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Sexual activity of women with Mayer-Rokitansky-Küster-Hauser syndrome (MRKHS) – preliminary study

Aktywność seksualna kobiet z zespołem Mayera-Rokitansky'ego-Küstera-Hausera (MRKH) – wyniki badań wstępnych

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Abstract

Objectives: *The aim of the study was to assess sexual activity of women with Mayer-Rokitansky-Küster-Hauser syndrome (MRKHS) in relation to age-matched controls. The hypotheses on differences between them in regard to various types of sexual activity and its characteristics were verified.*

Material and methods: *31 patients with MRKHS and 31 healthy women were examined. Psychosexual biography by M. Beisert was used to gain information on autoerotic and dyadic behavior. Phi-coefficient and U Mann-Whitney test were performed.*

Results: *Women with the MRKHS started autoerotic behavior at a similar age (U=58,00; ns), practiced masturbation with the same frequency (in adolescence – U=350,00; ns and adulthood – U=137,50; ns) and manifested a similar level of sexual arousal (U=326,50; ns) as the age-matched controls. They declared experiencing vaginal (Phi=0,507; p<0,001) and oral (Phi=0,318; p<0,05) intercourse less frequently than healthy women. They also initiated dyadic sexual activity at a higher age than the controls (petting U=182,00; p<0,01; req=0,41; vaginal intercourse (U=64,00; 0<0,001; req=0,59; oral contact (U=91,50; p<0,05; req=0,56) with exception of anal intercourse, where the age of initiation was the same in both groups (U=30,50; ns). Women in both groups experienced similar orgasm frequency during petting (U=108,50; ns), oral intercourse (U=97,50; ns), anal intercourse (U=25,50; ns). However, patients with the MRKHS reported significantly lower frequency of orgasm during vaginal intercourse (U=60,50; p<0,05; req=0,36).*

Conclusions: *Sexual development of patients with the MRKHS and healthy women is partly similar. Differences in dyadic sexual activity are not limited to vaginal intercourse thus are probably determined by biological conditions and their psychological implications.*

Key words: **Mayer-Rokitansky-Küster-Hauser syndrome** / **sexual activity** / **petting** / / **vaginal intercourse** / **oral intercourse** / **anal intercourse** /

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Streszczenie

Cel pracy: *Celem pracy była ocena aktywności seksualnej kobiet z zespołem Mayera-Rokitansky'ego-Küstera-Hausera (MRKH) w porównaniu z grupą kontrolną. W artykule weryfikacji poddano hipotezy o istnieniu różnic między pacjentkami ginekologicznymi i zdrowymi kobietami w zakresie cech tej aktywności.*

Materiał i metody: *Przebadano 31 pacjentek z zespołem MRKH i 31 kobiet zdrowych. Zastosowano ustrukturalizowaną Biografię psychoseksualną M. Beisert, dostarczającą informacji o zachowaniach autoerotycznych i diadycznych. Analizy statystyczne przeprowadzono z wykorzystaniem współczynnika Phi Yule'a i testu U Manna-Whitneya.*

Wyniki: *Kobiety z MRKH rozpoczynały zachowania autoerotyczne w podobnym wieku (U=58,00; n.i.) i z równą częstotliwością (w dorastaniu – U=350,00; ni. i dorosłości – U=137,50; n.i.), co kobiety zdrowe oraz prezentowały podobny poziom pobudzenia seksualnego (U=326,50; n.i.). Kobiety z MRKH rzadziej niż kobiety z grupy kontrolnej deklarowały podejmowanie stosunków intrawaginalnych (Phi=0,507; p<0,001) i oralnych (Phi=0,318; p<0,05). W starszym wieku niż kobiety zdrowe rozpoczynały diadyczną aktywność seksualną: petting (U=182,00; p<0,01; req=0,41), stosunki pochwowe (U=64,00; 0<0,001; req=0,59) i oralne (U=91,50; p<0,05; req=0,56). Prawidłowość ta nie dotyczyła kontaktów analnych, których początek w obu grupach przypadał na podobny wiek (U=30,50; n.i.). Badania satysfakcji seksualnej wskazały na podobną częstotliwość przeżywania orgazmu w przypadku pettingu (U=108,50; n.i.), stosunków oralnych (U=97,50; n.i.) i analnych (U=25,50; n.i.) i różną (niższą) częstotliwość w trakcie podejmowania stosunków pochwowych (U=60,50; p<0,05; req=0,36).*

