
Reproduction Factors in Women and Cystic Fibrotic Disease of Breasts (Mastopathy)

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Two-hundred-and-six women on hormone replacement therapy and suffering from cystic fibrotic disease (CFD), or mastopathy, were investigated in Out-patient Department of the Lithuanian Oncology Center. CFD morbidity increases significantly with age. Reproduction factors are related to its incidence differently: age at menarche and menopause is not related to it; age at the first parturition and the number of children are slightly correlated with it; data of the present study allow no presumption as to a relation between the number of abortions and the frequency of the disease.

Key words: women's reproductive period, cystic fibrotic disease of breasts, risk factors

INTRODUCTION

Breast diseases are not a local phenomenon, they may be related to the reproduction system of woman in general, its morphogenesis, age-related changes in the hormone level, duration of the reproductive period (*i. e.* age at menarche and menopause), peculiarities of menstrual cycle, lactation and other factors. It is true that hormonal dysfunction, discrepancy of their balance is the main cause of cystic fibrotic disease (CFD), clinically usually called mastopathy (1). Nevertheless, there are many controversial opinions on the significance of the woman's age and various reproduction factors in its pathogenesis. For instance, the age of the first delivery seems to be related to breast cancer (2), an early childbirth being its preventing agent (3). On the other hand, some authors (4) deny this opinion. The same authors note that a greater number of deliveries diminishes occurrence of mastopathy, while other data (5) demonstrate an opposite influence. There is no agreement as to the role of the duration of the reproductive period in the pathogenesis of breast tumors. There the age at menarche seems to be not very important (4), while the age at menopause is attributed to one of the risk factors (6). The reason for the majority of controversies lays in the differences and specificity of the contingents studied as well as in the methods used. That is why

investigations on relations between reproductive factors and CFD incidence in different populations are of great importance.

The goal of the present report is to show a relation between the women's age, age at menarche and menopause, the number of pregnancies, age at the first childbirth, the number of abortions on one hand and the incidence of CFD on the other hand in Vilnius, Lithuania.

MATERIALS AND METHODS

Materials of the present investigation are rather specific. In the period from 1 January 1996 to 31 May 2002, 268 women in a wide range of age (35–65 years) were observed at the Consultation Out-patient Department of the Lithuanian Center of Oncology. They were on peroral hormone replacement therapy (HRT) medications due to a pronounced climacteric and post-castration syndrome for a period not shorter than 6 months. HRT was prescribed by gynecologists or endocrinologists. CFD was diagnosed and treated for all of these women. Their distribution according to age as well as following reproduction factors was registered: 1 – age at the first and the last menstruation, 2 – number of abortions, 3 – age at the first childbirth, 4 – number of parturitions.

Statistical analysis was performed using Microsoft Excel 2000 software. For various parameters (mean values, percentages), 95 percent confidence intervals (CI) were calculated. Statistical significance of differences between various indices was evaluated using the chi-square test or Student's criterion. Differences were considered significant when the reliability level was $p < 0.05$.

RESULTS AND DISCUSSION

Though the study cohort consisted of women in a wide range of age, patients in pre-, peri- and postmenopausal age (45–54 years) comprised the largest part – 186 (69.4%, CI 63.9–74.9) (Table). The number of women aged under 44 years was 38 (14.2%, CI 10.0–18.4) and over 55 years 44 (16.4%, CI 12.0–20.9). The mean age of the women (Table) slightly prevailed in our study, and this confirms the widespread opinion (7) that CFL incidence increases with age.

Age, years	n	%	95% CI
35–39	5	1.9	0.2–3.5
40–44	33	12.3	8.4–16.2
45–49	85	31.7	26.1–37.3
50–54	101	37.7	31.9–43.5
55–59	38	14.2	10.0–18.4
60–64	6	2.2	0.5–4.0
Total	268	100.0	

For the highest number of the women (Fig. 1) in our sample (172, or 64.2%, CI 58.4–69.9) the first menstruation occurred between 13 and 14 years, for 59 of them it occurred earlier, *i. e.* between 11 and 12 years (22.0, CI 17.1–27.0), and later, *i. e.*

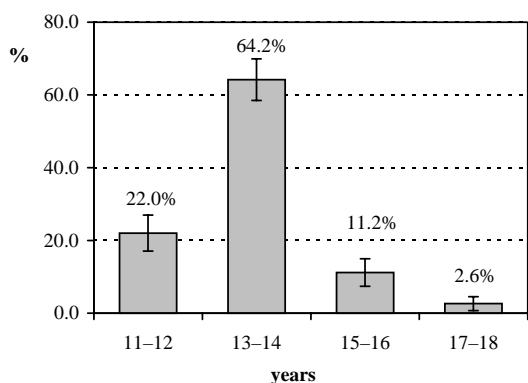


Fig. 1. Distribution of patients according to the age of menarche

between 15 and 16 years it occurred to 30 (11.2%, CI 7.4–15.0). Extremely late (17–18 years) menarche was noted only in 7 (2.6%, CI 0.7–4.5) cases. The mean age of menarche in Lithuania is generally 13.0–13.5 years in urban and 13.5–14.0 years in rural areas, the limits of variation being 11.0 and 16.0 years (8). Our data suit very well the Lithuanian reference population, that is why there is no reason to suspect dependence of CFD incidence on the age of menarche. This supposition supports the opinion of some other investigators (4).

