SYNDROME OF EPH-GESTOSIS, ATYPICAL FORMS, DEFINITIONS AND NOSOGRAPHY

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Since Gestosis etiology has not been determined, there is not a single interpretation or a generally accepted classification at an international level. The Memorial Stone in the Lying In Hospital in Chicago is still waiting for the name of the expert who will discover the causes of this Syndrome. Diagnosis of Gestosis is an important problem. An increased rate of Gestosis of a clinically atypical form has been observed, mostly concerning EPH-Gestosis in which a "classical" triad of symptoms (Zangmeister) has been noted in not more than 50-60% of the cases.

The above is also valid for the remainder of the clinical forms of Gestosis. Its atypism manifests itself differently from case to case: in "normal" readings of arterial pressure; in the manifestation of increased arterial pressure only when measured on both arms; and in the pathological increase of regional (temporal) arterial pressure.

Underestimation of the possibility of atypical Gestosis often results in its being overlooked, thus ill-timing the beginning of treatment, and finally resulting in an unfavorable outcome for the pregnancy and labor of both the mother and fetus.

Edema, or E-Gestosis (hydrops of pregnancy) belongs to the clinically monosymptomatic form of Gestosis. Obscure Edemas, only revealed by pathological weight gain, are its atypical form. ORGANISATION GESTOSIS recommended the following norm regarding weight gain during physiological pregnancy: a gain of not more than 500 g per week; 2000 g per month, and 13 kg during the pregnancy itself. Some scientists are of the opinion that if pathological weight gain during the second half of the pregnancy, and particularly after 30 weeks of pregnancy, is observed over three to four weeks and there is negative diuresis, obscure edema can be diagnosed.

Edema of pregnancy comprised one-half of the totals among women with identified Gestosis, obscure edema being present in more than one-third of them. Not infrequently, obscure edema turns into its external form. Obscure edema can be one of the symptoms of the Gestosis-triad.

H-Gestosis

A) Hypertension of Pregnancy

By hypertension of pregnancy, we mean monosymptomatic Gestosis, which is characterized by an increase in arterial pressure in the absence of edema, and proteinuria-more often in the second of the pregnancy, in persons who had not suffered from hypertonic disease before, hypertension of pregnancy manifests itself in one out often pregnant women. According to data of the

"Organisation Gestosis", arterial pressure of 135/85 mm hg is thought to be normal upper limit. Indications of 140/90 mm hg are thought to be manifestations of the first pathological increase in arterial pressure. In the presence of primary hypotonia, systolic pressure is increased by 30 mm hg or more, and diastolic by 15 mm hg or more. According to the WHO, in adults the normal limit of systolic pressure is 140 mm hg or less (18.7 KPa), and of diastolic 90 mm hg or less (12.0 KPa). But the WHO also advises us to take into account the fact that absolute values of arterial pressure during pregnancy give a different importance in comparison to the values registered in the absence of pregnancy, therefore, it would be incorrect to extrapolate arterial pressure values registered in pregnant women from those registered in non-pregnant women. Even a slight increase in arterial pressure during pregnancy has a pathogenic importance. Arterial pressure should be considered pathological if the diastolic pressure level equals or exceeds 85 mm hg (11.3KPa) irrespective of the systolic pressure level. Identification of such values during the third trimester of pregnancy indicates the necessity of thorough observation. When hypertension is protracted, edema and proteinuria can join with hypertonia, which indicated the transition of hypertonia of pregnancy of polysymptomatic EPH-Gestosis. Normal pregnancy is known to cause a slight decrease of in systolic, and a significant decrease in diastolic arterial pressure (by 10-15 mm hg) as early as the sixth week of pregnancy. These values remain at the aforementioned level till late periods when arterial pressure again rises to the initial level.

B) Hypertension of Women in Labor, or Hypertension in Labor

Hypertension of Women in labor belongs to the monosymptomatic form of Gestosis, and it is observed on the on the average in every tenth woman in labor. When arterial pressure first increases in labor, it should be regarded as an expression of obscure Gestosis.

When making such a diagnosis, it is necessary to take into account that the arterial pressure can increase (in casualty wards, for example) in healthy women in labor as the result of psychological stress.