Wnioski: *Rozwój seksualny pacjentek z MRKH i zdrowych kobiet jest częściowo podobny. Różnice w zakresie podejmowanej przez nie diadycznej aktywności seksualnej nie ograniczają się do kontaktów waginalnych, a więc prawdopodobnie są związane nie tylko z warunkami biologicznymi wynikającymi z posiadanej wady, ale i ich psychologicznymi konsekwencjami.*

Słowa kluczowe: **zespół Mayera-Rokitansky'ego-Küstera-Hausera / aktywność seksualna / petting / stosunek pochwowy / stosunek oralny / stosunek analny /**

Introduction

The Mayer-Rokitansky-Küster-Hauser syndrome (MRKHS) (OMIM %277000) is a condition characterized by aplasia or hypoplasia of the uterus and vagina, also defined as a congenital absence of uterus and vagina (CAUV), in an otherwise phenotypically normal female with normal ovaries and with a normal female karyotype 46XX. The MRKHS incidence is estimated to be 1 per 4000-10000 female births. The age at diagnosis ranges from infancy to early adulthood, however the majority of the patients are diagnosed in late puberty, at the age of 15-17 years, when evaluated for the reason of primary amenorrhea. The three major implications of the MRKHS are: a lack of menstruation, difficulty to engage in penile-vaginal intercourse without treatment and an inability to carry a pregnancy and to bear children [1, 2]. Nevertheless, data on the influence of the MRKHS on female sexuality are limited.

According to the structural (layer) model created by Seligman, sexuality can be described on five different levels: sexual identity, sexual orientation, sexual preferences, sex role and sexual performance [3, 4]. As reported by Bancroft, sexual development relies on a parallel realization of three developmental strands: gender identity, capacity for dyadic relationships and sexual response, which undergo integration in the course of life, depending on particular life stages. In childhood, each develops independently of one another, in adolescence each strand gradually interacts with the others, so that in adulthood they become part of an individual structure of human sexuality (as described in Seligman's model) [3, 4, 5]. The research presented in this paper addresses sexual response according to Bancroft's model and sexual performance from Seligman's model.

Adolescence is a critical point when all three threads of sexual development intertwine. It is also time for intense biological changes resulting from puberty. In psychological life-span theories puberty is closely related to the occurrence of a normative identity crisis [6]. Exploring the environment in search of answers to the question "Who am I?" and fulfillment of the developmental tasks assigned to adolescence phase consumes most of a female teenager's resources [7]. It is at this time that patients with disorders of sex development suffer from severe difficulties connected with the abnormal development of their sexuality. Diagnosis of CAUV revealed in this critical period exerts an explicit impact on a girl's sexual development, the one she is aware of. Thus, the girl must face not only a normative developmental crisis, but also one connected with the malformation. It suggests that the pattern of sexual expression in MRKHS patients is different in comparison with the control group.

Objectives

The aim of the study was to state whether the MRKHS is related to particular forms of sexual activity and whether it modifies some features of this activity. We assumed that patients with MRKHS: (1) prefer extragenital forms of sexual contact to avoid penetrative vaginal intercourse, (2) delay the age of sexual initiation, (3) experience orgasms less frequently than healthy females.

Materials and methods

The study group included 31 patients with the MRKHS and 31 healthy women, not diagnosed with any congenital malformation. The groups were matched according to age, place of living and education (Table I). The age at diagnosis in the patients with

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Table I. The characteristics of the study group.

	mean		*t*	*df*	*p*
	MRKHS	**Control group**			
Age (years)	22,67	24,19	-1,11	60	0,271
	mean rank		***U***		***p***
	MRKHS	**Control group**			
Place of living	28,02	33,89	375,50		0,182
Education	27,43	32,32	362,00		0,251

Table II. Sexual activities undertaken by women from the MRKHS group and the control group.

Sexual activity	**numbers (N)**					
	MRKHS			**control group**		
	yes	**no**	**no answer**	**yes**	**no**	**no answer**
Masturbation in adolescence	22	7	2	25	6	0
Petting	25	2	4	30	1	0
Vaginal intercourse (or attempt)	13	14	4	29	2	0
Oral intercourse	18	8	5	29	2	0
Anal intercourse	8	18	5	13	18	0

Table III. Age (years) at initiation of particular forms of sexual activity (means, standard deviations and subjects numbers).

