, B., & Gunzburg, W. H. (2013). Revisiting a role for a mammary tumor

- retrovirus in human breast cancer. *Int J Cancer*, 133(7), 1530-1535.
doi:10.1002/ijc.28210
- 43) Sanchez-Pena, P., Romero-Guadarrama, M. B., & Aguirre-Garcia, J. (2009). Diseases associated with HIV infection: study of biopsies and surgical resection specimens at a large general hospital in Mexico City. *Ann Diagn Pathol*, 13(3), 162-167.
doi:10.1016/j.anndiagpath.2009.03.001
- 44) Sarhan, M., DePaz, H. A., & Oluwole, S. F. (2010). Breast cancer in women with human immunodeficiency virus infection: pathological, clinical, and prognostic implications. *J Womens Health (Larchmt)*, 19(12), 2261-2266. doi:10.1089/jwh.2010.2026
- 45) Sasco, A. J., Jaquet, A., Boidin, E., Ekouevi, D. K., Thouillot, F., Lemabec, T., . . . Dabis, F. (2010). The challenge of AIDS-related malignancies in sub-Saharan Africa. *PLoS One*, 5(1), e8621. doi:10.1371/journal.pone.0008621
- 46) Shaaban, H. S., Modi, Y., & Guron, G. (2012). Is there an association between human immunodeficiency virus infection and breast cancer? *Med Oncol*, 29(2), 446-447.
doi:10.1007/s12032-011-9856-5
- 47) Shiels, M. S., Pfeiffer, R. M., & Engels, E. A. (2010). Age at cancer diagnosis among persons with AIDS in the United States. *Ann Intern Med*, 153(7), 452-460.
doi:10.7326/0003-4819-153-7-201010050-00008
- 48) Shiels, M. S., Pfeiffer, R. M., Gail, M. H., Hall, H. I., Li, J., Chaturvedi, A. K., . . . Engels, E. A. (2011). Cancer burden in the HIV-infected population in the United States. *J Natl Cancer Inst*, 103(9), 753-762. doi:10.1093/jnci/djr076
- 49) Singh, S. N., Zhu, Y., Chumsri, S., Kesmodel, S., Gilliam, B. L., & Riedel, D. J. (2014). Outcomes and chemotherapy-related toxicity in HIV-infected patients with breast cancer. *Clin Breast Cancer*, 14(2), e53-59. doi:10.1016/j.clbc.2013.11.002
- 50) Spano, J. P., Lanoy, E., Mounier, N., Katlama, C., Costagliola, D., & Heard, I. (2012). Breast cancer among HIV infected individuals from the ONCOVIH study, in France: therapeutic implications. *Eur J Cancer*, 48(18), 3335-3341.
doi:10.1016/j.ejca.2012.05.019
- 51) Spina, M., Nasti, G., Simonelli, C., Bertola, G., Rossi, C., & Tirelli, U. (1994). Breast cancer in a woman with HIV infection: a case report. *Ann Oncol*, 5(7), 661-662.
Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/7993849>
- 52) Suneja, G., Shiels, M. S., Angulo, R., Copeland, G. E., Gonsalves, L., Hakenewerth, A. M., . . . Engels, E. A. (2014). Cancer treatment disparities in HIV-infected individuals in the United States. *J Clin Oncol*, 32(22), 2344-2350.
doi:10.1200/JCO.2013.54.8644

- 53) Velasco-Velazquez, M., Jiao, X., De La Fuente, M., Pestell, T. G., Ertel, A., Lisanti, M. P., & Pestell, R. G. (2012). CCR5 antagonist blocks metastasis of basal breast cancer cells. *Cancer Res*, 72(15), 3839-3850. doi:10.1158/0008-5472.CAN-11-3917
- 54) Velasco-Velazquez, M., Xolalpa, W., & Pestell, R. G. (2014). The potential to target CCL5/CCR5 in breast cancer. *Expert Opin Ther Targets*, 18(11), 1265-1275. doi:10.1517/14728222.2014.949238
- 55) Voutsadakis, I. A., & Silverman, L. R. (2002). Breast cancer in HIV-positive women: a report of four cases and review of the literature. *Cancer Invest*, 20(4), 452-457. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/12094539>
- 56) Wabinga, H. R., Namboze, S., Amulen, P. M., Okello, C., Mbus, L., & Parkin, D. M. (2014). Trends in the incidence of cancer in Kampala, Uganda 1991-2010. *Int J Cancer*, 135(2), 432-439. doi:10.1002/ijc.28661