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### **Psychosomatic status of pregnant women with Gestosis.**

Gestosis is still one of the most wide-spread complications during pregnancy and takes one of the top places in the list of the reasons for maturity and perinatal disease and death rate [1, 4, 8]

It is important to point the fact that at the turn of the millennium conception pregnancy and labour happen in the conditions of psychosocial stress. The decrease of main social layers' standard of life and the increase of extragenital diseases contribute to the premorbid unfavourable background for starting and developing of pregnancy and for the risk of obstetrics complications [5, 7, 9, 10]

During the period of pregnancy women's mind, her attitude to the surrounding people change her reactions to the inner and outer irritants are peculiar.

The mind of a pregnant woman is full of her own emotions and it influences the function of neurohumoral system, neurotropical metabolism, as well as ferment's synthesis, etc.

The reaction of the whole women's physique change, including psychic sphere [3, 5, 6]

According to different data [5, 11, 12, 13], unmarried status, partner problems and belonging to the lower social layers are the unfavourable psychosocial factors which may provoke obstetrics complications. Exogenous pathology makes up favorable background for the development of atypical forms of Gestosis with the pregnant women [10]. Gestosis has been observed with 36 % of pregnant women with hypertension disease, with 40% of anemic pregnant women, with 30-50% of women suffering from diabetes.

That's why we find it interesting to investigate psychosomatic status of pregnant women, whose pregnancy is complicated with Gestosis.

The aims of our investigation were:

- 1) hospital psychological observation of the emotional sphere of pregnant women with Gestosis
- 2) investigation and identification of natural links of psychosomatic status of pregnant women and Gestosis and the parameters, characterizing contractive function of miometrium with 37-40 weeks pregnancy patients with Gestosis
- 3) Comparison of psychosomatic index results of labour and obstetrics complications between the group of pregnant women with the Gestosis and the control group.

Since the hospitalization in many cases leads to artificial set-up causing strong emotional excitement, which may influence the results of experimental data [5] we made the research both in hospital at the pre-labour department of the Institute of Obstetrics and Gynecology named after D. O. Ott, Russian Academy of Medical Sciences and in the conditions of women's consulting centre in St. Petersburg. We have observed 95 patients with Gestosis: 30 of them in hospital and 65 in the consulting centre. The control group was made up of 30 pregnant women with uncomplicated pregnancy.

Table 1. The observation of group of pregnant women with Gestosis, in pre-labour department of the Ott institute of Obstetrics and Gynecology.

Quantity	30
Average age	26,6+/-5,6
Prim Para	21
Second Para	9
The average of the beginning of sexual life	20,8+/-2,8

Married status	29
Artificial abortions in anamnesis	11
Spontaneous miscarriages	5
The level of Gestosis: E-Gestosis (Edema)	9
Imminent Eclampsia (EI)	17

Table2. The control group observation of pregnant women at the Institute of Obstetrics and Gynecology

Quantity of subjects	30
Average age	24,6+-4,4
Civil servants	17
Workers	9
Students	4
Average age of the beginning of sexual life	20,2+-2,3
First labour	18
Second labour	12

The psychological examination of subject according to the Psychosomatic Index (PSI) was carried out in the conditions of the hospital. The method of pregnant women's psychosomatic condition measurement was developed by V. V. Abramchenko and T. A. Nemchin in cooperation with the colleagues from the Department of Psychology in St. Petersburg State University [2]. The scale provides the estimation of some peculiar features of neuro-psychic and somatic status and identify the attitude of a pregnant woman towards having baby in the family. While elaborating the test, which includes 50 questions, the peculiarities of neuro-psychic status and the attitude towards the future maternity were taken in consideration.

The level of Neuro-Psychic Tension (NPT) was identified the Feeling, Activity, Mood method (SAN) examination, and the research of pregnant women with the help of 16-factor personality characteristics questionize by Kettel were undertaken.

With the same subjects the contractive function of miometrium was registers with the help of 2 channel outer hysteroscopy in the period of 37-40 weeks pregnancy. Dynamouterograph DU-3 was applied. Quantitative and qualitative estimation of the obtained hysteroscopy was carried out in comparison with the data of psychological clinical observation of the women. On the basis of he qualitative analysis of hysteroscopy the following factors were estimated: the character of the contractive function of miometrium and of its different parts (The bottom, the body and lower segment); the degree of uterine contractions coordination. Qualitative analysis was carried out with the help of calculating machine ES-1055 with preliminary digital processing of hysteroscopy and transfer of the obtained data to the magnetic tape in the format of digital information.

