



ABORTION INCREASES RISK OF CANCER

Key issues:

- Many scientific sources illustrate the relationship between abortion and increased risk of breast cancer. Researchers provide various estimations of the increase, varying from several tens percent to an increase by six times.
- any following abortion dramatically increases the risk, even by up to 12 times
- according to some studies, abortion causes greater increase in breast cancer risk than obesity or passive smoking
- abortion is related to an increase in risk of other types of cancer – cervical, ovarian and endometrial
- some studies demonstrate relationship between abortion and increase in risk of HPV infection, as well as occurrence of a subtype of acute lymphocytic leukaemia in children born subsequently to abortion.

The Journal of American Physicians and Surgeons published a paper with the following conclusion: “it is deplorable that in an era in which women’s rights appear so prominently on the political and public health landscape, women should be denied the right to know about the breast cancer risk-increasing effect of such a common matter of choice as induced abortion”. (J. Brind, *Induced Abortion as an Independent Risk Factor for Breast Cancer: A Critical Review of Recent Studies Based on Prospective Data*, in: „Journal of American Physicians and Surgeons”, Vol. 10, Nr. 4, 2005, p. 105-110). Some scientific research papers published in global peer-reviewed magazines indicate risk of breast cancer in women who had an abortion increased even by several hundred percent.

Is there a correlation between abortion and breast cancer?

“ Virtually all the increase in breast cancer incidence between 1986 and 1998 occurred in women under age 65 in 1998, i.e., in women under age 40 in 1973, the year induced abortion was legalized nationwide by the Roe v. Wade decision. It is not unreasonable, therefore, to attribute a substantial portion of the increase in breast cancer incidence since 1986 to induced abortion. Such an attribution is in complete agreement with predictions made in our 1996 review and meta-analysis. We predicted at least 24,500 abortion-attributable cases of breast cancer per year in the United States alone by

the fourth decade of the 21st century. (...) It is only reasonable to conclude, from all extant evidence, that induced abortion is indeed a risk factor for breast cancer, despite the strong and pervasive bias in the recent literature in the direction of viewing abortion as safe for women. Recent prospective studies, widely touted as refuting the abortion-breast cancer link, are found to embody many serious methodologic flaws sufficient to invalidate their findings. It is deplorable that in an era in which women's rights appear so prominently on the political and public health landscape, women should be denied the right to know about the breast cancer risk-increasing effect of such a common matter of choice as induced abortion". (J. Brind, Induced Abortion as an Independent Risk Factor for Breast Cancer: A Critical Review of Recent Studies Based on Prospective Data, in: „Journal of American Physicians and Surgeons”, Vol. 10, Nr. 4, 2005, p. 105-110)

A meta-analysis of 28 scientific researches on the abortion-breast cancer link demonstrated that abortion remains an independent factor increasing the risk of breast cancer. The link between breast cancer and abortion is present regardless of prior pregnancies and childbirth or the time of abortion – whether it was performed in the first trimester of gestation or later. Authors of the meta-analysis state that there is an urgent need to inform patients about the relationship between breast cancer and abortion. (J. Brind, V.M. Chinchilli, W.B. Severs, J. Summy-Long, *Induced abortion as an independent risk factor for breast cancer: a comprehensive review and meta-analysis*, in: „Journal of Epidemiology and Community Health”, Vol. 50, 1996, p. 481-496)

Research conducted by a team representing the Harvard School of Public Health in Boston based on a comparison of 820 female patients from Athens with diagnosed breast cancer with 795 patients of an orthopaedic ward and 753 healthy visitors to the hospital. Parous women expressed a correlation between abortion induced before first full-term pregnancy and breast cancer risk – the abortion increased the risk by 2.06 times. (L. Lipworth, K. Katsouyanni, A. Ekborn, et al., *Abortion and the risk of breast cancer: a case-control study in Greece*, in: „International Journal of Cancer”, Vol. 61, Nr. 2, 1995, p. 181-184)

An Indian research compared a total of 180 women aged 25-69 divided into two groups. Data on women with diagnosed breast cancer have been compared with data on women from the control group. One of the factors that increased breast cancer risk is abortion induced by 14.9% of women in the study group (with diagnosed breast cancer) and 4.3% in the control group. Researchers stated that abortion experience causes an increase in breast cancer incidence rate by over six times (6.38). (R. Kamach, K.S. Mahajan, L. Ashok, T.S. Sanal, *A study on Risk Factors of Breast Cancer Among Patients Attending the Tertiary Care Hospital, in Udupi District*, in: „Indian Journal of Community Medicine”, Vol. 38, Nr. 2, 2013, p. 95-99)