	MRKHS			**control group**		
	x	**sd**	**N**	**x**	**sd**	**N**
Masturbation in adolescence	15,44	2,46	9	13,13	2,73	23
First petting	18,39	2,64	23	16,40	1,89	30
First vaginal intercourse	20,93	2,64	14	17,52	1,99	29
First oral intercourse	20,42	3,26	12	17,89	1,85	28
First anal intercourse	20,80	4,02	5	21,69	5,42	13

Table IV. Differences between MRKHS patients and healthy women in relation to initiation of autoerotic and dyadic sexual activity.

	mean rank (N)		**U**	**p**	**r_{eq}**
	MRKHS	**Control group**			
Masturbation in adolescence	21,56 (9)	14,52 (23)	58,000	0,053	n.i.
First petting	34,09 (23)	21,57 (30)	182,000	0,003	0,41
First vaginal intercourse	31,93 (14)	17,21 (29)	64,000	0,000	0,59
First oral intercourse	26,88 (12)	17,77 (28)	91,500	0,023	0,56
First anal intercourse	9,10 (5)	9,65 (13)	30,500	0,842	n.i.

Table V. Differences between women with the MRKHS and the control group in relation to the frequency of orgasm during dyadic sexual activity.

	mean rank (N)		**U**	**p**	**r_{eq}**
	MRKHS	**control group**			
Orgasm during petting	15,54 (12)	23,26 (29)	108,500	0,051	n.i.
Orgasm – vaginal intercourse	12,06 (8)	20,91 (29)	60,500	0,034	0,36
Orgasm – oral intercourse	14,86 (11)	22,02 (28)	97,500	0,066	n.i.
Orgasm – anal intercourse	11,36 (7)	8,32 (11)	25,500	0,219	n.i.

the MRKHS ranged from 13,5 to 20,1 years (mean 16,6). 19 subjects with the MRKHS (61%) had coexisting extragenital malformations. Renal, skeletal and cardiac anomalies were present in 7, 7 and 2 patients respectively. Besides 3 subjects had a history of inguinal hernioplasty, 2 suffered from a hearing impairment, 4 were hyperandrogenic. 21 out of the 31 patients (68%) underwent surgical creation of the vagina at the mean age of 20,8 years (range 17,9 – 26,1).

All participants answered questions from a structured clinical interview *Psychosexual biography* by M. Beisert [8]. This tool comprises questions assessing human sexual development in three life stages: childhood, adolescence and adulthood. The questions concerned: the age at sexual initiation (in relation to particular forms of sexual contact: masturbation, petting, genital, oral and anal intercourse), the frequency of autoerotic behavior in adolescence and in adulthood, the experience of sexual arousal in adolescence and satisfaction from sexual activity (the frequency of experiencing an orgasm). The interviews were conducted in Division of Gynecology, Clinical Hospital of Obstetrics and Gynecology of Poznan University of Medical Sciences, in a separate room.

Statistical analysis was performed by means of IBM SPSS Statistics 22. In order to verify the hypotheses, the Phi-Coefficient and U Mann-Whitney test were used.

Results

The majority of women in both groups claimed to have experienced autoerotic behavior and petting, and denied having experienced anal intercourse (Table II).

The MRKHS patients declare undertaking masturbation, petting and anal intercourse as frequently as the age-matched controls (Phi=0,058, p=0,653, Phi=0,094, p=0,473, Phi=0,115, p=0,384, respectively). Women with the MRKHS declared to have vaginal (Phi=0,507, p<0,001) and oral (Phi=0,318, p=0,016) intercourse less frequently than the healthy females.

Statistical analysis showed that patients with the MRKHS took up most sexual activities later (at a higher age) than healthy patients, with the exception of anal intercourse (Table III).

Patients with the MRKHS took up autoerotic activity in adolescence and anal intercourse at the same age as the controls. However, they started petting, vaginal and oral intercourse at a higher age. R_{eq} statistic showed the medium average effect (Table IV).

There were no significant differences in the frequency of autoerotic activity (both in adolescence and in adulthood) between the MRKHS patients and the healthy women (U=350,000; p=0,661 and U=137,500; p=0,711 respectively). The level of sexual arousal in adolescence assessed by women themselves (U=326,50; ns) was similar in both groups.