Proteinuria, P-Gestosis

Many scientists assume the presence of such monosymptomatic Gestosis. In a sample of 24 hour urine, there must be more than 0.50/00 of protein after Esbach.

Thus, as regards the monosymptomatic forms of Gestosis, where edema, proteinuria, or hypertension is a leading indication, we observe the possibility of their further transformation into severe polysymptomatic forms of Gestosis, even going as far as ECLAMPSIA. It can occur gradually, or, in some cases, suddenly. Gestosis should be regarded as an integral process with various stages and forms.

At present we often observe atypical Gestosis in about half of the pregnancies where the "classical" triad is absent. A cardinal symptom, occurring more frequently, in Gestosis is an increase in arterial pressure (in 90% of pregnancies), edemas, and proteinuria (in 50% of pregnancies.)

The basis of the clinical manifestations of Gestosis is formed by damage to the nervous control of the vascular system. Hence, we are able to understand the interest in the major sign of Gestosis: an increase in arterial pressure. Especially since currently it has been noticed that EPH-Gestosis and ECLAMPSIA may develop in "normal" indications of arterial pressure. It was ascertained that the pressure increase in comparison to the initial value, and the study of its dynamics, are important in themselves rather then absolute figures of minimum and maximum arterial pressure. An increment of a diastolic pressure, and hence a decrease in pulse pressure, is of particular importance.

Arterial pressure asymmetry in the range of 10-40 mm hg in combined forms of Gestosis is observed more often, and it is more pronounced. That is to say that a dependance was revealed between the severity of the Gestosis and the degree of asymmetry, and the more pronounced the asymmetry is a method of early diagnosis of Gestosis. Especially in its atypical form. Temporal arterial pressure normally equals about half (0.4-0.6) the maximum arterial pressure in the humeral artery. In Gestosis, temporal pressure is very often increased, amounting to 0.7 and more of the humeral pressure, and is a valuable method to reveal early manifestations of Gestosis, since arterial pressure remains normal against the background of the increased temporal pressure. Fundus of the eye. A systematic observation of the dynamics of change in the vessels of fundus of the eye in Gestosis helps us to follow the dynamics of the disease, and it can be used in establishing indications of the need for the interruption of the pregnancy for the sake of the mother and the fetus. Hypertonic angiopathy of various degrees is the situation most often encountered.

IMMINENT ECLAMPSIA symptomatology is due to damage to brain circulation which

results in functional damage to the central nervous system. It is assumed that such damage develops in the final and gravest stage of EPH-Gestosis with the presence of the classical triad of symptoms. However, currently this assumption has lost its diagnostic importance. The same is valid for functional disturbances, pain in the epigastric region, nausea, vomiting, pain all over the stomach, rectal tenesmus, diarrhea, disturbed memory, and somnolency, are not completely present today, although they are often weekly manifested.

ECLAMPSIA. At present the rate of ECLAMPSIA with convulsions has significantly decreased, its course has become milder, and the number of attacks has lessened, despite the decrease, however, maternal mortality from ECLAMPSIA remains relatively high.

Till now there is still not a single definitive classification of Gestosis. We think it would be most advisable to utilize the international classification of Gestosis of the General Secretariats ORGANISATION GESTOSIS-Society for the study of Pathophysiology of Pregnancy. By accepting generally and uniform nomenclature, classification and definition a big step towards gaining a firm grip on this syndrome is being made possible.

Factors preceding and promoting a Lethal Outcome in Women with Pregnancy Complicated with Gestosis with an Atypical Course in Comparison with Typical Gestosis

Side by side with a decrease in maternal mortality, the place of Gestosis becomes more and more noticeable in the structure of courses of maternal mortality.

We have analyzed 51 cases of maternal mortality from Gestosis according to the archive materials in the last 10-15 years. Thirty-two of the examined 51 women died in the presence of ECLAMPSIA and 19 - in the presence of other clinical forms of Gestosis. Each of these groups was divided into 2 subgroups; in one of them Gestosis was characterized by typical signs while in the other it was characterized by atypical ones. We attributed to atypical ECLAMPSIA the one without cramps while to atypical Gestosis or IMMINENT ECLAMPSIA was attributed those cases where the triad of symptoms was totally absent. The diagnosis of Gestosis and particularly that of ECLAMPSIA was established according to the data of the city medical control commission where the Gestosis clinic and the results of the pathomorphologic study were taken into account.