A research conducted on female patients of medical clinics in Istanbul over the years 2000-2006 – 1492 participants with diagnosed breast cancer and 2167 women in control group – showed that an induced abortion increased the breast cancer risk by over 30%. (V. Omen, B. Ozcinar, H. Karanlik, N. Cabioglu, et al., *Breast cancer risk factors in Turkish women – a University Hospital based nested case control study*, in: „World Journal of Surgical Oncology”, Vol. 7:37, 2009)

Has any research so far enabled comparison of the influence abortion has on breast cancer incidence rate with other carcinogenic factors?

In 2004 in northern Iran a research encompassed 250 women with diagnosed breast cancer and 500 women in the control group. It was stated that abortion experience was one of the factors increasing breast cancer risk. In women who had an abortion, breast cancer risk was 62% higher than in women

from the control group. The research demonstrated that abortion had greater influence on breast cancer risk increase than improper BMI. (K.H. Naieni, A. Ardalan, M. Mahmoodi, et al. *Risk Factors of Breast Cancer in North of Iran: A Case-Control in Mazandaran Province*, in: „Asian Pacific Journal of Cancer Prevention”, Vol. 8, 2007, p. 395-398)

Research conducted on the Faculty of Medicine, University of Colombo, Sri Lanka, was focused on the role of prolonged postnatal breastfeeding as a protection from breast cancer and on factors increasing incidence of the cancer. Results showed that abortion experience increases possible cancer incidence by over three times and constitutes a greater risk to the woman than passive smoking. (M. De Silva, U. Senarath, M. Gunatilake, D. Lokuhetty, *Prolonged breastfeeding reduces risk of breast cancer in Sri Lankan women: a case-control study*, in: „Cancer Epidemiology”, Vol. 34, Nr. 3, 2010, p. 267-73)

■ Do repeated abortions increase the risk of breast cancer?

A research conducted by Chinese scientists in Jiangsu province involved 669 women with diagnosed breast cancer and a control group of 682 women. Results proved that abortion is correlated with increased breast cancer risk. Among premenopausal women with history of at least 3 induced abortions, breast cancer risk increased by 2.4 times, whereas among postmenopausal women with a previous induced abortion the risk increased by 2.04 times, compared to the control group. Spontaneous miscarriages did not affect breast cancer risk significantly. (Ai-Ren Jiang, Chang-Ming Gao, Jian-Hua Ding, Su-Ping Li, et al., *Abortions and Breast Cancer Risk in Premenopausal and Postmenopausal Women in Jiangsu Province of China*, in: „Asian Pacific Journal of Cancer Prevention”, Vol. 13, 2012, p. 33-35)

Other Chinese research conducted in the Yunnan province based on a study group of 263 women with breast cancer diagnosed between 2009 and 2012, and 457 women in a control group. It showed that women with history of at least 2 abortions had breast cancer risk increased by 12.3 times and in women after 1 abortion the increase was by 2.5 compared to women in the control group. The researchers claimed as well that use of oral contraceptives increased the risk by 2.26 times, and sterilisation increased it by almost 6 times. (Ch. Yunhua, A. Geater, J. Sou, L. Li, Z. Shaoqiang, et al., *Reproductive Variables and Risk of Breast Malignant and Benign Tumours in Yunnan Province, China*, in: „Asian Pacific Journal of Cancer Prevention”, Vol. 13, 2012, p. 2179-2184)

A research conducted in cooperation by American and Armenian scientists on 150 female patients of a hospital in Yerevan and 152 women in control group focused on causes of breast cancer. It was proved that in women with experience of 1 to 3 abortions risk of breast cancer increased by 77% and in women after 4-10 abortions the risk increased by 95%, compared to the control group. (L. Khachatryan, R. Scharpf, S. Kagan, *Influence of Diabetes Mellitus Type 2 and Prolonged Estrogen Exposure on Risk of Breast Cancer Among Women in Armenia*, in: „Heath Care for Women International”, Vol. 32, 2011, p. 953-971)

