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TOPO- AND MORPHOMETRICAL CHARACTERISTIC OF THE BREAST ASYMMETRY IN WOMEN OF YAKUTIA IN AGE 20-40

ABSTRACT

The article presents the results of morpho- and organometry of mammary glands in the indigenous and non-indigenous women of Yakutia in age from 20 to 40 years. The study defined that topo- and organometric breast indices revealed bilateral asymmetry of nipple-areola complex, the size of the base of the breast, skin and glandular fold along breast poles. We established asymmetry of mammary glands forms in women of indigenous and non-indigenous nationality at different age periods. We also revealed the highest frequency of the asymmetric structure of the chest carcass and level asymmetry of submammary fold in the indigenous women. These topometric breast indicators in indigenous and non-indigenous women may be used as quantitative age morphological markers to choose breast implant and tactics of surgical correction.

Keywords: morphometry, mammary asymmetry, indigenous and non-indigenous, the Republic Sakha (Yakutia).

MATERIALS AND METHODS

Morphometry of the breast was performed for 169 women aged 20 to 40, who attended a private clinic "Victory Clinic" (Yakutsk) for correcting mammoplasty with the principles of voluntariness, individual rights and freedoms guaranteed by Article 21 and 22 of the Constitution. Among them, 91 (53,8%) women were members of the indigenous (the Yakut, Even, Evenki) and 78 (46,1%) non-indigenous nationalities (Russians, Ukrainians, Belarusians). The examinees were divided into the following age groups: I group from 20 to 25 years, II group – from 26-30 years, III group –from 31-35 years, IV group –from 36-40 years. (tabl.1)

The studied group included persons with no subjective complaints on the state of the reproductive system, with no medical history of menstrual dysfunction and with no concomitant pathology of reproductive system. Measuring was carried out on the "Body Logic" (Mentor Medical Systems B. V. – USA), developed by Professor Dr. Dennis Hammond for the company "Mentor". This system was first presented by Dr.Dennis Hammond and called "Body Introducing Logic: A New Method of Sizing" in the Symposium "Breast & Facial Aesthetics" October 8, 2006.

Statistical analysis of results been performed using SPSS STATISTICS 17.0 with the creation of a database and analysis package "MICROSPFTEXCEL 2008" program products "spreadsheet". The significance of differences of mean values of the independent-dependent samples was assessed using Student's criterion. In all procedures of statistical analysis, the significance of differences was considered and established at $p < 0.05$. Assessment of correlation was performed on the correlation coefficient (R). When $g < 0,30$ were considered weak correlation, if $g = 0,31-0,70$ - average, $g = 0,71-0,99$ - strong [3].

RESULTS AND DISCUSSION

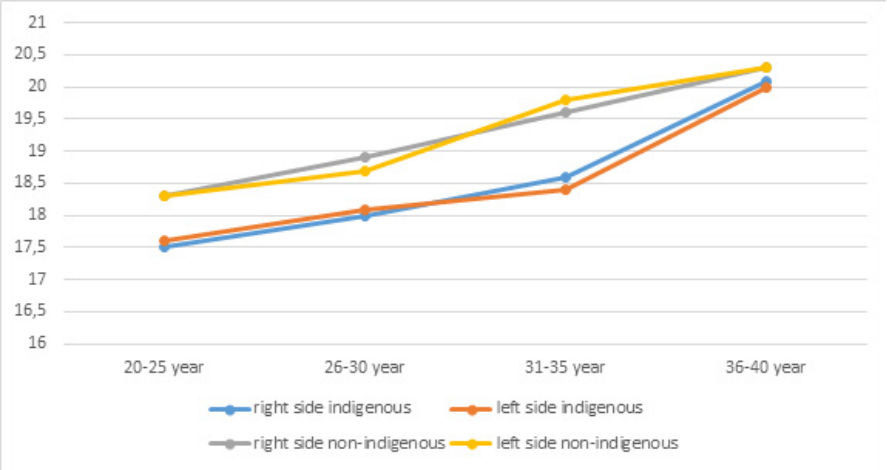
Topometric characteristic of the breast showed that the absolute average distance from the jugular fossa to the nipples was 17,5 ±1.4 cm (right), 17,6±1.4 cm (left) to the indigenous women aged 20-25 years. In the age group of 26-30 years: 18,0±1,4 and 18,1±1,5 respectively, in the age group (31-35 years): 18,6 ± 0,7 cm and 18,4 ± 0,8 cm, respectively, in the age group (36-40 years) : 20,1±1,7 cm, and 20,0±1,5 cm, respectively (Fig.1). The analysis of the distance from the jugular fossa to the nipples showed us a tendency to increase this indicator to 36-40 years and the maximum asymmetry parameters in the age group of 31-35 y. group of indigenous women. The absolute average of the distance from the jugular fossa to the nipples of the women of foreign nationality in the age group of 20-25 years: to the right of 18,3±0,8 cm, left - of 18,3 ±0,8 cm, in the second group it is 18,9±1,3 cm and 18,7±1,1 cm respectively. In the group of 31-35 years:19,6 ±1,3 cm, and 19,8 ±1,5 cm, respectively. In the age group 36-40 years, the distance from the jugular fossa to the nipples was 20,3 ±2,2 cm on the right and 20,3±2,4 cm on the left.