The estimation of factors preceding the lethal outcome and promoting it in the

presence of Gestosis and IMMINENT ECLAMPSIA in the group of 19 women has shown the following. Atypical forms of Gestosis were found in 10 pregnant women while typical ones - in 9 pregnant women. There prevailed women of over 30 years old, especially in the subgroup with atypical Gestosis where its prevalence was 9 times as frequent (1 - under 30 years old and 9 women - over 30 years old) as in the group with typical Gestosis when patients over 30 years old formed only a half of cases (in 3 of 6). When analyzing pregnancies in the chronologic order, it should be mentioned that there prevailed multigravidae (16 of 19), especially often in atypical Gestosis (9 of 10) and somewhat less often in typical one (7 of 9).

As for labor, the highest number of multiparae was observed both in atypical Gestosis and in typical one. A relatively high frequency of primaparae at the age of over 30 (3 of 8) and especially in atypical Gestosis (2 of 4) is noteworthy. Partus malurus predominated in Gestosis with an atypical course 4 times as frequent (8 of 2). But it should be mentioned that the majority of premature labors was caused due to the premature pregnancy interruption owing to worsening in the pregnant women' state. Other pregnancy complications revealed in 1/3 of women (early Gestosis, threatening abortion etc.) didn't show any prevalence in this group of pregnant women. The remoteness of Gestosis diagnosis is an important factor since we revealed an important prevalence of women whose Gestosis had been lasting for over 2 months by the time they died. It occurred in 13 of 19 departed women. The remoteness of Gestosis diagnosis till 1 month was observed in 1 pregnant. No considerable difference was seen between the duration of atypical Gestosis (7 to 10) and typical (6 of 9).

Extragenital diseases concomitant with pregnancy were revealed in the overwhelming majority of pregnant women (16 of 19) without any differences in the both subgroups. But as regards pathology, heart diseases prevailed in typical Gestosis (in 4 of 8 combined cases) while renal diseases - in atypical Gestosis. The cited data indicated a high frequency of combined Gestosis. "Pure" Gestosis was found only in 3 pregnant women.

Labor complications were observed in 213 of cases (in 12 of 19), a little more frequently in atypical Gestosis. The following complications prevailed: labor activity weakness, premature bursting of waters and pathologic loss of blood in afterbirth and early puerperal periods. For all this it should be mentioned that in atypical Gestosis labor activity weakness was 4 times as frequent as in typical Gestosis (in 4 of 10 versus 1 of 9) while pathologic loss of blood was 2 times as frequent. A high frequency of pregnancy and labor complications entailed

a high frequency of surgical deliveries which were revealed in the overwhelming majority of women (in 15 of 19) without any significant differences in atypical and typical courses of Gestosis but it should be mentioned that in atypical Gestosis cesarean sections were 3 times more frequent while manual penetrations into the uterine cavity were 2 times more frequent.

Women's state sharply worsened in more than a half cases in the delivery process, twice less frequently after delivery and still less frequently during pregnancy. The perinatal mortality was high in 11 of 19 (56%), the death during labor prevailing (in 8 of 11) but there was no incidence of death after delivery. We should mention that fetuses and neonates died almost twice less frequently in atypical Gestosis, in 4 of 10 versus 7 of 9 in typical one, it concerning both ante- and intra-natal causes. The main causes of the death of fetuses were asphyxia. While studying Gestosis clinical symptomatology preceding the state worsening and the pregnant women's death, we could reveal the following: a) the presence of "normal[11] by its absolute value arterial pressure in 6 of 10 pregnant women with typical Gestosis; the AP increase within 135-180 mm Hg. and that of diastolic 65-110 mm Hg was more often observed in typical Gestosis in comparison with atypical (7 of 9 versus 4 of 10); b) the absence of proteinuria in 4 pregnant women with atypical Gestosis; in typical Gestosis a significant proteinuria of 3% and above it was observed twice as often (6 of 9 versus 3 of 10); c) the edema absence in pregnant women with atypical Gestosis; d) a lower incidence of neurologic symptoms in atypical Gestosis. A high incidence of the total divergence of clinical and patho-anatomical diagnosis was the most important factor in the examined group of women who died from severe Gestosis (in 11 of 19). These findings are given in table 3. As it can be seen from table 3, the majority of divergences falls on atypical Gestosis (9 of 10 versus 2 of 9)* Besides the divergence of the diagnosis was partial in 7 of 19 patients when during their life concomitant extragenital diseases had not been identified and treated and it resulted in a sharp worsening of the Gestosis course. The presented data enable us to make some conclusions.