The Results of the Research have the Psychosomatic Index 19,8+-4,5, which is somewhat higher than the results of the control group (19,4+-5,6). In the first division (neuro-psychic status) it is 8,4+-2,8, which is nearly the same as the results in the control group (N-8,6+-3,1). In the second division (somatic health) it is 7,5+-2,1, the meaning of the index doesn't differ either (N-7,3+-2,5). In the third division (social status) the meaning of the index – 1,5+-1,4, which is also nearly the same as the results in the control group (N-1,6+-1,5). In the third division (attitude towards to child) the index is 2,3+-1,2, which is considerably higher than the results in the control group (N-1,9+-1,2). Consequently, we may conclude, that the total measurement of psychosomatic index of the pregnant women with the Gestosis goes up in the account of the fourth division. Hence, complicated pregnancy (Gestosis) increases of the woman of the result of her labour for the newborn.

In the group of the pregnant women with Gestosis NPT is higher (up to 51,2), which is equal to the average degree of NPT. In the control group it is 42,9 (for the women under age of 24), it's weak form of NPT, though after the age of 24 NPT may rise.

Characterizing the obtained data of the experimental group according to the SAN method it is necessary to mark the highest level of tension in the group with Gestosis, the level of mood with them is low.

The results of research according to the FAM method in the risk group are shown in Table 3.

Table 3. The results of SAN method research in the risk group of pregnant women according to their age.

Age group	18-23	24-30	30-36
Mood	11,3	11,5	10
Activity	12,4	9,1	10,8
Tension	13,9	13,9	12,2

In the period of the hospitalization the level of tension decreases and the mood goes up a bit. The results of the research according to R. B. Kettel's scale are shown in Table 4.

Table 4. The results of research according to R. B. Kettel's scale.

Factors	Control group	Experimental group
A	8,0+-1,7	8,2+-1,7
B	5,4+-1,2	5,6+-2,2
C	5,2+-1,8	5,8+-1,8
E	3,4+-1,3	2,6+-1,3
F	6,4+-1,6	6,2+-1,6
G	7,8+-1,6	8,6+-1,6
H	7,6+-1,7	6,6+-1,7
I	5,2+-1,8	5,6+-1,8
L	4,6+-1,8	6,6+-1,8
M	3,6+-1,1	3,6+-1,1
N	4,8+-2,6	7,4+-2,6
O	6,0+-2,4	7,8+-1,4
Q1	5,6+-1,9	7,2+-1,9
Q2	3,8+-1,3	3,8+-1,3
Q3	5,2+-1,3	6,2+-1,3
Q4	4,2+-1,3	5,8+-1,3

The results of the research according to R. B. Kettel's method in the group of pregnant women with Gestosis show that the factor "suspicion-trust" is higher and the factors "emotional stability-instability", "predominance-practicality", "boldness-skyness" are lower than average. Subjectivity to stress and emotional instability, dependence on the surrounding people, trust, honesty, and modesty are the characteristic features of this group.

Qualitative and quantitative analysis of hysterography in comparison with the clinic psychological observation of pregnant women were undertaken for the purpose of estimation of miometrium state in the third trimester of pregnancy, complicated with Gestosis. On the basis of qualitative analysis of hysterography we have estimated:

- 1) the character of contractive function of miometrium in different parts of uterus (bottom, body and lower segment)
- 2) the degree of coordination of uterine contractions.

From each group of subjects the most typical hystero grammes were selected and analyzed quantitatively. The quantitative analysis was carried out with the help of calculating machine ES-1055 with preliminary digital processing of hystero graphy and transfer of the obtained data to the magnetic tape in the format of digital information. Time and amplitude parameters of uterus cycles were calculated.

The qualitative analysis of the hystero graphy in the control group of women with uncomplicated pregnancy showed that in 65% of the cases no pathological changes were found. In 35% of cases the changes of the miometrium in contractivity the lower segment were observed in the form of decrease of such. (fig. 1)