The maximum asymmetry observed in the age groups 26-30 and 31-35 years - 0,2 cm, revealed no significant difference in this indicator between the right and left breasts in ethnic groups. Analysis of the distance from the level of mid-clavicle to nipple in women of both ethnic groups tends to increase to 36-40 years. In this case, this figure increased largely to the indigenous women, than for women of non-indigenous ethnic groups. So, in the 20-25 age group, the figure was right - a 15,6±1,9 cm., left to 15,8±1,7 cm. In the group of 26-30 years the distance was 16,4±1,5 cm and 16,9±1,5 cm, respectively. In the group of 31-35 years 17,1±0,9 cm. to the right and 17,0±1,1 cm on the left, and in the group of 36-40 years 18.7 ±1.6 cm to the right and 18,8 ±1,6 cm on the left. The same in women of non-indigenous nationality in the age group is 20-25 years was 16,6±1,1 to the right and 16,8 ±1,1 cm to the left, 26-30 years – of 17,4 ±1,5 and 17,3 ±1,4 cm. respectively, 31-35 years – 18,4 ±1,6 cm and 18,7 ±1,7 cm, respectively, 36-40 years – 18,9±1,9 cm and 18,9 ±2,1 cm. respectively. The analysis showed that the maximum asymmetry of the indigenous women occurs in the age of 26-30 years and is 0,5 cm, and in women non-indigenous ethnic group is observed in the age group of 31-35 years and is 0,3 cm. This distance is more predominantly on the left side, regardless of ethnicity. While at the indigenous women the figure is less than in all age groups, expressed in women of the first and second age groups (less than 1,0 cm).

Organometric characteristics of the breast: analysis of the absolute average cross-sectional dimension of the base of breast showed no significant difference in women of indigenous and non-indigenous ethnic groups in all age groups. The average cross-sectional dimension of the base of the breast of the indigenous women is 20-25 years and 12,3±0,7 cm on the right and 12,2±0,7 cm on the left, 26-30 years and 12,3±0,7 cm on the right and 12,3±0,7 cm on the left, 31-35 years and 12,7±0,8 cm on the right and 12,8±0,8 cm on the left, 36-40 years-13,0±0,8 cm on the right and 13,1±0,9 cm. on the left. The maximum asymmetry is 0,1 cm in the age groups 20-25 years old, 31-35 and 36-40 years.

The number of women depending on age and ethnicity

Groups	20-25 year	26-30 year	31-35 year	36-40 year	total
Indigenous	14 (8,2%)	29 (17,1%)	25 (14,7%)	23 (13,6%)	91 (53,8%)
Non-indigenous	10 (5,9%)	18 (10,6%)	23 (13,6%)	27 (15,9%)	78 (46,1%)
total	24 (14,2%)	47 (27,8%)	48 (28,4%)	50 (29,5%)	169 (100%)



The distance from the jugular fossa to the nipples of the breast in women of indigenous and non-indigenous ethnic groups