Researchers from Tiencin University Hospital in China performed a meta-analysis of 36 scientific papers on influence of induced abortion on breast cancer risk, published before 2013 and including results of researchers conducted in 14 Chinese provinces. A meta-analysis showed that a single abortion increases the risk by 44%, two abortions increase it by 76% and three abortions by 89%. The analysed articles included researchers that indicated risk increase by 400% or even by over 600%. (Cao M.L., 2008), (Li X.L., 2006), (Y. Huang, X. Zhang, W. Li, *A meta-analysis of the association between induced abortion and breast cancer risk among Chinese females*, in: „Cancer Causes & Control”, Vol. 25, Nr. 2, 2014, p. 227-236)

A metaanalysis of 6 researches from Australia, France and Russia that analysed influence of genetic factors and abortion experience on breast cancer risk encompassed a total of 2693 women with diagnosed breast cancer and 3493 women in control groups. The results demonstrate a relationship between the two factors. A meta-analysis has shown that, compared to the control group, risk of breast cancer in women with family predisposition to the type of cancer was 1.8 times greater in women who have never had an abortion; 1.9 times greater in women after one abortion and 2.8 times greater in women after two or more abortions. It has also been proven that abortion performed by nulliparae is especially risky, as it increased breast cancer risk by 170%, whereas abortion performed after first childbirth increased the risk by 90%. (N. Andrieu et. al., *Familial risk, abortion and their interactive effect on the risk of breast cancer-a combined analysis of six case-control studies*, in: „British Journal of Cancer”, Vol. 72, Nr. 3, 1995, p. 744-751)

■ Does abortion create a risk of other types of cancer?

Larissa Remennick from the Russian Academy of Medical Sciences in Moscow has published an overview article on abortion as a risk factor in occurrence of cancer. She analysed over 50 researches performed in various countries of the world, including the USA, Canada, France, Denmark, Japan and Israel that show significant increase in breast cancer risk in women after an abortion. She also presents results of researches performed in former USSR countries, including the northern Caucasus region, that provide documentation for increase in breast cancer risk by 3.4 times in women after three or more abortions. The researchers show that women who terminated their first pregnancy under age of 25 showed an increase in breast cancer risk by 1.8 compared to those who had their first abortion on a later stage of life. The author quotes Dutch, French, British and Chilean researches that demonstrate a positive relationship between abortion and cervical cancer. Armenian research outcomes point out to the same conclusion, as most registered cases of cervical cancer within the research period were present in Yerevan, Gyumri and Vanadzor, cities with highest abortion rates. In other cities and regions of the republic with similar social structure of people in reproductive age but with abortion rates half as low, occurrence of cervical cancer was three times lower. The researcher states that, probably due to the same reasons, in other former Soviet republics in central Asia with multinational societies, occurrence of cervical cancer is much higher among immigrants (mainly Russians) than among indigenous inhabitants. For instance, in Kyrgyzstan cervical cancer occurs five times more often among Russians than among Kyrgyz women. The same regularity is confirmed by data on former Soviet Republic as a whole. Analysis of official data on abortion and regional cancer registers for the years 1959-1985 showed a significant correlation between abortion and various malignant tumours – cervical and, to a lesser degree, breast cancer. The correlation was independent from other factors related to reproduction, such as woman's age at the moment of first childbirth, number of births given and the like. Within the conclusions of her meta-analysis, Remennick quotes two explanatory approaches towards the correlation between abortion and cancer – the first one is related to the general protective function of pregnancy as such, expressed for instance by changes in breast tissue, a pause in ovulatory activity of ovaries and so forth. Termination of a pregnancy eliminates the protective effect. The second approach underlines the sudden interruption of hormonal processes, immunologic stress, as well as interruption of changes in breast tissue, all of which occur consequent to abortion and are independent carcinogenic factors. The researcher stresses rationality and complementarity of arguments of both approaches, although the second one appears more biologically credible to her, as it is supported by clinical arguments and experiments. (L.I. Remennick, *Induced abortion as cancer risk factor: a review of epidemiological evidence*, in: „Journal of Epidemiology and Community Health”, Vol. 44, 1990, p. 259-264)