In 1/3 of women during pregnancy were found other complications besides Gestosis. It was revealed a high incidence of protracted Gestosis (beyond 2 months), the majority of women had concomitant extra-genital diseases, in 2/3 of cases labors were complicated followed by frequent surgical interventions and a high perinatal mortality of infants mainly owing to the intranatal loss of infants. The fact that in atypical course of Gestosis we observe a normal value of arterial pressure, the absence of edemas and

proteinuria in some patients, less pronounced nephrologic symptoms - all this can account for a frequent divergence of clinical and patho-anatomical diagnosis. For the same reason there was high incidence of advanced Gestosis which entailed a delayed intensive treatment. We should not forget that in the majority of cases the pregnant women's state sharply worsened during delivery. The given data shows that atypical Gestosis is prognostically less favorable for the mother mainly because of the underestimation of atypical Gestosis pattern owing to which it is diagnosed and hence the treatment is delayed, but it is more favorable for the fetus.

The Estimation of Factors Preceding the Lethal Outcome and Promoting it in the Presence of ECLAMPSIA.

Our attention is attracted by a high incidence of ECLAMPSIA among those women who died from Gestosis amounting to 2/3 (32 of 51 or 62,7%), as well as by a high incidence of atypical ECLAMPSIA (a crampless comatose form) in 19 of 32 amounting to 59,4%. As for the age, there were no differences in the chronologic order. There prevailed labors in primaparae (16), almost a half of them (7 of 16) being over 30 years old. In atypical ECLAMPSIA a half of patients (4 of 8) were primaparae over 30 years old and multiparae were almost twice as many (7 versus 4).

The incidence of partus malurus and premature labor was similar (13 of 14). In 5 of 14 patients premature labor was due to the premature pregnancy interruption after medical indications but the premature pregnancy interruption more often occurred in atypical ECLAMPSIA (in 3 of 7).

Other pregnancy complications (early Gestosis, threatening abortion) were revealed in 1/3 of pregnant women and were similar in the both groups. The remoteness of Gestosis identification - we observed a prevalence of patients in whom by the time of ECLAMPSIA development, Gestosis had been identified more than 1 month ago (19 of 31), Concomitant extra-genital diseases were found in the overwhelming majority of pregnant women (23 of 32), the most often being renal pathology (40,6%). Pregnancy complications were noticed in more than *a* half of parturients (15 of 27) equally in both groups. In atypical ECLAMPSIA pathologic loss of blood was seen twice as frequently while premature placental detachment was observed 3 and a half times as frequently. Surgical interventions in labor were performed in 21 of 27 patients. The time of ECLAMPSIA development - most of all ECLAMPSIA developed after delivery (in 14 of 27) and it less frequently occurred in pregnancy and labor (equal number-9). But if

typical ECLAMPSIA developed equally often before labor and after it (5 of 13), atypical ECLAMPSIA more often occurred after labor (in 9 of 19) and less frequently before labor (4 of 19).