A measure of the transverse dimension of the base of the breast increases with age in women indigenous to the right by 0,7 cm and 0,9 cm on the left of the transverse dimension of the base of the breast in women of foreign descent is: 20-25 years -12,4±0,6 cm on the right and 12,5±0,6 cm on the left, 26-30 years-of 12,6±0,5 cm and 12,7±0,5 cm, respectively,31-35 years-12,8±0,5 cm on the right and 12,8±0,6 cm on the left, 36-40 years-13,1±1,2 cm and 13,1±1,2 cm, respectively. The maximum asymmetry is 0,1 cm in the age groups 20-25 and 26-30 years. A measure of the transverse dimension of the base of the breast is increased in women of non-indigenous nationality with age by 0,7 and 0,6 see right, see left. As the research showed, revealed a more pronounced increase in the width of the base of the left breast of the indigenous women.

A study of the vertical size of the base of mg showed us no significant increase of this indicator from the indigenous women, while women non-indigenous nationalities been recorded an increase of 0,7 cm on the right and 0,5 cm on the left to 36-40 years. Thus, the vertical dimension of the base of the breast of the indigenous women is 20-25 years is 11,9±1,0 cm on the right and 11,6±1,1 cm to the left, 36-40 years old is 11,9±0,7 cm and 12.0±0.9 cm., respectively. The maximum asymmetry observed in the age group of 20-25 years and is 0,3 cm. The indicator right breast with age does not change, and the left increases by 0,4 cm to 36-40 years. Indicators the vertical size of the base of the breast in women of non-indigenous descent are: 20-25 years is 11,6±0,8 cm on the right and 11,7±0,8 cm on the left, 26-30 years-11,6±1,0 cm and 11,4±1,0 cm, respectively, 31 to 35 years-11,9±0,5 cm on the right and 11,9±0,5 cm on the left, 36-40 years and 12,3±1,0 cm and 12,2±1,1 cm respectively. The maximum asymmetry is observed in the group of 26-30 years and is 0,2 cm, and a more pronounced asymmetry is observed in the indigenous women aged 20-25 years.

Inframammary fold (IMF) as the anatomical structure is a key that defines the aesthetics breast augmentation and mastopexy, this structure is the foundation on which is based the construction of mammoplasty. Analysis of the distance from the nipple to infra mammary fold alone revealed a trend towards a gradual increase of values in both groups, from 5,6 ± 1,1 cm to 6,3 ± 0,8 cm in women indigenous (0,7 cm), and from 6,0 ± 0.8 cm to 6,6 ± 1,4 cm in women of non-indigenous descent (0,6 cm). When comparing the distance from nipple to IMF, the indigenous women have low values in all age groups. The most pronounced asymmetries in this indicator is observed at the age of 31-35 years, women of non-indigenous descent (0,3 cm), whereas, in the aged 20-25 asymmetry have been reported. Meanwhile, the indigenous women noted the asymmetry of this index in all age groups, and more pronounced at the age of 31-40 years (to 0,2 cm). The asymmetry of the level IMF is more common in the indigenous women in all age groups and more pronounced in the age of 31-35 years (7,1 %). To a lesser extent the asymmetry of the level of IMF were detected in women of non-indigenous in all age groups and is more common in the group of 31-35 years (4,7%).

Research of the values of the distance from nipple to IMF in tension also showed a tendency to increase to 36-40 years in both ethnic groups, and more pronounced among the indigenous women (0,4 to 0,7 cm)., while women of foreign descent parameter increases to a lesser extent (0,2-0,3 cm). In both ethnic groups expressed asymmetry of this indicator is not revealed.

We analyzed the vertical and horizontal dimensions areolar complex comparative with the right and left breasts. A pronounced asymmetry of this parameter in all investigated groups was observed. Age dynamics of value, the horizontal size of areola in the indigenous women also in-creased to a greater extent (0,9 to 0,8 cm) than that of women of foreign descent (0,3-0,2 cm.). Expressed Asymmetry of the horizontal size of the areola (0,2 cm) was observed in women of non-indigenous nationality in the age of 26-35 years. Vertical and horizontal dimensions of the areola of the indigenous women have smaller values in all age groups, especially in the age of 20-25 years. So, the vertical and horizontal dimensions of the breast areola of the indigenous women have high variability, compared with women non-indigenous group, however at the age of 36-40 years. In women of indigenous groups the indicators of asymmetry ANC expressed identically in the age of 31-35 and 36-40 years old (7,1% and 7,1%).