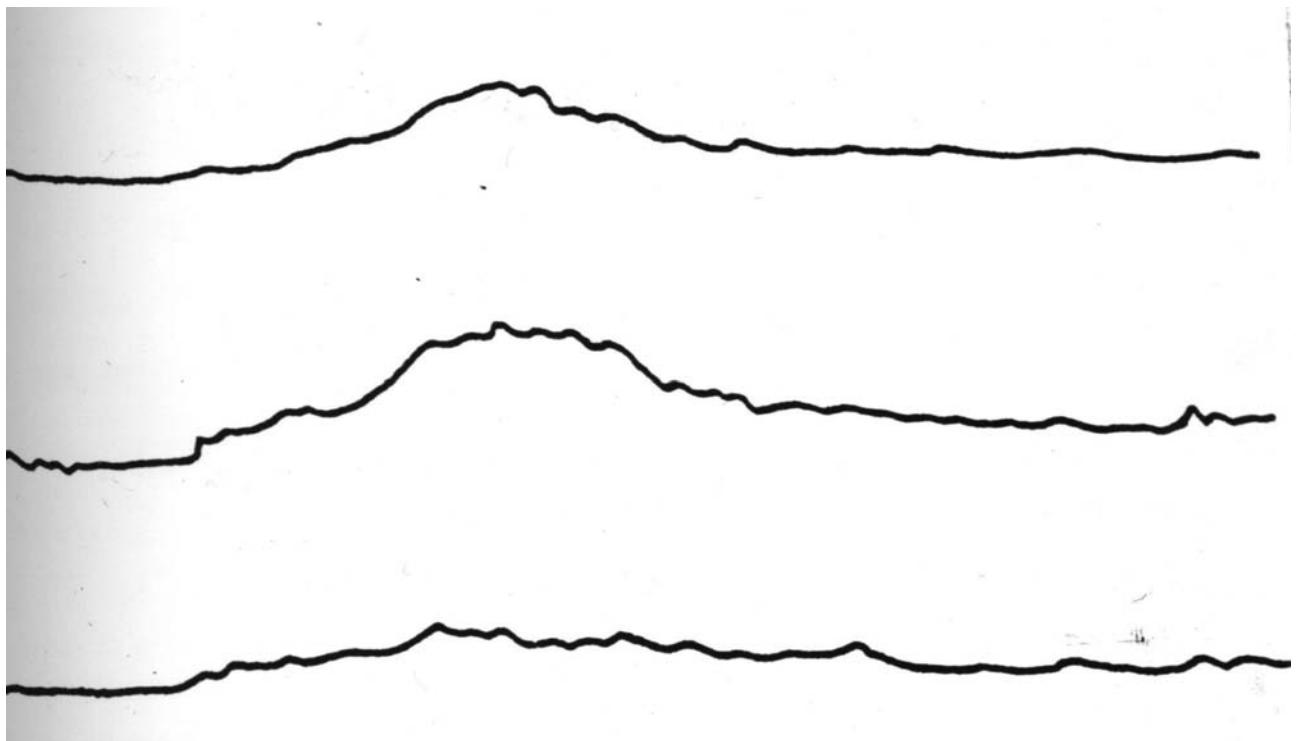


Fig. 1

In the group of pregnant women with Gestosis hystero grammes were normal in 41% of cases, in 36% of cases the dysfunction of miometrium contractivity in the body of uterus was observed, and in 14% of cases – decrease of miometrium contractivity in the bottom of uterus, as well as in 9% of cases decrease of miometrium contractivity in the lower segment of uterus. (fig. 2)