An Italian research of 39 female patients with diagnosed cancer and 409 women in control group, all of them inhabitants of the greater Milan area, aimed at assessment of risk factors for cervical adenocarcinoma. It provided ground to claim that risk of the cancer increases with the number of abortions that a woman had. Women with experience of one or more abortions in the same age group and bearing the first child in the same age as women in the control group (with no abortion experience) are 2.5 times more prone to the cancer. Whereas, taken into consideration the same age of the women and age of first sexual intercourse in both groups, women with experience of one or more abortions are 3.7 times more prone to the cancer than women who never had and abortion performed on. (F. Parazzini, C. La Vecchia, E. Negri, et al., *Risk factors for adenocarcinoma of the cervix: A case-control study*, in: „British Journal of Cancer”, Vol. 57, 1988, p. 201-204)

Research performed on female patients of 27 hospitals in 12 provinces of northern Vietnam and Hanoi in 2001-2006, during which 262 cases of ovarian cancer were analysed (the control group of 755 women was appropriately adjusted, concerning place of residence and age), proved that women with abortion experience showed risk of ovarian cancer increased by 1.5 times, and spontaneous miscarriage did not increase the risk. (D.C. Le, T. Kubo, Y. Fujino, et al., *Reproductive factors In relation to ovarian cancer: a case-control study In Northern Vietnam*, in: „Contraception”, Vol. 86, 2012, p. 494-499)

Research conducted on the University of Minnesota comprised of a data analysis of 24,848 women in postmenopausal age (55-69), resident in the Iowa State. In 1986, when the research began, the women had no cancer diagnosed. After five years they have been examined once again, and 167 cases of endometrial cancer have been found. An analysis allowed to determine that in women after abortion the risk of the kind of cancer was 2.5 times greater than among their peers without abortion experience. The researchers admit that the influence of abortion on occurrence of the type of cancer remains unclear and that the research did not clear the ambiguity. Aside from that, they point out to an interesting research problem – much more women with abortion experience had a miscarriage in their last pregnancy prior to the research examination, compared to women without such experience. It may indicate that relative risk of endometrial cancer may be correlated with the miscarriage and not the abortion itself (which, as shown by the abovementioned research, shows relationship with more frequent miscarriages). (C.P. McPherson, T.A. Sellers, J.D. Potter, et al., *Reproductive Factors and Risk of Endometrial Cancer. The Iowa Women's Health Study*, in: „American Journal of Epidemiology”, Vol. 143, Nr. 12, 1996, p. 1195-202)

A research performed in Hongkong encompassed 2,080 women who underwent screening for cervical cancer. It was stated that frequency of HPV infections (human papillomavirus that may cause skin lesions in form of papillae or genital warts or malignant tumours) within the group was 7.3%. HPV was divided into three subtypes, according to its oncogenous potential: of high, low and unknown risk. It was stated that an abortion experience is a factor within the group of high HPV-infection risk (in women without abortion experience 3.1% have been infected, in women with such experience – 5.4%). (P.K Chan, et al., *Determinants of Cervical Human Papillomavirus Infection: Differences between High-and Low-Oncogenic Risk Types*, in: „The Journal of Infectious Diseases”, Vol. 185, Nr. 1, 2002, p. 28, 2002)

Can abortion be the cause of tumours in a woman's child born subsequently to it?

American scientists from various universities performed a research on 1,842 children under 15 years of age with diagnosed acute lymphoblastic leukaemia. The individually adjusted control group comprised of 1,983 children. Data were collected during telephone interviews with parents of sick children as

well as those from the control group. An analysis performed showed that mothers of children with diagnosed acute lymphoblastic leukaemia (T-cell subtype) had abortions much more frequently than mothers of children from the control group (abortion itself occurred 2.4 times more often and 2.2 times more often was performed directly before the pregnancy that resulted in birth of the child with leukaemia). The researchers have stated as well that use of oral contraceptives by the mother during pregnancy increased the risk of acute lymphoblastic leukaemia in children, especially younger ones. The authors are unsure as to the nature of the correlation, although they suggest that exposition to a large dose of hormones in early prenatal stage may be correlated with increased risk of leukaemia. (S.X. Ou, et al., *Birth characteristics, maternal reproductive history, hormone use during pregnancy, and risk of childhood acute lymphocytic leukemia by immunophenotype (United States)*, in: „Cancer Causes and Control”, Vol. 13, 2002, p. 15-25)



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