To determine the thickness of skin-glandular folds in the medial pole of the breast in women of this nationality are less pronounced than in women of foreign descent. The difference is 0,5 cm in the age group of 20-25 years: 2,7±0,5 cm on the right and 2,7±0,6 cm left of the indigenous women and 3,2±0,5 cm on the right and 3,2±0,6 cm in the left in women of foreign descent. In both ethnic groups there is a tendency to increase this parameter with age, and in the group 36-40 years, these figures

are equal, amounting to 3,3±0,7 cm on the right and 3,3±0,6 cm left of the indigenous women and 3,3±0,8 cm on the right and 3,4±0,9 cm to the left in women of foreign descent. The maximum asymmetry (0,3 cm) was observed in women of non-indigenous nationality in the age of 31-35 years, with a predominance of the size of skin–glandular folds of the left breast.

Measure the thickness of skin-glandular folds in the lateral pole showed a tendency to decrease this parameter by the age of 26-30 years of age in both ethnic groups and the growth parameter to 36-40 years, more pronounced among the indigenous women. Low thickness of skin and glandular folds in the lateral pole of the breast was marked of the indigenous women in all age groups. The asymmetry is more pronounce in the age group of 31-35 years women non-indigenous groups, and was 0,2 cm, with a predominance of the size of your left breast.

The analysis of thickness of skin-glandular folds in the upper pole of the breast showed the absence of pronounce difference and asymmetry between the right and left breasts in both ethnic groups. Asymmetry indices-thickness skin-glandular folds in the upper pole between the right and left breasts are more noticeable in women of the indigenous group 26 to 30 years old, and aged 31-35 years women non-indigenous groups, 0,2 cm, with predominance of the thickness of the folds of the left breast in both ethnic groups.

We're analyzed the external forms of the breast for presence of asymmetry on the basis of size indicators, of the distances from the jugular fossa to the nipple, the level of mid-clavicle to nipple distance and the level of inframammary fold to the nipple between the right and left breasts. Asymmetry of breast shape is most common in women of both ethnic groups aged 31-35 years, but is more common in the indigenous women (7,6% of the total number surveyed). When we were examining women, we paid attention also to the frame of the chest wall that defines the position of the base of the breast. The presence of asymmetry in the form of congenital and posttraumatic deformities, scoliosis, rachitic deformation of the chest affect the shape and position of the breast relatively between the right and left sides. Asymmetry of the thoracic skeleton is more common in the indigenous women for all age groups, but more often in the group of 26-30 years (8,8 %). Women of non-indigenous group had maximum amount of asymmetry of the thoracic skeleton had been found in the age of 31-35 years (8,2 %).

CONCLUSION

Thus, we carried out a comparative topo- and morphometrical analysis of breast in women of indigenous and non-indigenous nationality living in Republic of Sakha (Yakutia) in the age 20 to 40. We have found a topo-graphic asymmetry in women aged 30-35 years, from now both of the required groups, with asymmetry of breast shape and nipple-areola complex is prevalent among women of foreign descent. When analyzing the distance from the level of mid-clavicle to nipple, transverse and vertical base size of the breast, the thickness of skin-glandular folds, the distance from nipple to inframammary folds at rest and under tension prevails mainly in the left mammary gland, more pronounced in women is not an indigenous group. Asymmetry of breast shape is most common in women of both ethnic groups aged 31-35 years, but is more common in the indigenous women (7,6 %). Asymmetry of the thoracic skeleton is more common in women of an indigenous nation in all age groups, but more often in the group of 26-30 years (8,8 %). Women of foreign descent maximum amount of asymmetry of the thoracic skeleton are found in the age of 31-35 years (8,2%).

The results of morphometric features of the shape of the breast can be useful for precise planning of breast surgical correction and selection of implants with consideration of the peculi-arities topometry and organometry of women breast.

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