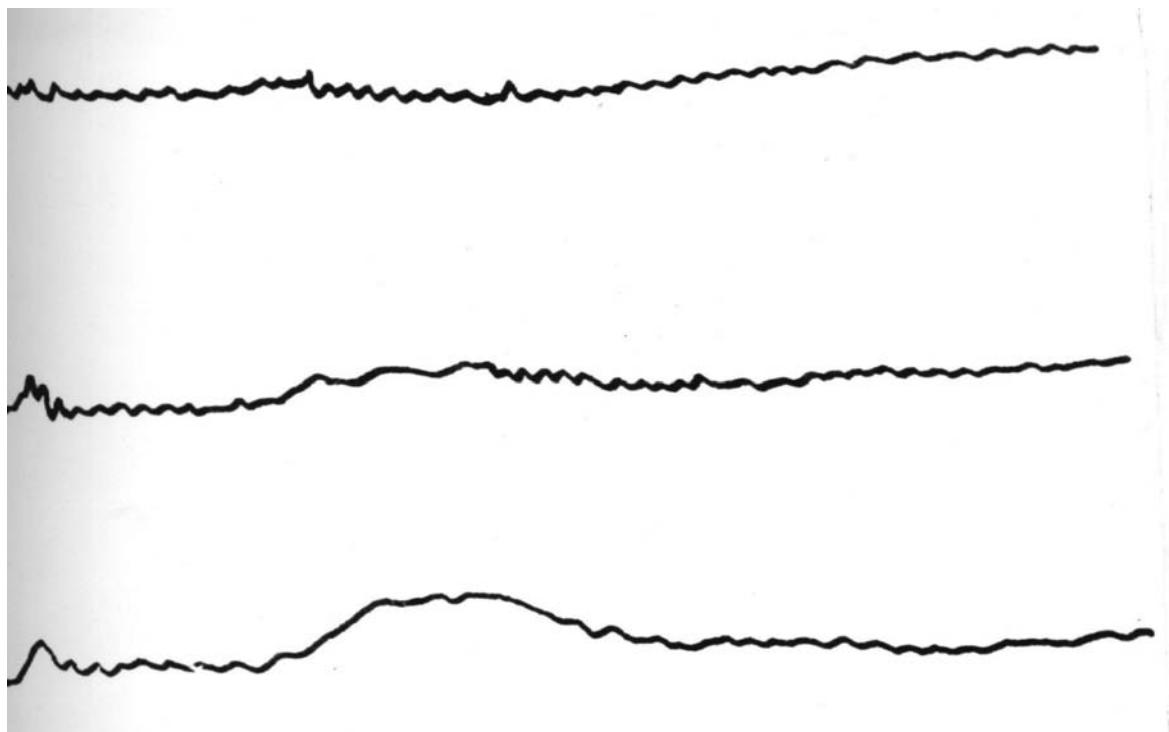


Fig. 2

Table 5. The results of clinical psychological observation of pregnant women with Gestosis and their labour.

Total number of pregnant women with late Gestosis	30
Average PSI meaning	19,8+-4,5
1 <sup>st</sup> division (neuro-psychic state)	8,4+-2,8
2 <sup>nd</sup> division (somatic health)	7,5+-2,1
3 <sup>rd</sup> division (social status)	1,5+-1,4
4 <sup>th</sup> division (attitude towards to baby)	2,3+-1,2
Average duration of labours	10,1+-6,4 h
Average duration of the first period of labour	9,6+-6,4 h
Average duration of the second period of labour	0,23+-0,17 h
Average duration of the third period of labour	0,07+-0,3 h
Average blood loss	240,0+-190,0 ml
Average Apgar scale mark of newborn	8,0+-1,6
Average weight of newborn	3,5+-0,5 kg
% of surgical treatment	6,6
% of hand intrusion into uterus	13,3
% of bleeding	13,3
% of weakness of labour activity	20
% of premature rupture of membranes	36,6
% of spontaneous start of labour activity	90
% of artificial initiation of labour activity	10
% of therapeutic pain relief	70
% of perineal cut	47

Average meaning of psychosomatic index with the pregnant women of this group is 19,8+-4,5, which is much higher than the results received for the control group (19,4+-5,6). In the first division (neuro-psychic state) it is 8,4+-2,8, which is nearly the same as results of the control group (N-8,6+-3,1). In the second division (somatic health) - 7,5+-2,1 the meaning of the index

is also nearly the same as that of control group ( $N=7,3+/-2,5$ ); in the third division (social status) the index is  $1,5+/-1,4$ , which differs little from the results of the control group ( $N=1,6+/-1,5$ ). In the fourth division (attitude towards the baby) the index is  $2,3+/-1,2$ , which is much higher than in the control group ( $N=1,9+/-1,2$ ). Hence, we may conclude, that in the group of pregnant women with Gestosis the total meaning of PSI increases on the account of the fourth division. Consequently, complicated pregnancy (Gestosis) increase woman's fear of the result of labour for the newborn.

Correlation analysis for this group of pregnant women showed positive correlative interdependence between the quantity of hospitalization during the period of pregnancy and the degree of Gestosis. We have also observed positive correlation between the volume of blood loss in labour and number of surgical treatments. Positive correlation has been observed between the total meaning of the psychosomatic index, and its first (neuro-psychic state), second (somatic health) and fourth (attitude to the baby) divisions.

#### Conclusions:

- 1) In the group of pregnant women with Gestosis we have observed the increase of neuro-psychic tension, psychosomatic index, lowering of the mood and rising of the level of tension. In cases of pregnancy complications (Gestosis) neuro-psychic tension rises up to the level  $51,2+/-9,9$  ( $N=45,6+/-7,2$ ), but in general it may be characterized as mid-level. The group of pregnant women with Gestosis may be characterized by higher attitude to stress, emotional instability and dependence on the surrounding people.
- 2) Complications of pregnancy (Gestosis) increase the pregnant woman's fear of the result of labour for the newborn, since the meaning of the psychosomatic index in the fourth division (attitude to the baby) is much higher than in the control group and is equal to  $2,3+/-1,2$  ( $N=1,9+/-1,2$ ). Consequently, pregnancy Complications is an unfavourable stressful factor, having a negative influence on the psychosomatic status of the pregnant woman.
- 3) According to the data of the quantitative analysis of hysteroscopy, in 60% of cases the dysfunction of miometrium contractility is observed in the bottom part, body and lower segment of uterus. With the decrease of psychosomatic index and neuro-psychic tension the correlation coefficient of the contractions of different parts of miometrium increases. According to the data about the results of labour, the percentage of bleeding in afterbirth and early post-labour period increases (13,3%), which requires taking certain prophylactic measures in due time.

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