It was noticed a high perinatal mortality (in 21 of 32) with a prevalence of fetus antenatal death (12 of 32). It should be especially noted that the mortality rate of fetuses and neonates in atypical ECLAMPSIA was rather high (14 of 19 versus 7 of 13). The main cause of fetal death was asphyxia. When discussing the clinical symptomatology of late Gestosis preceding ECLAMPSIA, the following peculiarities were revealed; in 3 women AP was normal, in 7 there was no edema, in all the cases there was protein in urine. In cases of atypical ECLAMPSIA in comparison with typical one, edema was absent almost 2 times as frequently (5 of 19 versus 2 of 13) a high content of protein - 30% or above it, was 1/5 time as frequent (9 of 19 versus 4 of 13)'. Imminent-ECLAMPSIA symptoms were absent in 1/4 of pregnant women (in 8 of 32) being less frequent in typical ECLAMPSIA (2 of 13) than in atypical one (6 of 19). For all this prevailed headache (21 of 32), vision disturbances were in the second place (10 of 32) as well as epigastric pains (10 of 32), further was nausea and vomiting (6 of 32). In atypical ECLAMPSIA this ratio is preserved but in typical ECLAMPSIA nausea and vomiting were 4 times as frequent (5 of 19 versus 1 of 13), epigastric pains - 1/5 times as frequent (7 of 19 versus 3 of 13 in typical one) and less frequent was headache (11 of 19 versus 10 of 13 in typical ECLAMPSIA).

The frequency of divergence of the main clinical and patho-anatomical diagnosis which according to the materials of all the observations was relatively low in 7 of 32 patients, is worthy of note but all these observations fall on the subground with atypical ECLAMPSIA, i.e. more than 1/3 patients or 7 of 19. In 6 cases the diagnosis divergence lay in the incorrect estimation of Gestosis severity. In 14 of 32 patients in the group with ECLAMPSIA, concomitant extragenital diseases had not been identified and treated during the life; particularly 8 of 14 pregnant women had renal pathology. The performed studies enable us to conclude:

1. It was atypical Gestosis (with two symptoms instead of three) which more often developed in pregnant women at the age of over 30 than typical one. The age didn’t present any problems in atypical (crampless) ECLAMPSIA.
2. Atypical Gestosis developed in multigravidae more often than typical one. The number of pregnant women was of no importance in atypical ECLAMPSIA.
3. The number of labors is not important in atypical Gestosis while

in atypical ECLAMPSIA prevail multiparae.

4. Partus malurus were more often in atypical Gestosis than in typical one. Partus malurus and premature labors were observe equally often in atypical and typical ECLAMPSIA.

5. There were not significant differences in the frequency and the nature of pregnancy complications (except late Gestosis) in typical forms of both EPH-Gestosis and ECLAMPSIA.

6. There was no difference in frequency and nature of concomitant diseases between atypical and typical forms of Gestosis and ECLAMPSIA. Heart diseases occupy the first place by the nature of concomitant diseases in the group with Gestosis (atypical and typical) while renal diseases rank high in the group with ECLAMPSIA (atypical and typical).

7. Without any significant differences between atypical and typical Gestosis, the sharp worsening in women's state with this complication was the most often in labor, followed by the period after labor and it was the least frequent during pregnancy. Atypical ECLAMPSIA more often developed after labor and less often during pregnancy in comparison with typical one.

8. We couldn't find any significant difference between atypical and typical ECLAMPSIA by the frequency of labor complications. As for the nature of complications, labor activity weakness occurred more often in atypical Gestosis, in atypical ECLAMPSIA placental detachment more often occurred in comparison with typical Gestosis and typical ECLAMPSIA respectively.

9. In atypical forms of Gestosis no significant difference could be seen in the frequency of surgical interventions in comparison with typical forms. As for the nature of interventions, the cesarean section was more often in atypical Gestosis than in typical one while in atypical ECLAMPSIA more often were applied forceps followed by vacuum extractor than in typical one.

10. Fetuses were lost less frequently in atypical Gestosis than in typical one. On the contrary, in atypical ECLAMPSIA fetuses and neonates died more frequently in typical one.

11. As for clinical symptomatology peculiarities, either edemas or proteinuria or hypertension were absent in atypical EPH-Gestosis. Some pregnant

women had no edemas and hypertension in atypical ECLAMPSIA while all the pregnant women had proteinuria.

12. The frequency of Imminent ECLAMPSIA symptoms was about similar in atypical Gestosis in comparison with typical one. At the same time Imminent ECLAMPSIA symptoms in total were observed less often in atypical ECLAMPSIA than in typical one. In atypical ECLAMPSIA we more often observed nausea, vomiting, epigastric pains while headache was less often.

13. Discrepancies in clinical and patho-anatomical diagnosis both complete and partial were more often in atypical Gestosis and atypical ECLAMPSIA than in typical Gestosis and ECLAMPSIA respectively.