When compared to the healthy women, females with the MRKHS experienced an orgasm less frequently during vaginal intercourse. The differences were insignificant when other forms of dyadic sexual activity (petting, oral, anal intercourse) were considered (Table V).

Discussion

The sexual development of females with the MRKHS is partially different than that of their peers. The differences that appeared concerned the type of sexual activity, the time of initiation and the frequency of orgasms accompanying that activity. They reflect the rhythm of uncovering the malformation, its characteristics and the process of adapting to the limitations caused by the malformation. The study shows that the sexual development of patients before being diagnosed (when the malformation already existed but they were not aware of its existence) was normative. This is particularly clear from the analysis of autoerotic behavior and the awareness of the sexual arousal resulting from it. Both patients and healthy teenagers experienced arousal in a similar way and they relieved sexual tension similarly, but only when sexual reactions involved engaging their own bodies. Differences started to appear in later stages of development. On the one hand it can be a result of the age at which a girl was diagnosed, and on the other of switching from autoeroticism to dyadic sexual activity.

Differences in the age of sexual initiation in both groups occurred only in relation to sexual activity involving another person and connected with touching someone's sex organs (petting, vaginal and oral intercourse). This may be caused by the fact that in an intimate relationship a person who touches someone's sex organs inevitably learns about the malformation and judges their partner on the basis of it. It may also be a result of a woman's emotional reaction (anxiety, shame, disgust towards one's own body) to being diagnosed. Both factors may discourage women form sexual exploration, and may cause reluctance to engage in intimate relationships and may delay the initiation of sexual activity which involves having one's sex organs touched by another person. This tendency seems to be confirmed by the differences in age at which women first experienced dyadic sexual activity. As other studies show sexual desire and its fulfillment with another person is a significant part of one's functioning, and the malformation may considerably lower the quality of life and wellbeing of patients suffering from it [5, 9, 10].

On the other hand, in our research women with the MRKHS claimed to have taken up some activity to the same extent as the healthy women. Thus, not all differences could be explained by the awareness of the malformation and fear of being judged. These differences which refer to vaginal intercourse, however, could be explained by the fact that women experience additional technical difficulties during penetration (pain, fear of hurting one's body). It could be confirmed by the analysis of gaining sexual satisfaction during sexual contact in comparison with the control group. Significant statistical differences in experiencing an orgasm referred to vaginal intercourse, not for other types of sexual activity undertaken by the MRKHS patients. In general, the hypothesis about less frequent orgasms in the MRKHS group has not been confirmed.

Although women with the MRKHS started petting, oral and vaginal intercourse at higher age than the control group, the age of first anal activity was similar in two study groups. In fact, this type of sexual activity is not very popular among Poles: only 15,5% of females aged 18-49 (N=1123) admitted having experienced anal activity, and only 2,2% claim to practice it quite often in Izdebski's study [11].

This study enables its authors to further explore the significance of a congenital malformation for sexual functioning of women with the MRKHS. Most papers on those patients concern methods of surgical creation of the vagina and their effectiveness [1, 12, 13]. Very seldom were there any references to a patient's

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sexuality. Liao et al. used the Multidimensional Sexuality Questionnaire (MSQ) in their study, assessing various psychological aspects of the sexual functioning of those patients. The results for the MRKH Syndrome group were lower for one's own sexual self-esteem, sexual engagement and higher for depression, anxiety and fear of having sexual intercourse [14]. Unfortunately, these results were not compared to those of a control group and the general results presented today do not run counter to them but are a continuation, and present extended and detailed information by means of using data reflecting reality (qualitative data from personal contact turned into quantitative data).

Conclusions

Not only the malformation (its biological characteristics) has a significant impact on one's sexual development. The quality of this development is also based on the awareness of the malformation, its exposure and judgment it may cause on the part of one's partner and the difficulties connected with going through vaginal intercourse. The results lead to a conclusion that a normative development of a patient with the MRKHS is hindered by being diagnosed. Malformations result in a delay in taking up sexual activity with another person, but do not lead to a complete lack of it.

As a consequence, it is extremely crucial for medical and psychological staff to co operate so that medical and psychological interventions enhance patients' motivation to undergo treatment and take up sexual activity.

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