Age at the last menstruation (Fig. 2) was registered only for those patients who did undergo gynecological surgery or it was performed during menopause. The sample consisted of 103 (38.4%) patients, for 38 (36.9%, CI 27.6–46.2) of them the last menstruation took place at the age of 50–54 years, for 36 (35.0%, CI 25.7–44.2) it happened at earlier age (45–50 years), and only 7 (6.8%, CI 1.9–11.7) women had late menopause (at the age of 55–59 years). The mean age of the last menstruation was 48.3 years (CI 47.5–49.3). According to anthropological investigations of Lithuanian women born in 1925–1929, the mean menopause age was 50.1 years (8). Thus, in our cohort it was insignificantly lower than in Lithuanian population in general, thus there are no grounds to argue that the incidence of CFD is related to later menopause, though some authors (6) have an opposite opinion.

Among the women examined, 121 (45.1%, CI 39.2–51.1) had abortions (Fig. 3), and the rest of them (147, or 54.9%, CI 48.9–60.8) had not. The majority (53, or 43.8%, CI 35.0–52.6) had only one abortion, 36 (29.8%, CI 21.6–37.9) women had two, and 32 (26.4%, CI 18.6–34.3) patients had three or more abortions. It must be noted that the number of women without abortions was statistically signifi-

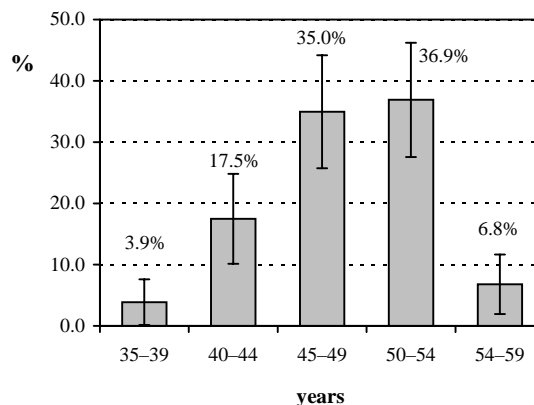


Fig. 2. Distribution of patients according to the age of menopause

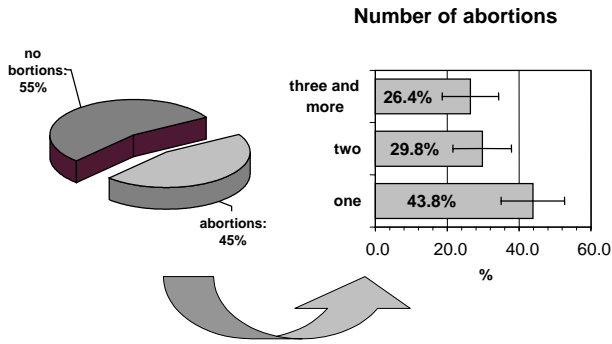


Fig. 3. Structure of abortions in the study cohort

cantly higher ($p < 0.05$). According to some investigations (9), three and more abortions increase the risk of CFD even 7.2 times. In our study a rather small number of patients had three and more abortions. Therefore, we cannot either support or deny this statement.

Almost to a half of investigated women (105 of 236, or 44.5%, CI 38.2–50.8) who had children (Fig. 4), their first delivery was at a quite young age, *i. e.* 20–24 years. More than one third (86, or 36.4%, CI 30.3–42.6) had the first childbirth at the age of 25–29 years. The percentage of the first parturition among older women was steadily decreasing with age. There, 11 (4.7%, CI 2.0–7.4) of them had the first delivery at the age of 35–39 years, and only 2 (0.8%, CI 0.0–2.0) patients had it at 40–44 years. The average age at the first delivery was 25.9 years (CI 25.3–26.5). According to the demographic statistics of Lithuania (10) in 2001, the mean age of women at the birth of the first child was 24.2 years. Thus, our patients had their first delivery at a little older age. Therefore, it is possible to agree partially with the supposition of some authors (3) that early childbirth is a somewhat protective factor against development of CFD.

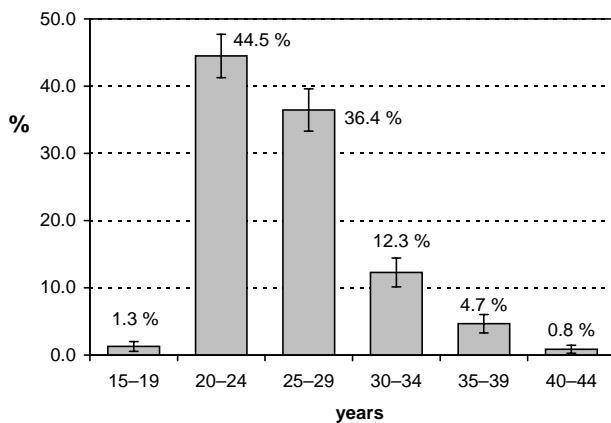


Fig. 4. Age of women at the first childbirth

The majority of women (236, or 88.1%, CI 84.2–91.9) had childbirths (Fig. 5), and only 32 (11.9%, CI 8.1–15.8) had not. Women with two children were prevailing (116, or 43.3%, CI 37.4–49.2), a similar number (106, or 39.6%, CI 33.7–45.4) had one, and quite few of the women (14, or 5.2%, CI 2.6–7.9) had three children. There were no patients with more than three childbirths.

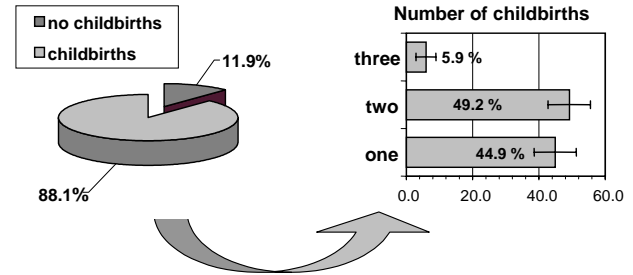


Fig. 5. Distribution of women according to the number of childbirths

For the 236 women who had children, the average number of parturitions was 1.49. The general index of childbirth in Lithuanian population (10) was 1.29 in 2001, this index in our sample is slightly higher. It is possible to support to some extent the hypothesis (5) that the number of childbirths may be directly correlated with the risk of CFD.

CONCLUSIONS

1. The morbidity of cystic fibrotic disease of breasts (mastopathy) increases significantly with women’s age.
2. Reproduction factors are related to its incidence differently: age at menarche and menopause (*i. e.* duration of reproductive period) is not related to it, the age at the first parturition and the number of childbirths are slightly correlated with it, however, the data of the present study do not allow any presumption as to a relation between the number of abortions and the frequency of the disease.

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References

1. Mauvais-Jarvis P, Sterkers N, Kuttenn F et al. Traitement des mastopaties benigne par la progesterone et les progestatifs. *J Gynecol Obstet Biol Reprod* 1978; 7: 477.
2. Henderson B, Pike M, Bernstein L et al. *Breast Cancer* 1996: 1002.
3. Yu H, Cook MM, Rohan TE et al. Risk factors for fibroadenoma; a case-control study in Australia. *Am J Epidemiol* 1992; 135: 247.

4. Goering c, Morabia A. Epidemiology of benign breast disease, with special attention to histologic types. *Epidemiol Rev* 1997; 19: 310.
5. Rossner B, Colditz GA. Nurses health study: long-incidence mathematical model of breast cancer. *J Natl Cancer Inst* 1996; 88: 359.
6. Cole p, Elwood JM, Kaplan SD. Incidence rates and risk factors of benign breast neoplasms. *Am J Epidemiol* 1978; 108: 112.
7. Lohbeck HU, Knippenberg H. Gutartige Erkrankungen der Brustdrüse. Gutartige gynaekologische Erkrankungen. München, 1988: 317.
8. Pavilonis S, Tutkuvienė J. Lietuvių moterų vaisingasis periodas. Lietuvių antropologijos metmenys. Vilnius, 1991: 58.
9. Demografijos metraštis. Statistikos departamentas A300. Vilnius 2002: 26.
10. Серов ВН, Тагиева ТТ, Прилепская ВН. Диагностика заболеваний молочных желез. *Гинекология* 1999; 1, 2: 1–8.

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MOTERŲ REPRODUKCIJOS VEIKSNIAI IR KRŪTŲ CISTINĖ FIBROZINĖ LIGA (MASTOPATIJA)

S a n t r a u k a

Darbo tikslas – įvertinti moterų reprodukcinio laikotarpio veiksnius, kaip galimą krūtų cistinės fibrozinės ligos (CFL) riziką. Lietuvos onkologijos centro Konsultacinėje poliklinikoje 1996–2002 m. ištirtos 268 moterys, kurios dėl ryškiaus pokastracinio sindromo vartojo pakaitinės hormonų terapijos preparatus. CFL patikimai dažnesnė vyresnio amžiaus moterims. Reprodukcijos veiksmų ryšys su CFL yra skirtingas: menarchės ir menopauzės amžius (t. y. reprodukcinio laikotarpio trukmė) nėra susijęs su jos dažnumu, o mažas tyrimų skaičius neleidžia daryti prielaidų apie nėštumo nutraukimo svarbą.

Nustatyta nedidelė tiesioginė koreliacija tarp pirmąkart gimdžiusiųjų amžiaus ir gimdymų skaičiaus.

Raktažodžiai: moterų reprodukcinis laikotarpis, krūtų cistinė fibrozinė liga, rizikos faktoriai